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

Implementation Plan

Assembled by

ERM

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

ACP	Atlantic Coast Pipeline
ANST	Appalachian National Scenic Trail
Atlantic	Atlantic Coast Pipeline, LLC
ATWS	Additional Temporary Workspace
BCC	Birds of Conservation Concern
BMP	Best Management Practice
BRP	Blue Ridge Parkway
Certificate	Certificate of Public Convenience and Necessity
Commission	Federal Energy Regulatory Commission
COM Plan	Construction, Operations, and Maintenance Plan
CZMA	Coastal Zone Management Act
dBA	Decibels on the A-Weighted Scale
DETI	Dominion Energy Transmission, Inc.
Dominion Energy	Dominion Energy, Inc.
DOT	Department of Transportation
EI	Environmental Inspector
EIS	Environmental Impact Statement
ERI	Electrical Resistivity Investigation
ESA	Endangered Species Act
E&SC	Erosion and Sediment Control
FERC	Federal Energy Regulatory Commission
FHA	Federal Highway Administration
FWS	U.S. Fish and Wildlife Service
GWNF	George Washington National Forest
HDD	Horizontal Directional Drill
IBA	Important Bird Area
IP	Implementation Plan
L_{dn}	Day-Night Equivalent Sound Level
MNF	Monongahela National Forest
MP	Milepost
M&R	Metering and Regulating
NCDOT	North Carolina Department of Transportation
NCWRC	North Carolina Wildlife Resources Commission
NGA	Natural Gas Act
NPS	National Park Service
NRI	National River Inventory
OEP	Office of Energy Projects
OHV	Off Highway Vehicle
Order	Order Issuing Certificate
Plan	Upland Erosion Control, Revegetation, and Maintenance Plan
Procedures	Wetland and Waterbody Construction and Mitigation Procedures
Projects	Atlantic Coast Pipeline and Supply Header Project
RCP	Residential Construction Plan

ROD	Record of Decision
SAIPR	Slip Avoidance, Identification, Prevention, and Remediation
Secretary	Secretary of the Federal Energy Regulatory Commission
SHP	Supply Header Project
SHPO	State Historic Preservation Office
SPCC Plan	Spill Prevention, Control, and Countermeasures Plan
TOYR	Time of Year Restriction
UNT	Unnamed Tributary
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
VDCR	Virginia Department of Conservation and Recreation
VDEQ	Virginia Department of Environmental Quality
VDGIF	Virginia Department of Game and Inland Fisheries
VDOT	Virginia Department of Transportation
WPP	Western Pocahontas Properties
WVDEP	West Virginia Department of Environmental Protection
WVDOT	West Virginia Department of Transportation
WVDNR	West Virginia Division of Natural Resources

Atlantic Coast Pipeline, LLC and Dominion Energy Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Implementation Plan

INTRODUCTION

Atlantic Coast Pipeline, LLC (Atlantic) – a company formed by four major energy companies – Dominion Energy, Inc. (Dominion Energy); Duke Energy Corporation; Piedmont Natural Gas Co., Inc.; and Southern Company Gas – will 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), will deliver up to 1.5 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, to construct and operate the ACP on behalf of Atlantic.

In conjunction with the ACP, DETI will 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.

This Implementation Plan (IP) addresses the environmental conditions included in the Order Issuing Certificates (Order) for the ACP and SHP (collectively, the Projects) issued by the Federal Energy Regulatory Commission (FERC or Commission) on October 13, 2017. The conditions pertain to the following facilities, as identified in FERC's final Environmental Impact Statement (EIS) for the Projects, dated July 21, 2017:

Atlantic Coast Pipeline

Mainline Facilities

- AP-1: approximately 333.4 miles of underground 42-inch outside diameter natural gas transmission pipeline in Harrison, Lewis, Upshur, Randolph, and Pocahontas Counties, West Virginia; Highland, Bath, Augusta, Nelson, Buckingham, Cumberland, Prince Edward, Nottoway, Dinwiddie, Brunswick, and Greensville Counties, Virginia; and Northampton County, North Carolina.

- AP-2: approximately 186.3 miles of underground 36-inch outside diameter natural gas transmission pipeline in Northampton, Halifax, Nash, Wilson, Johnston, Sampson, Cumberland, and Robeson Counties, North Carolina.

Lateral Facilities

- AP-3: approximately 83.4 miles of underground 20-inch outside diameter natural gas lateral pipeline in Northampton County, North Carolina; and Greensville and Southampton Counties and the Cities of Suffolk and Chesapeake, Virginia.

- AP-4: approximately 0.4 mile of underground 16-inch outside diameter natural gas lateral pipeline in Brunswick County, Virginia.

- AP-5: approximately 1.0 mile of underground 16-inch outside diameter natural gas lateral pipeline in Greensville County, Virginia.

Compressor Station Facilities

- Compressor Station 1 (Marts Compressor Station): a new, natural gas-fired compressor station at approximate Milepost (MP) 7.5 of the AP-1 mainline in Lewis County, West Virginia.

- Compressor Station 2 (Buckingham Compressor Station): a new, natural gas-fired compressor station at approximate MP 191.5 of the AP-1 mainline in Buckingham County, Virginia.

- Compressor Station 3 (Northampton Compressor Station): a new natural gas-fired compressor station at approximate MP 300.2 of the AP-1 mainline, MP 0.0 of the AP-2 mainline, and MP 0.0 of the AP-3 lateral in Northampton County, North Carolina.

Other Aboveground Facilities

- Nine new metering and regulating (M&R) stations at receipt and/or delivery points along the new pipelines.

- Forty-one valve sites at select points along the new pipelines.

- Eight sets of pig launcher and/or receiver facilities at 11 sites along the new pipelines (including launcher/receiver sites at Compressor Stations 2 and 3).

Supply Header Project

Pipeline Loops

- TL-636: approximately 3.9 miles of underground 30-inch outside diameter natural gas pipeline looping DTI's existing LN-25 pipeline in Westmoreland County, Pennsylvania.

- TL-635: approximately 33.6 miles of underground 30-inch outside diameter natural gas pipeline looping DTI's existing TL-360 pipeline in Harrison, Doddridge, Tyler, and Wetzel Counties, West Virginia.

Compressor Station Modifications

- JB Tonkin Compressor Station: modifications at DTI's existing JB Tonkin Compressor Station in Westmoreland County, Pennsylvania.

- Crayne Compressor Station: modifications at DTI's existing Crayne Compressor Station in Greene County, Pennsylvania.

- Burch Ridge Compressor Station: crossover piping at DTI's existing Burch Ridge Compressor Station in Marshall County, West Virginia.

- Mockingbird Hill Compressor Station: modifications at DTI's existing Mockingbird Hill Compressor Station in Wetzel County, West Virginia.

Other Aboveground Facilities

- One new M&R station at a new delivery point within Atlantic's proposed Compressor Station 1 in Lewis County, West Virginia.

- Six valve sites at select points along the new pipeline loops.

- Two sets of pig launcher and receiver sites at the ends of each of the new pipeline loops.

ENVIRONMENTAL CONDITION 1

Atlantic and DETI shall follow the construction procedures and mitigation measures described in their application and supplements (including responses to staff data requests) and as identified in the EIS, unless modified by the Order. Atlantic and DETI must:

a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);

b. justify each modification relative to site-specific conditions;

c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and

*d. receive approval in writing from the Director of Office of Energy Projects (OEP) **before using that modification**.*

COMPLIANCE STATEMENT

Atlantic and DETI will follow the construction procedures and mitigation measures described in their applications and supplements, including responses to staff data requests, as identified in the EIS, and as modified by the Order. Atlantic and DETI will:

a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;

b. justify each modification relative to site-specific conditions;

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.

ENVIRONMENTAL CONDITION 2

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

a. the modification of conditions of this Order;

b. stop work authority; and

c. the imposition of additional measures deemed necessary to assure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impacts resulting from Project construction and operation.

COMPLIANCE STATEMENT

Atlantic and DETI acknowledge that the Director of OEP, or the Director's designee, has the delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation activities associated with the ACP and SHP. Atlantic and DETI acknowledge that this authority allows:

a. the modification of conditions of the Order;

b. stop work authority; and

c. the imposition of additional measures deemed necessary to assure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impacts resulting from Project construction and operation.

ENVIRONMENTAL CONDITION 3

***Prior to any construction**, Atlantic and DETI shall file affirmative statements with the Secretary, certified by senior company officials, that all company personnel, Environmental Inspectors (EIs), and contractor personnel would be informed of the EIs' authority and have been or would be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.*

COMPLIANCE STATEMENT

Atlantic and DETI are each filing affirmative statements, certified by senior company officials, stating 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. Atlantic's affirmative statement is provided as EC3 Attachment 1, and DETI's affirmative statement is provided as EC3 Attachment 2.

ENVIRONMENTAL CONDITION 4

The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include the staff's recommended Butterwood Creek Route Variation and workspace modifications identified in the EIS. ***As soon as they are available, and before the start of construction****, Atlantic and DETI 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.*

Atlantic's and DETI's exercise of eminent domain authority granted under Natural Gas Act (NGA) section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Atlantic's and DETI's rights of eminent domain granted under NGA section 7(h) do not authorize them to increase the size of their 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.

COMPLIANCE STATEMENT

Atlantic and DETI acknowledge that the authorized facility locations will be as shown in the EIS, as supplemented by filed alignment sheets, and include the staff's recommended Butterwood Creek Route Variation (as part of ACP) and workspace modifications identified in the EIS. As soon as they are available, and before the start of construction, Atlantic and DETI will file 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 will be written and will reference locations designated on these alignment maps/sheets.

If required, Atlantic's and DETI's exercise of eminent domain authority granted under NGA section 7(h) in any condemnation proceedings related to the Order will be consistent with these authorized facilities and locations. Atlantic and DETI acknowledge that rights of eminent domain granted under NGA section 7(h) do not authorize the companies to increase the size of the 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.

ENVIRONMENTAL CONDITION 5

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

This requirement does not apply to extra workspace allowed by the FERC Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) and/or minor field realignments per landowner needs and requirements that 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.

COMPLIANCE STATEMENT

As warranted, and prior to construction, Atlantic and DETI will file detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying route realignments or facility relocations, staging areas, pipe storage yards, new access roads, and other areas that will be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas will be explicitly requested in writing. For each area, the request will 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 will be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas will be clearly identified on the maps/sheets/aerial photographs. Atlantic and DETI acknowledge that each area must be approved in writing by the Director of OEP before construction in or near the area.

Atlantic and DETI understand that this condition does not apply to extra workspace allowed by FERC's Plan and/or minor field realignments per landowner needs and requirements that do not affect other landowners or sensitive environmental areas such as wetlands.

ENVIRONMENTAL CONDITION 6

***At least 45 days prior to construction**, Atlantic and DETI shall file their respective Implementation Plans with the Secretary, for review and written approval by the Director of OEP. Atlantic and DETI must file revisions to their plans as schedules change. The plans shall identify:*

a. how Atlantic and DETI would implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EIS, and required by the Order;

b. how Atlantic and DETI would 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 on-site construction and inspection personnel;

c. the number of EIs assigned per spread and how the company would ensure that sufficient personnel are available to implement the environmental mitigation;

d. the number of company personnel, including EIs and contractors, who would receive copies of the appropriate material;

e. the location and dates of the environmental compliance training and instructions Atlantic and DETI would give to all personnel involved with construction and restoration (initial and refresher training as the Projects progress and personnel change), with the opportunity for OEP staff to participate in the training session(s);

f. the company personnel (if known) and specific portion of Atlantic's and DETI's organizations having responsibility for compliance;

g. the procedures (including use of contract penalties) Atlantic and DETI would follow if noncompliance occurs; and

h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram)and dates for:

i. the completion of all required surveys and reports;

ii. the environmental compliance training of on-site personnel;

iii. the start of construction; and

iv. the start and completion of restoration.

COMPLIANCE STATEMENT

Atlantic and DETI are filing this joint IP for the Projects for review and written approval by the Director of OEP. Atlantic and DETI will file revisions to this IP as schedules change. Responses to the individual sections of Environmental Condition 6 are as follows:

a. Implementation of Construction Procedures and Mitigation Measures

The construction procedures and mitigation measures described in Atlantic's and DETI's applications and subsequent supplements (including responses to staff data requests), identified in the EIS, and required by the Order for the Projects will be implemented through this IP, contractor construction documents, drawings and plans, and other supporting documentation. These documents will be kept on site during construction and restoration. Comprehensive binders containing copies of relevant documents will be provided to Atlantic's and DETI's Construction Supervisors, Environmental Compliance Coordinators, and EIs during the Projects' environmental training. Documents to be included in the binders include the IP; the FERC's Plan; the FERC's *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures); other construction, restoration, and mitigation plans prepared for the Projects (for example, the *Spill Prevention, Control, and Countermeasures Plan* (SPCC Plan); Project environmental permits, authorizations, and clearances (federal, state/commonwealth, and local); alignment drawings; Erosion and Sedimentation Control (E&SC) Plan drawings; and relevant Project correspondence. Atlantic's and DETI's construction contractor will be responsible for implementing the environmental requirements identified in these documents. Atlantic's and DETI's EIs will monitor the construction contractor's compliance with the environmental requirements during construction.

In addition, Atlantic's and DETI's Construction Supervisors, Environmental Compliance Coordinators, and EIs will receive lists of all landowner requirements from Atlantic's and DETI's Land Group, organized by line list number. The EIs will oversee the construction contractor's implementation of these requirements.

Atlantic and DETI will conduct comprehensive environmental training for all Project staff, contractor supervisory personnel, and EIs at the kickoff of construction for each Project component. During environmental training, the Project's mitigation requirements will be presented and discussed for emphasis. Follow-up refresher training will be held, if warranted, throughout the construction phase to reiterate certain requirements or to re-emphasize specific points to ensure that the mitigation required at each site is clear to the on-site construction and inspection personnel. Subsequent to the initial comprehensive training for supervisory staff, every worker who arrives to work on the Projects will be provided environmental training appropriate to their work assignment prior to being permitted to begin work. Regular tailgate meetings will also incorporate reminders of environmental requirements.

For mitigation measures that address post-construction, operations, or maintenance requirements, Atlantic's and DETI's Environmental and Engineering groups will provide the pertinent instructions and documentation to Atlantic's and DETI's Operations Group personnel for use in

the operations/maintenance phase at the completion of construction. This will include copies of relevant environmental permits that specifically address long-term permit and Order conditions.

b. Contract Documentation

Implementation of the FERC requirements and mitigation measures required by the Order will be incorporated into the contractor construction contracts through the drawings, terms and conditions, and specifications included with the contracts. Specifically, the construction contracts will require that construction be done in accordance with the construction drawings; FERC's Plan and Procedures; other construction, restoration, and mitigation plans prepared for the Projects; and all local, state, and federal permit conditions and applicable regulations. The construction contractor will be provided these documents to be used as guidance for construction activities and a copy of all approved plans will be maintained on site. The construction contractor will be required to comply with all environmental conditions and permit requirements, and will be informed that the EIs will be on site during construction to document compliance or noncompliance.

Atlantic and DETI will require the construction contractor to install facilities according to the required specifications, the E&SC Plan, and other construction drawings, all environmental permit conditions and requirements, and the terms of the negotiated contract.

In addition, Atlantic and DETI will conduct environmental training for the EIs, the construction contractor's supervisory and worker personnel, and all Atlantic and DETI supervisory staff involved with construction of the Projects. During environmental training, the requirements applicable to each groups' duties will be presented by the EIs and other appropriate Atlantic and DETI representatives for emphasis. Follow-up refresher training (tailgate sessions) will be held, if warranted, throughout the construction phase to reiterate certain requirements and to reinforce site-specific mitigation requirements and resource issues and address instances of noncompliance.

Construction activities will be limited to the approved rights-of-way and other areas authorized by the Order (as depicted in Project drawings and alignment sheets) or as approved by the Director of OEP in accordance with Environmental Condition 5. In addition to the Project drawings, alignment sheets, and other materials, the construction contractor will be provided with a line list which will include landowner special requests. The construction contractor will be required to comply with all environmental conditions, permit requirements, and approved landowner requests, and will be informed that the EIs will be inspecting construction activities to document compliance or noncompliance.

c. Environmental Inspectors

Atlantic will employ two full-time EIs per pipeline spread to monitor and facilitate environmental compliance throughout construction of the ACP. These EIs additionally will monitor aboveground facility sites for applicable spreads.

DETI will employ three full-time EIs for TL-635, one full-time EI for TL-636, and one full-time EI for the facilities (i.e., JB Tonkin Compressor Station, Crayne Compressor Station, and Mockingbird Hill Compressor Station) to monitor and facilitate environmental compliance throughout construction of the SHP.

The role of each EI will be to monitor compliance with mitigation and construction procedures identified in the Project applications, as well as those identified in federal, state, and local permits or other authorizing documents. The EIs will also be responsible for preparing weekly status reports, Environmental Compliance Forms, and Environmental Training Logs. If additional EIs are required for specific areas or situations, Atlantic and DETI will add them as necessary.

d. Environmental Document Distribution

A complete copy of the IP, FERC's *Plan* and *Procedures*, and other relevant permits and approvals for the Projects will be maintained on site in each construction office. Atlantic's and DETI's Construction Supervisors, Environmental Compliance Coordinators, EIs, and others responsible for compliance with the FERC Order and other permits and approvals for the Projects will also have a copy of these documents.

e. Environmental Compliance Training

Prior to construction of facilities, Atlantic and DETI will conduct comprehensive environmental training for all construction supervisory employees and EIs assigned to the Projects for those specific facilities. The initial training schedules are presented in Tables 6-1 and 6-2 below.

TABLE 6-1

Atlantic Coast Pipeline Training Schedule

Training Location	Training Date
TBD	TBD
TBD	TBD
TBD	TBD
TBD	TBD
TBD	TBD

TABLE 6-2

Supply Header Project Training Schedule

Training Location	Training Date
TBD	TBD
TBD	TBD
TBD	TBD
TBD	TBD
TBD	TBD

For facilities where the dates are "TBD" the dates of the training will be provided to FERC in advance of the training.

The environmental training will be completed in an open forum for the exchange of information and questions and answers, and will address environmental requirements specific to each spread or station. OEP staff will be provided the opportunity to participate in the training sessions. The training will include a presentation of environmental requirements and will address topics such as:

- purpose of the environmental training;
- authority and responsibility of the EIs;
- construction timing restrictions;
- E&SC including waterbody protection measures;
- SPCC Plan;
- threatened and endangered species and cultural resources protection measures;
- FERC's *Plan* and *Procedures*;
- environmental conditions identified in the Order;
- other permit requirements;
- landowner relations; and
- restoration requirements.

All appropriate ACP and SHP employees will be trained on the environmental requirements, the authority, and the responsibilities of the EIs. No personnel will be allowed to work on the Projects without completing environmental training, which will be documented by the EIs. Following each environmental training session, all personnel will be required to acknowledge by signature that he/she understands the environmental compliance requirements pertinent to their job as presented in the training session. Trained personnel will be issued a hardhat decal which must be visible while on ACP and SHP Project sites. No person will be allowed on the ACP and SHP sites without proper documentation that he/she has attended environmental training. As applicable, refresher training may be provided throughout the construction phase to reiterate certain environmental requirements and ensure continued compliance.

For environmental mitigation measures that address post-construction operation and maintenance requirements, Atlantic's and DETI's engineering and environmental staff will provide relevant instruction and documentation to Atlantic's and DETI's operating personnel for use in ongoing

operations and maintenance activities. This information will include copies of relevant environmental permits that specifically address long-term site conditions.

f. Project Construction Organization

Because all company and contractor personnel working on the Projects will be provided with environmental training, all individuals will be responsible for environmental compliance. In addition, Atlantic and DETI will assign key personnel to each facility associated with the Projects. These key personnel will be responsible for responding to and implementing procedures to correct compliance issues identified by EIs, other personnel, or by FERC. The names and contact information for personnel assigned to these positions are provided in Tables 6-3 and 6-4.

TABLE 6-3

Atlantic Personnel Responsible for Environmental Compliance

	Contact Phone Numbers		
Title/Name	Office	Mobile	Email
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD

TABLE 6-4

DETI Personnel Responsible for Environmental Compliance

	Contact Phone Numbers		
Title/Name	Office	Mobile	Email
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD
TBD	TBD	TBD	TBD

Where the names of assigned personnel are "TBD," FERC will be provided with the assigned personnel's name and contact information in advance and prior to construction of facilities at each spread or station.

g. Procedures for Noncompliance

If an incident of noncompliance occurs, the EIs will coordinate with Atlantic's and DETI's on-site Construction Supervisor and the construction contractor to determine the appropriate means of mitigation for resolution and implementation to prevent the same issue from occurring again. Immediate corrective action will be taken and a timeframe for resolution of the issue will be

established. The actions taken will depend on the degree of the noncompliance issue. The EIs have the authority and obligation to stop work, if necessary, and are empowered to order correction of acts that violate the environmental conditions of the Order or any other authorizing documents. The EIs will document the non-compliance issue, the measures taken to resolve non-compliance issues (or the date the measure will be implemented), and the effectiveness of the measures. The EIs will include all non-compliance documentation in the status reports for the Projects.

h. Project Schedule

Preliminary construction schedules for facilities at each spread and station for the Projects are provided in EC6 Attachment 1 (for ACP) and EC6 Attachment 2 (for SHP). The preliminary schedules identify the following:

i. the completion of all required surveys and reports;

ii. the environmental compliance training of on-site personnel;

iii. the start of construction; and

iv. the start and completion of restoration.

The schedules are subject to change depending on receipt of applicable permits, material delivery, and/or other factors.

ENVIRONMENTAL CONDITION 7

Atlantic and DETI shall employ a team of EIs (i.e., two or more or as may be established by the Director of OEP) per construction spread. 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. a full-time position, separate from all other activity inspectors;

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

f. responsible for maintaining status reports.

COMPLIANCE STATEMENT

For ACP, Atlantic will employ two full-time EIs per pipeline spread. These EIs additionally will monitor aboveground facility sites for applicable spreads.

For SHP, DETI will employ three full-time EIs for TL-635, one full-time EI for TL-636, and one full-time EI for the aboveground facilities (i.e., JB Tonkin Compressor Station, Crayne Compressor Station, and Mockingbird Hill Compressor Station).

Each EI position will be responsible for the following, as stated in Condition 7.

a. Environmental Compliance

At each spread or station, the EIs will monitor the progress and daily activities of all construction contractor personnel to ensure compliance with all mitigation measures as required by the Order as well as federal, state, and local permits and other authorizing documents. In case of noncompliance, the EIs will coordinate with Atlantic's or DETI's on-site Construction Supervisor and the construction contractor to determine the appropriate means of mitigation for resolution and implementation to prevent the same issue from occurring again.

b. Implementation of Mitigation Measures

During implementation of mitigation measures at each spread or station, the EIs will evaluate the construction contractor's progress and execution of the measure(s) as required in the contract for that spread or station or in any other authorizing documents (e.g., permits, grants, certificates).

c. Corrective Measures

If at any time during execution of a mitigation measure, an EI determines that an environmental condition of the Order for the ACP or SHP is being violated, Atlantic and DETI grant the EI authority to order a corrective action. The goal of the corrective action will be to restore the construction contractor's compliance with the environmental condition in violation (see Condition 6, g).

d. Full Time Employment

Atlantic will employ two full-time EIs per pipeline spread to monitor and facilitate environmental compliance throughout construction of the ACP. These EIs additionally will monitor aboveground facility sites for applicable spreads.

DETI will employ three full-time EIs for TL-635, one full-time EI for TL-636, and one full-time EI for the aboveground facilities (i.e., JB Tonkin Compressor Station, Crayne Compressor Station, and Mockingbird Hill Compressor Station) to monitor and facilitate environmental compliance throughout construction of the SHP.

The role of each EI will be to monitor compliance with the mitigation and construction procedures identified in the applications for the Projects, as well as those identified in federal, state, and local permits or other authorizing documents. The duties performed as part of this role will remain separate from the duties of any other activity inspectors that may be employed at each construction site.

e. Documentation

The EIs will maintain thorough and complete documentation of all information related to compliance with the environmental conditions of the Order as well as environmental conditions or permit requirements imposed by other federal, state, or local agencies.

f. Status Reports

The EIs will complete weekly status reports until the construction and restoration activities at each spread or station are complete. The contents of the status reports are described under Environmental Condition 8.

ENVIRONMENTAL CONDITION 8

***Beginning with the filing of the Implementation Plans**, Atlantic and DETI shall each file updated status reports with the Secretary on a weekly basis until all 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 Atlantic's and DETI's efforts to obtain the necessary federal authorizations;

b. the construction status of each spread, 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 EIs during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);

d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;

e. the effectiveness of all corrective actions implemented;

f. a description of any landowner/resident complaints that may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and

g. copies of any correspondence received by Atlantic and DETI from other federal, state, or local permitting agencies concerning instances of noncompliance, and Atlantic's and DETI's responses.

COMPLIANCE STATEMENT

Beginning with the filling of this IP, Atlantic and DETI will each file updated status reports with the Secretary on a weekly basis until all construction and restoration activities are complete. Upon request, Atlantic and DETI will provide these status reports to other federal and state agencies with permitting responsibilities. The status reports will include:

a. an update on Atlantic's and DETI's efforts to obtain the necessary federal authorizations;

b. the construction status of each spread, 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 EIs 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 corrective actions implemented in response to all instances of noncompliance, and their cost;

e. the effectiveness of all corrective actions implemented;

f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and

g. copies of any correspondence received by Atlantic and DETI from other federal, state or local permitting agencies concerning instances of noncompliance and Atlantic's or DETI's response.

ENVIRONMENTAL CONDITION 9

Atlantic and DETI shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the ACP and Supply Header Projects and restoration of the right-of-way. ***Prior to construction****, Atlantic and DETI shall each mail the complaint procedures to each landowner whose property would be crossed by the ACP Project and Supply Header Project.*

a. In its letter to affected landowners, Atlantic and DETI shall:

i. provide a local contact that the landowners should call first with their concerns; the letter should indicate how soon a landowner should expect a response;

ii. instruct the landowners that if they are not satisfied with the response, they should call Atlantic's and DETI's Hotline; the letter should indicate how soon to expect a response; and

iii. instruct the landowners that if they are still not satisfied with the response from Atlantic's and DETI's Hotline, they should contact the Commission's Landowner Helpline at 877-337-2237 or at LandownerHelp@ferc.gov.

b. In addition, Atlantic and DETI shall include in their respective weekly status report a copy of a table that contains the following information for each problem/concern:

i. the identity of the caller and date of the call;

ii. the location by milepost and identification number from the authorized alignment sheet(s) of the affected property;

iii. a description of the problem/concern; and

iv. an explanation of how and when the problem was resolved, would be resolved, or why it has not been resolved.

COMPLIANCE STATEMENT

Atlantic and DETI previously committed to implementing an environmental complaint resolution procedure in Resource Report 1, which was filed with the Applications for the Projects on September 18, 2015 (FERC Accession Number 20150918-5212). The procedure will provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Projects and restoration of the rights-of-way. Prior to construction, Atlantic or DETI, as appropriate, will mail the complaint procedure to each landowner whose property will be crossed by the ACP or SHP.

a. In their letters to affected landowners, Atlantic and DETI will:

   i. provide a local contact that the landowners should call first with their concerns; the letter will indicate how soon a landowner should expect a response;

   ii. instruct the landowners that if they are not satisfied with the response, they should call Atlantic's and DETI's Hotline; the letter will indicate how soon to expect a response; and

   iii. instruct the landowners that if they are still not satisfied with the response from Atlantic's and DETI's Hotline, they should contact the Commission's Landowner Helpline at 877-337-2237 or at LandownerHelp@ferc.gov.

b. In addition, Atlantic and DETI will include in their respective weekly status reports to FERC, a copy of a table that contains the following information for each problem/concern:

   i. the identity of the caller and date of the call;

   ii. the location by milepost and identification number from the authorized alignment sheet(s) of the affected property;

   iii. a description of the problem/concern; and

   iv. an explanation of how and when the problem was resolved, would be resolved, or why it has not been resolved.

ENVIRONMENTAL CONDITION 10

Atlantic and DETI must receive written authorization from the Director of OEP ***before commencing construction of any project facilities****. To obtain such authorization, Atlantic and DETI must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).* The Director of OEP will not issue a notice to proceed with construction of the Atlantic or DETI project facilities independently.

COMPLIANCE STATEMENT

Atlantic and DETI acknowledge that they must receive written authorization from the Director of OEP before commencing construction of any Project facilities and will not proceed until such authorization is received. To obtain such authorization, Atlantic and DETI will file with the Secretary documentation that they have received all applicable authorizations required under federal law (or evidence of waiver thereof) as part of their written requests to the Director of OEP for notice to proceed with construction of ACP or SHP facilities.

An updated table of applicable authorizations required under federal law for the Projects is provided as EC10 Attachment 1. Copies of authorizations not previously filed with the Commission are provided as EC10 Attachment 2.

ENVIRONMENTAL CONDITION 11

Atlantic and DETI must receive written authorization from the Director of OEP ***before placing their respective projects 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 ACP and Supply Header Projects are proceeding satisfactorily.*

COMPLIANCE STATEMENT

Atlantic and DETI will request written authorization from the Director of OEP prior to placing any Project facility into service and will not proceed until such authorization is received. Atlantic and DETI acknowledge that authorization to place facilities into service will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Projects are proceeding satisfactorily.

ENVIRONMENTAL CONDITION 12

***Within 30 days of placing the authorized facilities in service**, Atlantic and DETI shall file affirmative statements with the Secretary, certified by a senior company official:*

a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or

b. identifying which of the Certificate of Public Convenience and Necessity (Certificate) conditions the applicant has complied with or would comply with. This statement shall also identify any areas affected by their respective projects where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

COMPLIANCE STATEMENT

Within 30 days of placing the authorized facilities in service, Atlantic and DETI will file affirmative statements 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 will be consistent with all applicable conditions; or

b. identifying which of the Certificate conditions Atlantic and DETI have complied with or will comply with. These statements will also identify any areas affected by the respective Projects where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for the noncompliance.

ENVIRONMENTAL CONDITION 13

Atlantic shall not exercise eminent domain authority granted under section 7(h) of the NGA to acquire a permanent pipeline right-of-way exceeding 50 feet in width. In addition, where Atlantic has obtained a larger permanent right-of-way width through landowner negotiations, routine vegetation mowing and clearing over the permanent right-of-way shall not exceed 50 feet in width. (Section 2.2.1.1)

COMPLIANCE STATEMENT

Atlantic acknowledges that it will not exercise eminent domain authority granted under section 7(h) of the NGA to acquire a permanent pipeline right-of-way exceeding 50 feet in width. In addition, where Atlantic has obtained a larger permanent right-of-way width through landowner negotiations, Atlantic acknowledges that routine vegetation mowing and clearing over the permanent right-of-way will not exceed 50 feet in width.

ENVIRONMENTAL CONDITION 14

Atlantic and DETI shall design all workspaces that are not identified in table 2.3.1-2 of the Environmental Impact Statement (EIS) to comply with the FERC Procedures. Any additional modifications to the FERC Procedures must be requested and justified in ***Atlantic's and DETI's Implementation Plans****. (Section 2.3.1.1)*

COMPLIANCE STATEMENT

Atlantic and DETI will design workspaces not identified in Table 2.3.1-2 of the EIS to comply with the FERC Procedures. Any additional proposed modifications to the FERC Procedures will be requested in writing with justification for the proposed modifications, as warranted.

ENVIRONMENTAL CONDITION 15

***As part of Atlantic's and DETI's Implementation Plans and prior to receiving written authorization from the Director of the OEP to commence construction of any project facilities**, Atlantic and DETI shall file with the Secretary environmental constraints maps illustrating the avoidance and conservation measures required by the resource agencies and committed to by Atlantic and DETI along the ACP Project and Supply Header Project routes. The environmental constraints maps can be provided in the form of alignment sheets with a separate environmental constraints band. (Section 2.4)*

COMPLIANCE STATEMENT

Sets of environmental constraint maps (1:6,000 scale with aerial background) illustrating the avoidance and conservation measures required by the resource agencies and committed to by Atlantic and DETI along the ACP and SHP routes are provided as EC15 Attachments 1 and 2, respectively. Because the maps include location information for sensitive species and sensitive cultural resources, they are marked "Contains Controlled Unclassified Information and Contains Privileged Information - Do Not Release" and have been filed under separate cover. The maps depict time of year restrictions, activity restrictions, and workspace reductions for sensitive species or features; various construction methods, such as horizontal directional drill (HDD), for avoiding impacts on sensitive resources; wetland and waterbody crossings; public lands; conservation and other land easements; historic districts; cemeteries; and other relevant features. Copies of the constraint maps were provided to the U.S. Fish and Wildlife Service (FWS), West Virginia Division of Natural Resources (WVDNR), Virginia Department of Game and Inland Fisheries VDGIF), and North Carolina Wildlife Resources Commission (NCWRC), for reference, by letter dated October 17, 2017. Copies of the transmittal letters to these agencies are provided as EC15 Attachment 3.

ENVIRONMENTAL CONDITION 16

As part of their Implementation Plans, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, a Plan for Discovery of Unanticipated Paleontological Resources that describes how Atlantic and DETI will recognize and manage significant fossils encountered during construction. This plan shall also describe the notification procedures to the appropriate authorities in each state crossed by ACP and SHP. (Section 4.1.5)

COMPLIANCE STATEMENT

Atlantic and DETI filed a *Plan for the Discovery of Unanticipated Paleontological Resources* on August 25, 2017 (Accession Number 20170825-5201). The plan describes how Atlantic and DETI will recognize and manage significant fossils encountered during construction. The plan also describes the notification procedures to the appropriate authorities in each state crossed by ACP and SHP.

ENVIRONMENTAL CONDITION 17

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, proposed or potential sources of water used for dust control, anticipated quantities of water to be appropriated from each source, and the measures it will implement to ensure water sources and any related aquatic biota are not adversely affected by the appropriation activity. (Section 4.3.2.7)*

COMPLIANCE STATEMENT

Tables 17-1 and 17-2 below provide the proposed or potential sources of water to be used for dust control and estimated quantities to be appropriated from each identified source for the ACP and SHP, respectively. Measures to ensure water sources and related aquatic biota are not adversely affected by the appropriation activity will be the same as those used for hydrostatic test water sources.

TABLE 17-1

Dust Control Water Volume Per Source for the Atlantic Coast Pipeline

Spread	Length (mi)	Dust Control Water Volume (gal)	Water Source	Volume Per Source (gal)
1 - 1	17.2	1,320,000	West Fork River	1,320,000
1 - 2	14.5	1,944,000	Municipal	1,944,000
2 - 1	15.7	2,376,000	Municipal	2,376,000
2 - 2	12.5	648,000	Municipal	648,000
2A	12.8	1,980,000	Municipal	1,980,000
3	20.4	2,790,000	Municipal	2,790,000
3A	17.7	1,320,000	Bath County Reservoir	1,320,000
4	17.9	792,000	Bath County Reservoir	792,000
4A	29	1,320,000	Calfpasture River (impound)	660,000
			Folley's Mills Quarry (impound)	660,000
5	57.7	3,168,000	Folley's Mills Quarry (impound)	1,056,000
			Municipal	1,056,000
			Private Quarry	1,056,000
6	56.6	936,000	Municipal	468,000
			James River	468,000
7	60.9	2,496,000	Municipal	2,496,000
8	62	2,640,000	Municipal	2,640,000
9	64.1	2,640,000	Municipal	2,640,000
10	59.6	5,940,000	Municipal	5,940,000
11/12	84.6	3,960,000	Municipal	3,960,000

TABLE 17-2

Dust Control Water Volume Per Source for the Supply Header Project

Spread	Length (mi)	Dust Control Water Volume (gal)	Water Source	Volume Per Source (gal)
13	37.5	2,400,000	Kincheloe Creek	480,000
			Middle Island Creek	480,000
			Flint Creek	480,000
			McElroy Creek	480,000
			Fishing Creek	480,000
14	3.9	249,600	Municipal	249,600

ENVIRONMENTAL CONDITION 18

As part of their Implementation Plans, Atlantic and DETI shall file with the Secretary and appropriate federal and state agencies an updated Restoration and Rehabilitation Plan and Invasive Species Management Plan, for review and written approval by the Director of OEP, that includes the following measures:

a. *aerial spraying will not be utilized for invasive species control along the right-of-way;*

b. *no herbicides will be applied within 25 feet of Endangered Species Act (ESA)-listed plant species;*

c. *no use of herbicides or pesticides within 100 feet of a waterbody or wetland, except where allowed by state or federal agencies;*

d. *no spraying of insecticides or herbicides will be allowed within the 300-foot karst feature buffer, except where allowed by state or federal agencies; and*

e. *includes the results of the West Virginia and Virginia Natural Heritage Program recommendations for herbicide treatment adjacent to sensitive features. (Section 4.4.4)*

COMPLIANCE STATEMENT

Updated versions of the *Restoration and Rehabilitation Plan* and *Invasive Plant Species Management Plan* incorporating the measures identified in subparts *a* through *d* above are provided as EC18 Attachment 1 and EC18 Attachment 2, respectively. Because one of the tables in the *Invasive Plant Species Management Plan* includes location information for federally listed species, this table has been filed under separate cover as EC18 Attachment 3. The table is marked "Contains Controlled Unclassified Information and Contains Privileged Information - Do Not Release." The updated plans were sent to the FWS and applicable state wildlife agencies by letter dated October 17, 2017. Copies of the transmittal letters to each agency are provided in EC15 Attachment 3.

With regard to subpart *e*, Atlantic sent letters to the West Virginia and Virginia Natural Heritage Programs on August 31, 2017 requesting comments on the measures identified in subparts *a* through *d* above for herbicide treatment adjacent to sensitive features. Copies of these letters were filed on September 8, 2017 (FERC Accession Number 20170908-5185). No additional recommendations for herbicide treatment adjacent to sensitive features were identified by the Virginia Natural Heritage Program in a reply letter to Atlantic dated September 22, 2017. A copy of this letter was filed on October 13, 2017 (FERC Accession Number 20171013-5176). Comments from the West Virginia Natural Heritage Program are pending. Atlantic will file comments from the West Virginia Natural Program on herbicide treatment adjacent to sensitive features, if any, when received.

ENVIRONMENTAL CONDITION 19

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, a revised Migratory Bird Plan that incorporates the results of consultation with the WVDNR, Virginia Department of Game and Inland Fisheries (VDGIF), NCWRC, and the Forest Service, and verify that no additional conservation measures will be required to minimize impacts on active rookeries. In addition, table A-1 of the revised plan shall incorporate the NCWRC's recommended updates to the North Carolina Birds of Conservation Concern (BCC) list. The revised plan shall also include the Virginia Piedmont Forest Block Complex, Allegheny Mountains Forest Block Complex, and the Southern Allegheny Plateau Forest Block Complex Important Bird Areas (IBAs) that would be crossed by the ACP and Supply Header Projects in Virginia and West Virginia. (Section 4.5.3.5)*

COMPLIANCE STATEMENT

An update to the *Migratory Bird Plan* incorporating the results of consultation with the WVDNR, VDGIF, NCWRC, and U.S. Forest Service (USFS) is provided as EC19 Attachment 1. The update incorporates recommendations from the WVDNR, VDGIF, and NCWRC regarding conservation measures for active rookeries; expands table A-1 to include the NCWRC's recommended updates to the North Carolina BCC list; and adds the crossings of IBAs identified in this condition. There are no active rookeries in the ACP Project area on USFS lands.

Atlantic and DETI filed documentation that the WVDNR concurs with the conservation measures for active rookeries in West Virginia on July 28, 2017 (FERC Accession Number 20170728-5118). Atlantic filed documentation that the NCWRC concurs with the conservation measures for active rookeries in North Carolina on September 8, 2017 (FERC Accession Number 20170908-5185), and that the VDGIF concurs with the conservation measures for active rookeries in Virginia on October 13, 2017 (FERC Accession Number 20171013-5176).

ENVIRONMENTAL CONDITION 20

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, revised Master Waterbody Crossing tables for the ACP and Supply Header Projects that address the recommended conditions in the identified column of appendix K of the EIS, and that include all National River Inventory (NRI) segments crossed. The revised table or accompanying filing shall document correspondence and input from the appropriate federal and state agencies regarding the updated information and any additional mitigation measures Atlantic and DETI will incorporate for each waterbody. (Section 4.6.1)*

COMPLIANCE STATEMENT

Updates to the Master Waterbody Crossing Tables for the ACP and SHP that address the recommended conditions in the identified column of appendix K of the EIS and that include all NRI segments crossed are provided as EC20 Attachments 1 and 2, respectively. Because the tables include location information for sensitive species, EC20 Attachments 1 and 2 are marked "Contains Controlled Unclassified Information and Contains Privileged Information - Do Not Release" and have been filed under separate cover. The revised tables were sent to the FWS, WVDNR, VDGIF, NCWRC, and Pennsylvania Department of Conservation and Natural Resources on October 17, 2017, as appropriate. Copies of the transmittal letters to the agencies are provided as EC15 Attachment 3. Atlantic and DETI will file comments from these agencies on the revised tables, if any, when available.

ENVIRONMENTAL CONDITION 21

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, revised Virginia Fish Relocation Plan, Freshwater Mussel Relocation Protocol for ACP in North Carolina, and North Carolina Revised Fish and Other Aquatic Taxa Collection and Relocation Protocol for Instream Activities. These revised plans and protocols shall include notification to the appropriate federal and/or state agencies should an invasive aquatic species be observed or collected during relocation efforts; and, in consultation with the appropriate federal and/or state agency, identify the mitigation measures that Atlantic and DETI will implement at the crossing location if invasive aquatic species are observed. (Section 4.6.4)*

COMPLIANCE STATEMENT

Updates to the *Virginia Fish Relocation Plan, Freshwater Mussel Relocation Protocol for ACP in North Carolina,* and *North Carolina Revised Fish and Other Aquatic Taxa Collection and Relocation Protocol for Instream Activities* were filed on September 22, 2017 *(*20170922-20170922-5153). The updates to the plans identify procedures for notifying federal and/or state agencies if an invasive aquatic species is observed or collected during relocation efforts and also include mitigation measures to be implemented if invasive aquatic species are observed. The updated plans were sent to the appropriate federal and state wildlife agencies on September 22, 2017, as appropriate. Copies of the transmittal letters to the agencies were provided in the recent agency correspondence filed with FERC on September 22, 2017. Atlantic and DETI will file comments from these agencies on the revised plans, if any, when available.

ENVIRONMENTAL CONDITION 22

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, an aquatic invasive species protocol for West Virginia mussel relocation efforts on both the ACP and Supply Header Projects (Section 4.6.4)*

COMPLIANCE STATEMENT

The WVDNR's *West Virginia Invasive Species Strategic Plan* lists the following aquatic invasive species of concern for the state: Hydrilla (*Hydrilla verticillata*), Zebra mussels (*Dreissena polymorpha*), Silver carp (*Hypopthalmichthys molitrix*), and the snakehead fish (*Channa argus*). Atlantic and DETI will implement the strategic guidelines outlined in this plan by thoroughly washing and drying all survey equipment used during relocations at designated wash stations before transporting the equipment from each site. The locations of the wash stations are identified in the update to the *Invasive Plant Species Management Plan*, which is provided as EC18 Attachment 2. Any observance of aquatic invasive species during relocation surveys in West Virginia will be immediately reported to a single pre-identified point of contact at each applicable agency.

Based on pre-construction survey results, mussel relocations in West Virginia are scheduled to occur at the crossings listed in Table 22-1:

TABLE 22-1

Scheduled Mussel Relocations along the Atlantic Coast Pipeline and Supply Header Project in West Virginia

Project	County	MP	Waterbody	WVMSP Group Designation
SHP	Wetzel	30.1	South Fork 1, Fishing Creek	Group 1
SHP	Wetzel	29.4	South Fork 3, Fishing Creek	Group 1
SHP	Doddridge	18.5	McElroy Creek	Group 2
ACP	Lewis	8.2	West Fork River	Group 2

ENVIRONMENTAL CONDITION 23

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, a final Timber Removal Plan that:*

a. incorporates the recommendations included in the Virginia Department of Environmental Quality's (VDEQ's) letter dated April 6, 2017 (Accession No. 20170406-5489);

b. updates the construction schedule discussion; and

c. updates all time of year restrictions (TOYR) related to migratory birds and special status species for tree clearing. (Section 4.8.1.1)

COMPLIANCE STATEMENT

Atlantic and DETI hereby file an update to the *Timber Removal Plan* as EC23 Attachment 1 that:

a. incorporates the recommendations included in the VDEQ's letter dated April 6, 2017 (Accession No. 20170406-5489);

b. updates the construction schedule discussion; and

c. updates all TOYR related to migratory birds and special status species for tree clearing.

ENVIRONMENTAL CONDITION 24

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, finalized site-specific Timber Extraction Plans. (Section 4.8.1.1)*

COMPLIANCE STATEMENT

Prior to construction, Atlantic and DETI will file a finalized *Timber Extraction Plan* for the portions of the ACP in the Monongahela and George Washington National Forests.

ENVIRONMENTAL CONDITION 25

***As part of their Implementation Plans**, Atlantic and DETI shall file with the Secretary, for review and written approval by the Director of OEP, final site-specific Residential Construction Plans (RCPs) for all residences within 50 feet of the construction work areas identified after issuance of the draft EIS (including the residence at AP-1 MP 169.4). (Section 4.8.3)*

COMPLIANCE STATEMENT

Prior to construction, Atlantic and DETI will file final site-specific RCPs for all residences within 50 feet of the ACP and SHP construction work areas identified after issuance of the draft EIS (including the residence at AP-1 MP 169.4).

ENVIRONMENTAL CONDITION 26

As part of its Implementation Plan, *Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, the results of the fracture trace/lineament analysis utilizing remote sensing platforms (aerial photography and LiDAR), along with the results of existing dye trace studies. Atlantic shall provide the results of this analysis on a composite map(s), illustrating surficial karst features with the potential for intersecting shallow interconnected karst voids and cave systems over a wide area; specifically, between the pipeline and nearby water receptors (i.e., public water supply wells, municipal water supplies, private wells, springs, caves systems, and surface waters receiving discharge). (Section 4.1.2.3)*

COMPLIANCE STATEMENT

A report describing the results of the fracture trace/lineament analysis utilizing remote sensing platforms (aerial photography and LiDAR) along with the results of existing dye trace studies is provided as EC26 Attachment 1. The results of the analysis are depicted on composite maps illustrating surficial karst features with the potential for intersecting shallow interconnected karst voids and cave systems over a wide area; specifically, between the pipeline and nearby water receptors (i.e., public water supply wells, municipal water supplies, private wells, springs, caves systems, and surface waters receiving discharge).

ENVIRONMENTAL CONDITION 27

As part of its Implementation Plan, *Atlantic shall consult with the Virginia Department of Conservation and Recreation (VDCR) to determine if the route alignment and construction activities will impact the Burnsville Cove Cave Conservation Site. Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, the results of its consultations, along with any proposed construction modifications or alignment shifts to avoid impacts on this site. (Section 4.1.2.3)*

COMPLIANCE STATEMENT

As discussed in its supplemental filing on September 22, 2017 (FERC Accession Number 20170922-5153), Atlantic consulted with the VDCR to determine if the route alignment and construction activities will impact the Burnsville Cove Cave Conservation Site. In an email to Atlantic dated August 28, 2017 (included with the September 22, 2017 filing), the VDCR concluded "it is very unlikely that the Project will have any discernible impact on the Burnsville Cove Conservation Site" with the implementation of the "erosion and sediment control measures and spill control protocols and response plans" proposed for the ACP. No construction modifications or alignment shifts are recommended or required to avoid impacts on the Burnsville Cove Cave Conservation Site.

ENVIRONMENTAL CONDITION 28

As part of its Implementation Plan, *Atlantic shall conduct a data review and field survey of potential karst features in Augusta County, Virginia between AP-1 MPs 106.8 and 110, and file this information with the Secretary, along with any mitigation measures, for review and written approval by the Director of OEP. (Section 4.1.2.3)*

COMPLIANCE STATEMENT

Atlantic conducted a data review and field survey of potential karst features in Augusta County, Virginia between AP-1 MPs 106.8 and 110.

Data Review

The entire 0.5-mile-diameter of the Karst Review Area between AP-1 MPs 106.8 and 110 was included in the data review and remote sensing phase of the investigation, although only the area between MPs 106.8 and 108.3 was mapped as underlain by karst-forming bedrock.

Field Survey

The section between MPs 106.8 and 108.6 was field surveyed on June 17, 2016, and no features were observed within the 300-foot-wide survey corridor. This section of the route is addressed in Atlantic's *Karst Survey Report, Revision 1,* which was filed on February 24, 2017 (FERC Accession Number 20170224-5149). The section of route from MPs 108.6 to 110 was not field surveyed due to the absence of underlying karst-forming bedrock in this area.

ENVIRONMENTAL CONDITION 29

***As part of its Implementation Plan**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a revised Karst Terrain Assessment Construction, Monitoring, and Mitigation Plan that includes monitoring of all potential karst areas for subsidence and collapse using LiDAR monitoring methods during years 1, 2, and 5 following construction. (Section 4.1.2.3)*

COMPLIANCE STATEMENT

An update to the *Karst Terrain Assessment Construction, Monitoring, and Mitigation Plan* that includes monitoring of all potential karst areas for subsidence and collapse using LiDAR monitoring methods during years 1, 2, and 5 following construction is provided as EC29 Attachment 1.

ENVIRONMENTAL CONDITION 30

As part of its Implementation Plan, *Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, updated site-specific crossing plans for major waterbody crossings. The plans shall include, as necessary, the location of temporary bridges and bridge type, appropriate cofferdam locations, water discharge structure locations, pump locations, and agency imposed TOYR and construction and restoration requirements. (Section 4.3.2.2)*

COMPLIANCE STATEMENT

The requested drawings are provided as EC30 Attachment 1. The site-specific drawings include, as applicable, the location of temporary bridges and bridge type, appropriate cofferdam locations, water discharge structure locations, pump locations, and agency- imposed TOYR and construction and restoration requirements. The following drawings are provided:

- Greenbrier River, AP-1;
- Cowpasture River, AP-1 – Option A (cofferdam);
- Cowpasture River, AP-1 – Option B (dam & pump);
- Appomattox River, AP-1;
- Meherrin River, AP-1; and
- Meherrin River, AP-3.

ENVIRONMENTAL CONDITION 31

As part of its Implementation Plan, *Atlantic shall file with the Secretary, for review and written approval by the Director of the OEP, site-specific plans to minimize and mitigate impacts on the waterbodies that will be impacted at the Blue Ridge Parkway (BRP)/Appalachian National Scenic Trail (ANST) HDD entry and exit workspaces. Final plans shall be developed in consultation the U.S. Army Corps of Engineers (USACE) and/or appropriate state agency(s). (Section 4.3.2.6)*

COMPLIANCE STATEMENT

Waterbodies potentially impacted by the BRP/ANST HDD are located on the workspace on the northwest side of the HDD, on properties where Atlantic has not been granted access by the landowner.

Prior to the start of construction on the BRP/ANST HDD, Atlantic will file site-specific plans, developed in consultation with the USACE and/or appropriate state agency(s), to minimize and mitigate impacts on the waterbodies that may be impacted on the northwest side of the HDD.

ENVIRONMENTAL CONDITION 32

***As part of its Implementation Plan**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a site-specific plan for the water impoundment structure at Jennings Branch (AP-1 MP 129.1), or identify an alternative location for the structure. (Section 4.3.2.7)*

COMPLIANCE STATEMENT

Atlantic has further optimized the hydrostatic test plan for the ACP. As a result of this optimization, the water impoundment structure at Jennings Branch (AP-1, MP 129.1) has been removed from the Project scope.

ENVIRONMENTAL CONDITION 33

As part of its Implementation Plan, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a revised Restoration and Rehabilitation Plan that incorporates recommended mitigation measures and seed mixes for Seneca State Forest based on consultation with the West Virginia Division of Forestry. (Section 4.4.2.1)

COMPLIANCE STATEMENT

Atlantic is coordinating with the State of West Virginia, Department of Commerce, Division of Natural Resources on a final license agreement/easement for the proposed crossing of Seneca State Forest. During a meeting with the WVDNR and West Virginia Division of Forestry (WVDOF) on October 5, 2017, the WVDOF indicated that all newly disturbed areas in the Seneca State Forest will need to be restored with seed mixes approved by the WVDOF State Lands Manager, limed, fertilized, and mulched (e.g., straw). The required seed mixes will vary based on soils, terrain and time of year. Atlantic has requested the required seed mix details from the WVDOF prior to the start of construction. An update to the *Restoration and Rehabilitation Plan* incorporating this clarification is provided as EC18 Attachment 1.

ENVIRONMENTAL CONDITION 34

***As part of its Implementation Plan**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, and the USFS for review and concurrence, detailed mapping of the existing conditions and proposed improvements to access road 36-016.AR1, including digital data, a description of the construction and operation impacts, including impacts on the adjacent vegetation communities, potential pond crossings identified in appendix K of the EIS, George Washington National Forest (GWNF) locally rare species located downslope, and identify the conservation measures that will be implemented to mitigate potential impacts. (Section 4.4.7)*

COMPLIANCE STATEMENT

Atlantic's response regarding existing conditions and proposed improvements to Access Road 36-013-AR1; an assessment of potential impacts on adjacent vegetation communities, potential pond crossings, and locally rare species; and measures to be implemented to mitigate potential impacts is provided below. Portions of this response containing location information for sensitive species have been redacted. The complete response is provided as EC34 Attachment 1, which has been filed under separate cover. The attachment is marked "Contains Controlled Unclassified Information and Contains Privileged Information - Do Not Release"

Atlantic provided its response to the USFS in a letter dated October 17, 2017. Because this letter includes location information for sensitive species, it is provided with EC34 Attachment 1.

<u>Access Road 36-016-AR1</u>

Access Road 36-016-AR1 (Campbell Hollow Road, Forest Road 281) extends about 2.8 miles from Indian Draft Road to its intersection with the pipeline right-of-way (ROW) near MP 96.3, in Bath County, on the GWNF.

Access Road 36-016-AR1 joins the paved Indian Draft Road at nearly a right angle as shown in Figure 1 (provided with EC34 Attachment 1). The entrance to the access road will be widened to 25 feet to allow long vehicles such as pipe trucks and low-boys to safely turn off Indian Draft Road onto the access road. Based on field surveys of this area, no wetlands, waterbodies, or sensitive cultural or biological resources will be affected by the widening of the entrance way.

Approximately 1,100 feet of the access road lies within the boundaries of the Brown's Pond Special Biological Area, as shown in Figure 2 (provided with EC34 Attachment 1). In this segment, the road will be re-graded and broad-base dips will be installed to channel road surface water into existing drainage ditches. The ditches will convey road runoff to small, stone-lined sumps installed at each road culvert to collect sediment and slow water flow prior to entering the culvert. A reverse flow on the drainage ditch will be installed on the immediate downstream end of each culvert (i.e., back-sloping the ditch on the downstream side of the culvert) to prevent water from flowing past the culvert. Compost filter socks will be installed along the roadway and at the culvert discharge points. Several culverts are clogged with sediment and will be

cleaned out or replaced. These improvements will avoid or minimize sedimentation downslope of the road in the direction of Brown's Pond.

The road will be graveled for its entire length to support construction traffic. The footprint of the road surface will not be widened. No ponds or GWNF locally rare species will be directly affected.

Adjacent vegetation communities are common forest types, such as montane mixed oak and oak hickory forest; these are shown on Figure 1 (EC34 Attachment 1). A locally rare GWNF plant species, Gleason Fraser's marsh St. Johnswort (Hypericum fraseri), [redacted] Although construction activities would not directly remove individuals, access road use could contribute to increased dust cover on plants and erosion and sedimentation issues, and encourage the spread of invasive and noxious plants.

The planned road improvements, discussed above, will minimize sedimentation originating from road runoff in the direction of Brown's Pond and other downslope areas. Atlantic will also implement the Construction, Operation and Maintenance Plan (COM Plan), which includes measures to control fugitive dust, non-native invasive species, and erosion/sedimentation along access roads.

Hoffman's cleidogonid millipede (*Cleidogona hoffmani*), [redacted] Potential habitat occurs throughout the area. Any potential indirect impacts to this species would be avoided or minimized by adherence to the erosion and sedimentation control measures contained in the COM Plan, as discussed further below.

A pond created by a man-made impoundment (feature obaa001 on Figure 1; EC34 Attachment 1) lies adjacent to and downslope from Access Road 36-016-AR1; other impoundments lie further downslope as well. The pond feature may have been created for amphibian habitat. It receives runoff from adjacent slopes and roadbeds. No sensitive species were found in the pond. The footprint of the road will not be expanded, so the pond will not be directly affected by the road. To reduce the potential for sedimentation into the pond caused by runoff from the road surface, Atlantic will install compost filter socks between the road surface and this pond, in addition to the planned road improvements discussed above.

Other water features crossed by or near Access Road 36-016-AR1 are also shown on Figure 1 (EC34 Attachment 1). Implementation of the erosion and sedimentation control measures contained in the COM Plan will avoid or minimize impacts to these features. Such measures include the following:

- Access road upgrades requiring grading of earth, cleaning of roadside channels, widening or similar earth disturbance will have appropriate E&SCs installed. Existing access roads requiring only the resurfacing with gravel are not required to be included within the limits of disturbance.

- Construction entrances will have stone access entrance and exit drives and parking areas to reduce the tracking of sediment onto public or private roads.

- During construction and restoration activities, access to the right-of-way will be limited to the use of new or existing access roads identified on the construction drawings.

- Safe and accessible conditions will be maintained at all road crossings and access points during construction and restoration. Access road maintenance through the construction sequence may include grading and the addition of gravel or stone when necessary.

- Access roads will be maintained in a stable manner to prevent off-ROW impacts, including impacts to adjacent and/or nearby sensitive resource areas, and all appropriate E&SC measures will be implemented for construction/ improvement of access roads.

- Soil or gravel spilled or tracked onto roadways will be removed daily or more frequently as necessary to maintain safe road conditions.

- Damages to roadway surfaces, shoulders, and bar ditches will be repaired.

- In some cases, existing roads will require improvement (such as grading, gravelling, replacing or installing culverts, minor widening, and/or clearing of overhead vegetation) to safely accommodate construction equipment and vehicles.

- Traffic will be restricted on access roads during unfavorable conditions, such as saturated soil. Gravel, wooden mats or a combination of geotextile and gravel may be used to help facilitate operations during wet periods.

- Roads will be surfaced with gravel or another suitable material to provide a non-erodible running surface.

- Silt fence or rip rap outlet protection will be constructed at outlets of drainage structures.

- When access roads intersect public highways, the contractor will use a combination of geotextile and gravel (temporary stone construction entrance) to help keep mud off highway entrances.

- Roads will be maintained so that water can flow freely from the road surface

Atlantic has proposed using Access Road 36-016-AR1 as an operations access road. Access to the right-of-way during pipeline operations will be much more infrequent and less intensive. Atlantic expects that routine road maintenance will provide sufficient erosion and sedimentation

control during its operational use. If major pipeline maintenance or repair requires heavy equipment to utilize this road, the requirements and erosion/sediment control measures for this road would be similar to those employed for the original pipeline construction.

ENVIRONMENTAL CONDITION 35

As part of its Implementation Plan, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a hydrofracture potential analysis for the Neuse River (AP-2 MP 98.5). If the potential for hydrofracture is low, Atlantic shall utilize the HDD method at this crossing to reduce potential impacts on ESA-listed, proposed, and/or under review species. If the HDD method is not feasible, Atlantic shall consult with the FWS and NCWRC to identify additional conservation measures that Atlantic will implement at this crossing to mitigate for the potential impacts on ESA-listed, proposed, and or under review species. (Section 4.7.1.8)

COMPLIANCE STATEMENT

Atlantic's hydrofracture potential analysis for the Neuse River crossing (AP-2 MP 98.5) is ongoing. Atlantic will file the results of the analysis, when available. If the results of the analysis indicate a low hydrofracture potential, Atlantic will utilize the HDD method at this crossing to reduce potential impacts on ESA-listed, proposed, and/or under review species. If the results of the analysis indicate that the HDD method is not feasible, Atlantic will consult with the FWS and NCWRC to identify additional conservation measures to be implemented at the crossing to mitigate for potential impacts on ESA-listed, proposed, and/or under review species.

ENVIRONMENTAL CONDITION 36

***As part of its Implementation Plan**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a hydrofracture potential analysis for the Nottoway River (AP-1 MP 260.7). If the hydrofracture potential is low, Atlantic shall utilize the HDD method at this crossing to reduce potential impacts on ESA-listed, proposed, and/or under review species. If the HDD method is not feasible, Atlantic shall consult with the FWS and VDGIF to identify additional conservation measures that Atlantic will implement at this crossing to mitigate for the potential impacts on ESA-listed, proposed, and/or under review species. (Section 4.7.1.10)*

COMPLIANCE STATEMENT

Atlantic's hydrofracture potential analysis for the Nottoway River crossing (AP-1 MP 260.7) is ongoing. Atlantic will file the results of the analysis, when available. If the results of the analysis indicate a low hydrofracture potential, Atlantic will utilize the HDD method at this crossing to reduce potential impacts on ESA-listed, proposed, and/or under review species. If the results of the analysis indicate that the HDD method is not feasible, Atlantic will consult with the FWS and VDGIF to identify additional conservation measures to be implemented at the crossing to mitigate for potential impacts on ESA-listed, proposed, and or under review species.

ENVIRONMENTAL CONDITION 37

As part of its Implementation Plan, *Atlantic shall file revised Carolina madtom habitat assessments based on 2017 surveys and consultations with the FWS North Carolina Field Office. This information shall also be incorporated into the ACP Master Waterbody Crossing table.* ***During construction****, Atlantic shall assume presence of the Carolina madtom where there is suitable habitat and implement the North Carolina Revised Fish and Other Aquatic Taxa Collection and Relocation Protocol for Instream Construction Activities, as well as the FWS' enhanced conservation measures for ESA sensitive waterbodies as defined in section 4.7.1 of the EIS. (Section 4.7.1.11)*

COMPLIANCE STATEMENT

Carolina madtom habitat assessment results for 2017 are summarized in the report entitled *Rare, Threatened, and Endangered Species Studies for the Proposed Atlantic Coast Pipeline in North Carolina*, which was filed on August 4, 2017 (FERC Accession Number 20170804-5095).

Six waterbodies were assessed for Carolina madtom habitat in 2017, and no suitable habitat was identified. During 2015-2016 surveys, suitable habitat was observed for Carolina madtom at three waterbodies crossed by the ACP (see Table 37-1). All of these waterbodies are proposed to be crossed using the HDD method.

TABLE 37-1

Waterbodies with Suitable Habitat for Carolina Madtom along the Atlantic Coast Pipeline

Segment	County	MP	Waterbody	Carolina Madtom Habitat Assessment Results
AP-2	Nash	40.6	Swift Creek	suitable
AP-2	Neuse	82.5	Little River	suitable
AP-2	Wilson	73.6	Contentnea Creek	suitable

ENVIRONMENTAL CONDITION 38

***As part of its Implementation Plan**, Atlantic shall file with the Secretary the results of consultation with the VDGIF regarding in-stream construction activities proposed during the Roanoke logperch VDGIF TOYR at Waqua Creek and Sturgeon Creek. Documentation shall include any additional conservation measures required by VDGIF, which shall also be incorporated into the final ACP Master Waterbody Crossing table for each waterbody. (Section 4.7.4.2)*

COMPLIANCE STATEMENT

Atlantic requested a waiver for in-stream construction activities proposed during the Roanoke logperch VDGIF TOYR at the Waqua Creek and Sturgeon Creek crossings in a letter to VDGIF dated September 8, 2017. A copy of the letter was filed on September 22, 2017 (FERC Accession Number 20170922-5153). Atlantic will file the VDGIF's response to the waiver request, when available. Atlantic will update and re-file the Master Waterbody Crossing Table, if warranted, to include any additional conservation measures recommended by VDGIF for the Waqua Creek and Sturgeon Creek crossings.

ENVIRONMENTAL CONDITION 39

***As part of its Implementation Plan**, Atlantic shall file with the Secretary the results of consultation with the VDGIF regarding in-stream construction activities proposed during the VDGIF TOYR for green floater in waterbodies where presence has been assumed for this species (see appendix K of the EIS), in addition to in-stream construction activities proposed at Sturgeon Creek during the VDGIF TOYR for Atlantic pigtoe and dwarf wedgemussel. Documentation shall include any additional conservation measures required by the VDGIF, which shall also be incorporated into the final ACP Master Waterbody Crossing table for each waterbody. (Section 4.7.4.2)*

COMPLIANCE STATEMENT

In a letter to VDGIF dated September 8, 2017, Atlantic requested a waiver for in-stream construction activities proposed during the green floater VDGIF TOYR at four waterbody crossings where the final EIS indicated an assumed presence for this species (i.e., for an unnamed tributary (UNT) to Mayo Creek and three unnamed tributaries to Meherrin River). In the same letter, Atlantic requested a waiver for in-stream construction activities proposed during the Atlantic pigtoe and dwarf wedgemussel VDGIF TOYR at Sturgeon Creek. A copy of Atlantic's letter to VDGIF was filed on September 22, 2017 (FERC Accession Number 20170922-5153). Atlantic will file the VDGIF's response to the waiver requests, when available. Atlantic will update and re-file the Master Waterbody Crossing Table, if warranted, to include any additional conservation measures recommended by VDGIF for these waterbody crossings.

ENVIRONMENTAL CONDITION 40

***As part of its Implementation Plan**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a site-specific Organic Farm Protection Plan for the certified organic farms affected by ACP Project, including (but not limited to) the milk and corn farm crossed between AP-1 MPs 141.8 and 142.4; the certified organic hog farm crossed between AP-2 MPs 118.8 and 118.9; and any additional certified organic farms not previously identified prior to construction. (Section 4.8.1.1)*

COMPLIANCE STATEMENT

Site-specific *Organic Farm Protection Plans* for the certified organic farms crossed by the ACP between AP-1 MPs 141.8 and 142.4 and between AP-2 MPs 118.8 and 118.9 were filed with FERC on September 8, 2017 (FERC Accession Number 20170908-5185). No other certified organic farms are crossed by the Projects.

ENVIRONMENTAL CONDITION 41

***As part of its Implementation Plan**, Atlantic shall file a final copy of its Haul Plan, which will address transportation of equipment, materials, and personnel along narrow public roads in steep terrain. (Section 4.8.1.4)*

COMPLIANCE STATEMENT

Prior to construction, Atlantic will file a final copy of its *Haul Plan*, which will address transportation of equipment, materials, and personnel along narrow public roads in steep terrain.

ENVIRONMENTAL CONDITION 42

***As part of its Implementation Plan**, Atlantic shall identify by milepost the locations where it will adopt a narrowed right-of-way to reduce impacts on forest land within the Seneca State Forest, and identify the locations of corresponding Additional Temporary Workspace (ATWS). Atlantic shall also provide updated and reduced construction impacts information for all applicable resources (land use, wetlands, soils, vegetation, cultural resources, etc.) affected by the changes to construction right-of-way and ATWS. (Section 4.8.5.1)*

COMPLIANCE STATEMENT

Atlantic is coordinating with the State of West Virginia, Department of Commerce, Division of Natural Resources on a final license agreement/easement for the proposed crossing of Seneca State Forest. No areas have been identified by Atlantic or the State of West Virginia where a narrowed right-of-way is appropriate, and none are expected to be included in the final license agreement/easement for the ACP. Options for narrowing the width of the construction corridor or ATWS on Seneca State Forest are limited due to steep terrain, construction safety considerations, and pipe and equipment size. Accordingly, Atlantic does not propose to adopt a narrowed right-of-way in any locations within the Seneca State Forest, and there are no updates to the construction impact information specific to Seneca State Forest identified by Atlantic in the impact tables filed on May 8, 2017 (FERC Accession Number 20170508-5071).

ENVIRONMENTAL CONDITION 43

As part of its Implementation Plan, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a finalized Contaminated Media Plan that considers the recommendations included in the VDEQ's letter dated April 6, 2017 (Accession No. 20170406-5489). As appropriate, provide evidence of consultations with the VDEQ regarding its comments on the Contaminated Media Plan. (Section 4.8.7)

COMPLIANCE STATEMENT

Atlantic updated its *Contaminated Media Plan* in consideration of the recommendations provided by the VDEQ in its letter to FERC dated April 6, 2017. Atlantic sent the updated plan to VDEQ for review on August 23, 2017. Copies of Atlantic's updated plan and the transmittal letter to VDEQ were filed on August 25, 2017 (FERC Accession Number 20170825-5201). Atlantic will file comments from the VDEQ on the updated plan, if any, when available.

ENVIRONMENTAL CONDITION 44

***As part of its Implementation Plan**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, site-specific visual mitigation measures for each scenic byway developed in consultation with the Department of Transportation (DOT), Federal Highway Administration (FHA), West Virginia Department of Transportation (WVDOT), Virginia Department of Transportation (VDOT), VDCR, and North Carolina Department of Transportation (NCDOT). Atlantic shall also provide documentation of agency consultation. (Section 4.8.8.2)*

COMPLIANCE STATEMENT

On August 16, 2017, Atlantic sent letters to the U.S. DOT-FHA, WVDOT, VDOT, and NCDOT regarding the proposed crossings of scenic byways along the ACP. The letters described the existing conditions of the byway at each crossing; identified the proposed construction methods at each crossing; included site-specific drawings depicting the proposed permanent right-of-way and temporary construction corridor at each crossing; and provided an analysis of the potential visual impacts at each crossing due to construction and operation of the ACP. Copies of the letters were filed on September 8, 2017 (FERC Accession Number 20170908-5185). Atlantic sent a similar letter to the VDCR on September 18, 2017. A copy of this letter was filed on September 22, 2017 (FERC Accession Number 20170922-5153). Agency responses are summarized below.

USDOT - FHA

In reply letters to Atlantic dated August 25, 2017, the USDOT-FHA stated that it "is not directly involved in individual utility accommodation decisions" and "does not have any comments" on the proposed scenic byway crossings in West Virginia, Virginia, and North Carolina. Copies of these letters were filed on September 8, 2017 (FERC Accession Number 20170908-5185).

WVDOT

The WVDOT did not respond to Atlantic's letter. In a follow-up telephone call on September 21, 2017, the WVDOT deferred Atlantic to the West Virginia Department of Environmental Protection (WVDEP). Atlantic subsequently called the WVDEP and sent them a copy of the August 25, 2017 letter to WVDOT by email on September 21, 2017. A copy of Atlantic's transmittal email to WVDEP was filed on October 13, 2017 (FERC Accession Number 20171013-5176). The WVDEP did not reply to Atlantic's email.

VDOT

In a reply email to Atlantic dated September 25, 2017, VDOT stated that it "does not have any additional comments other than the previously identified recommendation to file site specific visual mitigation measures". A copy of this email was filed on October 13, 2017 (FERC Accession Number 20171013-5176).

VDCR

In a reply letter to Atlantic dated September 27, 2017, the VDCR stated that "there is no significant impact to the scenic qualities of the Virginia Byways affected by this project". A copy of this letter was filed on October 13, 2017 (FERC Accession Number 20171013-5176).

NCDOT

In a reply letter to Atlantic dated September 6, 2017, the NCDOT commented "that the layout/path of the pipeline has been designed to keep impacts as minimal as possible" and stated that it "has no jurisdiction or land use controls outside of the highway right-of-way except for Outdoor Advertising restrictions". However, the NCDOT asked Atlantic to preserve a shade tree along the edge of the construction right-of-way on the south side of State Highway 561 in Halifax County, if possible. A copy of the reply letter from the NCDOT was filed on September 22, 2017 (FERC Accession Number 20170922-5153). Atlantic has identified the shade tree and will attempt to construct the ACP without having to remove the shade tree, if site conditions allow for safe construction without doing so.

ENVIRONMENTAL CONDITION 45

***As part of its Implementation Plan**, Atlantic shall identify mitigation measures, for review and written approval by the Director of OEP, to reduce the impacts on the Fenton Inn at approximately AP-1 MP 158.7 resulting from lighting equipment needed to support the HDD of the BRP and ANST. (Section 4.8.8.2)*

COMPLIANCE STATEMENT

Atlantic commissioned a specialty consultant to determine the potential impact of the lighting equipment needed to support the HDD of the BRP and ANST. Using the results of the study, Atlantic, along with the specialty consultant, is developing a plan to minimize lighting impacts. The results of this study and the resulting mitigation plan will be provided to FERC prior to starting construction in this area.

ENVIRONMENTAL CONDITION 46

***As part of its Implementation Plan**, Atlantic shall file with the Secretary the locations where it will adopt a narrowed right-of-way to reduce impacts on forest land and ecologically sensitive areas within the Monongahela National Forest (MNF) and GWNF, along with the locations of corresponding ATWS. (Section 4.8.9.1)*

COMPLIANCE STATEMENT

As discussed in the Biological Evaluation for the ACP, which was filed on August 4, 2017 (FERC Accession Number 20170804-5095), Atlantic committed to reducing the width of the construction corridor in a small area between approximate MPs 83.4 and 83.5 to avoid direct impacts on a population of Appalachian oak fern. The reduced width of the corridor in this area will be depicted on the construction alignment sheets to be filed by Atlantic pursuant to Environmental Condition 4. No other locations have been identified by Atlantic or the USFS where a narrowed right-of-way is warranted, due to steep terrain conditions, construction safety considerations, and pipe and equipment size. No such locations are included in the COM Plan prepared by Atlantic or the draft record of decision (ROD) issued by the USFS and none are expected to be included in the final ROD or right-of-way grant issued for the ACP.

ENVIRONMENTAL CONDITION 47

***As part of its Implementation Plan**, Atlantic shall file with the Secretary a revised trail, road, and railroad crossing table that lists the final crossing method that it will implement at each trail, road, and railroad. The crossing method at trails and roads on the GWNF shall be developed in consultation with GWNF staff. (Section 4.8.9.1)*

COMPLIANCE STATEMENT

Atlantic submitted a COM Plan to the USFS and FERC on January 27, 2017 (FERC Accession Number 20170127-5202) that lists all USFS roads and crossing methods. There are no updates to the crossing methods listed in the COM Plan from that filing.

ENVIRONMENTAL CONDITION 48

***As part of its Implementation Plan**, Atlantic shall, if a bore or HDD crossing is not feasible, file with the Secretary, for review and written approval by the Director of OEP, site-specific crossing plans that identify the location(s) of a detour, public notification, signage, and consideration of avoiding days of peak usage for each trail and road affected by the ACP Project on the GWNF. The crossing plans shall be developed in consultation with GWNF staff. (Section 4.8.9.1)*

COMPLIANCE STATEMENT

Atlantic is evaluating road and trail crossings on the USFS that will require detours.

Prior to construction, Atlantic will submit site-specific crossing plans that identify the location(s) of a detour and signage. These plans will take into consideration avoiding days of peak usage for each trail and road on the GWNF. Once detour plans have been approved, a public notification will be sent out informing of the change in route.

ENVIRONMENTAL CONDITION 49

***As part of its Implementation Plan**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a final site-specific HDD crossing plan and an alternative direct pipe crossing plan for the BRP. Provide documentation that Atlantic has consulted with the National Park Service (NPS) regarding both of these plans and adopted or addressed any substantive comments from the NPS into these plans. (Section 4.8.9.1)*

COMPLIANCE STATEMENT

Prior to construction, Atlantic will file a final site-specific HDD crossing plan and an alternative direct pipe crossing plan for the BRP. Atlantic will provide documentation that it has consulted with the NPS regarding both of these plans and adopted or addressed any substantive comments from the NPS into these plans.

ENVIRONMENTAL CONDITION 50

***As part of its Implementation Plan**, Atlantic shall file with the Secretary aerial photographs depicting the entry and exit sites for the proposed Interstate 79 and Route 58 HDDs. The aerials shall identify any Noise Sensitive Areas (NSAs) within 0.5 mile of the entry/exit sites for each HDD or clearly demonstrate that there are no NSAs within 0.5 mile of the entry/exit sites. (Section 4.11.2.2)*

COMPLIANCE STATEMENT

Aerial photographs depicting the entry and exit sites for the proposed Interstate 79 and Route 58 HDDs and the requested NSA location information will be provided to FERC prior to construction.

ENVIRONMENTAL CONDITION 51

***Prior to construction**, Atlantic and DETI shall file with the Secretary:*

a. all outstanding geotechnical studies for sites SL024, SS018, SL235, and SL239; geohazard analysis field reconnaissance of the 25 sites on the AP-1 mainline and 5 sites on the TL-635 loopline (as well as any additional geotechnical studies proposed following completion of site reconnaissance of these sites); and any mitigations proposed following the geotechnical studies and geohazard analysis field reconnaissance; and

b. status of the Best In Class (BIC) Team analysis related to the ACP and Supply Header Projects. (Section 4.1.4.2)

COMPLIANCE STATEMENT

a. Geotechnical Studies and Geohazards Report

The requested geotechnical studies are provided as EC51 Attachment 1. The geohazard analysis of the remaining 25 sites for AP-1 and TL-635 is provided as EC51 Attachment 2.

b. Status of the BIC Team Analysis

The field reconnaissance conducted during Phase 1 and Phase 2 of the Geohazard Analysis Program consisted of aerial and ground reconnaissance. The purpose of the aerial reconnaissance was to collect photographic evidence of potential slope instability features and steep slopes along the proposed TL-635 (SHP) and AP-1 (ACP) pipelines, as well as a perspective on geomorphic, geologic, and geotechnical conditions.

The Phase 1 ground reconnaissance activities were conducted to identify the various types of geohazards classified in the Phase 1 desktop analysis along TL-635 and AP-1, to observe any geomorphic evidence of hazards at the sites that was not identified during desktop analysis, and to calibrate the proposed ranking of threat levels. The Phase 2 ground reconnaissance activities consisted of identification of scarps and erosional features associated with past slope instability and characterizing potential slope instability indicators along identified steep slope sections of the proposed TL-635 and AP-1 pipelines. The evaluation in the field included, but was not limited to the identification of landslide prone geologic units and adverse geologic structure in addition to suspect geomorphic expression of surficial movement, such as localized distorted tree growth and saturated ground conditions, and collecting photographic documentation of these indicators.

Two days of aerial reconnaissance and several days of ground reconnaissance were performed during Phase 1 of the Geohazard Analysis Program. Portions of AP-1 and TL- 635 were reviewed by aerial reconnaissance on November 5, 2015 and the remaining portions of ACP segments AP-1, AP-2, AP-3, and AP-4 were reviewed by aerial reconnaissance on November 9, 2015. Phase 1 ground reconnaissance was performed between November 2, 2015 and November

10, 2015, at sites located near ACP Segments AP-1, AP-2, AP-3, and TL-635. In total, 24 potential geotechnical hazard sites (18 sites along AP-1 and 6 sites along TL-635) were observed during Phase 1 ground reconnaissance.

One day of aerial reconnaissance and multiple days of ground reconnaissance were completed during Phase 2 of the Geohazard Analysis Program. Aerial reconnaissance was performed on April 6, 2016, covering approximately 130 miles of AP-1 between approximately MPs 25 and 127, and along the GWNF 6 Forest Service reroute where LiDAR imagery was not available at the time. Ground reconnaissance was performed between March 28, 2016 and May 6, 2016, when 55 potential steep slope or slope instability hazard sites identified during Phase 1 desktop analysis were observed. Thirty-eight of the sites were located along AP-1, between approximately MP 0 and MP 173, and 17 of the sites were located along TL-635. An additional 30 sites were identified during desktop analysis where ground reconnaissance was recommended; however, they were not visited early in 2016 due to land access restrictions, or due to route adjustments where ground reconnaissance could not be completed in time for report deadlines. For all 55 sites visited during Phase 2 ground reconnaissance, new hazard rankings were assigned based upon assessment of field conditions and anticipated construction impacts. Ten sites, five on AP-1 and five on TL-635, have been assigned a high potential slope instability hazard. Sixteen sites, eight on AP-1 and eight on TL-635, have been assigned a moderate potential slope instability hazard. Seventeen sites, 14 on AP-1 and three on TL-635, have been assigned a low potential slope instability hazard. Twelve sites on AP-1 were dismissed as having insignificant potential for slope instability based on the results of ground or aerial reconnaissance.

Additional Phase 2 ground reconnaissance was performed between October 24, 2016 and October 27, 2016 and between June 18 and June 21, 2017 when visits were made to 22 of the additional 30 sites that were not visited in early 2016 as identified in the geotechnical hazards analysis for the ACP and SHP Projects [Geosyntec, 2016]. Three of those 30 sites are no longer on the route and two of those 30 sites will be bypassed by the Blue Ridge Parkway HDD. The remaining three of the 30 sites identified have yet to be visited because of land access restrictions.

Landslides

A landslide is defined as the movement of a mass of rock, debris, or earth materials down a slope. Landslides can be initiated by heavy rainfall, earthquakes, changes in groundwater conditions (i.e., seasonal high water tables), and/or slope disturbance resulting from construction activity. Information on landslide incidence and susceptibility was provided by a digitally compiled USGS Landslide Overview Map of the Conterminous United States (Radbruch-Hall et al., 1982), as well as an analysis of remote sensing platforms data including aerial photographs and LiDAR imagery, and by conducting field surveys.

Very few steep slopes along TL-635 and AP-1 were found to contain pre-existing significant landslides. While potential slope instability associated with colluvium accumulation was observed on most of the steep slopes, the colluvium overlying formational bedrock was relatively

thin and did not typically extend to anticipated depths of pipeline burial. Signs of creep[1] were often observed in the colluvium and are a common form of mass wasting across the Project area due to inherently weak soils in steep slope conditions. Creep in colluvium along steep slopes can be an indication of potential slope instability which could be exacerbated during pipeline construction activities resulting in slope failure if not properly mitigated using common pipeline engineering and construction practices.

Landslides in the form of slope failure may occur during construction, operation, and maintenance along the ACP and SHP alignments. Potential landslides in the Project area include a variety of mass movements such as debris slides, debris flows, rockslides, rockfalls, and slumps. Debris flows (also referred to as mudslides, mudflows, or debris avalanches) are the dominant type of rapid, catastrophic landslide (Wooten et al., 2015; Eaton et al., 2003; Sas and Eaton, 2008; Morgan et al., 1999; USGS, 1996; Jacobson et al., 1993; Clark, 1987; Hack and Goodlett, 1960). Damage resulting from landslide mass movement during construction and operation of the Projects could lead to additional disturbance of land and environmental resources. Site specific geohazard mitigation measures may be required in order to stabilize the landslide, replace the affected pipeline section, or to reroute sections of the pipeline that cannot be stabilized using common pipeline engineering and construction practices.

Project-induced slope instability may be triggered from the construction, operation, and maintenance of the pipelines and access roads potentially resulting in failures of cut slopes or fill slopes. Project-induced slope instability resulting in landslides can create risks to public safety, environmental resources, and infrastructure on lands upslope and downslope as well as within the access roads and pipeline corridors. Fill slopes, especially inadequately constructed and maintained fill slopes, are a source of debris flows in mountainous terrain (Collins, 2008; Wooten et al., 2009; Latham et al., 2009; Wooten et al., 2014; Wooten et al., 2015).

Project-induced slope instability resulting in landslides may be triggered from alteration of the surface and subsurface drainage in steep slope construction along the pipelines and access roads. Changes in surface and subsurface drainage may also increase pre-existing landslide hazard potential on natural slopes adjacent to the pipelines and access roads.

The stability of cut slopes and fill slopes during the construction period and in the decades of operation and maintenance will depend on many engineering geologic or geotechnical factors, such as slope gradient or inclination; the bedrock structure (orientation and distribution of bedrock fractures or discontinuities); the mass strength properties of in-place bedrock and surficial materials including soils and colluvium; the mass strength properties of excavated bedrock fragments and surficial materials used as fill, as well as fill imported from off-site; the nature of the contact between in-place bedrock and surficial materials including soils and colluvium (transitional or sharp; planarity); the degree to which fill is compacted; the nature of the contact between in-place bedrock and fills (transitional or sharp; planarity); rainfall quantity

[1] Creep is the imperceptibly slow, steady, downward movement of slope-forming soil or rock. Movement is caused by shear stress sufficient to produce permanent deformation, but too small to produce shear failure. USGS Landslide Types and Processes https://pubs.usgs.gov/fs/2004/3072/pdf/fs2004-3072.pdf.

and intensity; and surface and subsurface drainage including near-surface groundwater and springs.

Atlantic and DETI have conducted geotechnical hazards analysis for the ACP and SHP Projects (Geosyntec Consultants, Inc. [Geosyntec], 2016 and 2017).[2,3] This Geohazard Analysis Program identified locations along the proposed route in sloping terrain that might be susceptible to slope instability such as landslides, debris slides, debris flows, rockslides, rockfalls, and slumps. The Geohazard Analysis Program consisted of a desktop analysis including a review of remote sensing platforms such as aerial photographs and LiDAR imagery, aerial reconnaissance, ground reconnaissance, and geotechnical investigation to identify geotechnical hazard locations. These hazards were categorized as low, moderate, or high threat level, with the hazard ranking adjusted as needed based on the Geohazard Analysis Program.

In West Virginia, 73 percent of AP-1 would cross areas categorized by Radbruch-Hall et al. (1982) as having a high incidence of and high susceptibility to landslides or other slope instability. In Virginia, approximately 28 percent of AP-1 would cross areas categorized by Radbruch-Hall et al., (1982) as having a high incidence of and high susceptibility to landslides (Highland, Bath, Augusta, and Nelson Counties); 21 percent would cross areas with a moderate incidence of and high susceptibility to landslides (Augusta, Nelson, and Buckingham Counties); and 7 percent would cross areas with a moderate incidence of and moderate susceptibility to landslides (Augusta County). The remainder of the ACP mainline segment, as well as the entire AP-2 mainline segment, and the AP-3, AP-4, and AP-5 laterals would cross areas of low incidence of and low susceptibility to landslides (Geosyntec, 2016). The entire TL-635 alignment would cross areas categorized by Radbruch-Hall et al., (1982) as having geologic and topographic conditions resulting in high susceptibility to landslides or other slope instability and where actual incidence of landslides is also high.

The locations along TL-635 AP-1 identified as high and medium threat level hazards are undergoing further analysis as part of a Phase 2 program that includes detailed mapping and potentially subsurface exploration by soil borings or deep test pits and engineering analysis. Atlantic and DETI are working towards completion of the Phase 2 analysis.

Steep Slopes

ACP crosses 30.4 miles of slopes ranging from 20 percent to 35 percent and 11.6 miles of slopes greater than 35 percent in West Virginia; 28.8 miles of slopes ranging from 20 percent to 35 percent and 12.5 miles of slopes greater than 35 percent in Virginia; and approximately 0.3 mile of slopes ranging from 20 percent to 35 percent and less than 0.1 mile of slopes greater than 35 percent in North Carolina. SHP crosses 13.5 miles of slopes ranging from 20 percent to 35 percent and 10.7 miles of slopes greater than 35 percent.

[2] Geosyntec Consultants. 2016. "Geohazard Analysis Program Phase 2 Report, Atlantic Coast Pipeline and Supply Header Project", submitted to Dominion Transmission Inc., dated August 2016.

[3] Geosyntec Consultants. 2017. "Geohazard Analysis Program Phase 2 Addendum Report, Atlantic Coast Pipeline and Supply Header Project", submitted to Dominion Transmission Inc., dated April 2017.

The Geohazard Analysis Program identified slopes that warranted further evaluation along slopes that are:

- longer than 200 feet with inclination greater than 58 percent;
- longer than 500 feet with inclination between 40 percent and 58 percent;
- longer than 200 feet with segments that are a combination of inclination greater than 58 percent and between 40 percent and 58 percent; and
- longer than 200 feet with inclination between 40 percent and 58 percent that are located on National Forrest land.

Based on these criteria, Geosyntec identified over 100 potential slope instability hazard locations along AP-1 where evidence suggests previous slope instability, or where the potential exists for slope instability, and 46 steep slopes that met the criteria for further evaluation used in the Geohazard Analysis Program. Geosyntec also identified 76 potential slope instability hazard locations along TL-635 where evidence suggests previous slope instability, or where the potential exists for slope instability, and 22 steep slopes that met the same evaluation criteria.

During construction of the pipeline facilities, activities on steep slopes could initiate localized slope movement. In addition, during operation, a naturally occurring landslide could damage the proposed facilities and create a potential safety hazard to nearby residents.

Atlantic and DETI attempted to avoid slip prone areas during the routing of ACP and SHP and completed a desktop analysis to inventory and categorize areas of slope instability as part of the Geohazard Analysis Program (Geosyntec, 2015).[4] In addition, Atlantic and DETI attempted to cross topographic contours perpendicularly and minimize crossing of slopes greater than 30 degrees whenever practicable.

Atlantic and DETI have developed a BIC Steep Slope Management Program, led by the BIC Team, which incorporated the results of the Geohazard Analysis Program into the project design and engineering and to address issues of landslide potential and susceptibility. Field reconnaissance and workshops were also conducted with subject matter experts to further identify, assess, and mitigate slope instability hazards.

The BIC Team has selected those slopes that would be identified for site-specific requirements for construction and restoration. These criteria currently are:

- slopes longer than 100 feet with inclination greater than 58 percent;
- slopes longer than 150 feet with inclination between 40 percent and 58 percent; and
- slopes longer than 200 feet with inclination between 30 percent and 40 percent.

[4] Geosyntec Consultants, 2015. "Geohazard Analysis Program Phase 1 Report, Atlantic Coast Pipeline and Supply Header Project", submitted to Dominion Transmission Inc., dated December 2015.

The BIC Team has identified six categories of steep slopes that occur on ACP and SHP and are potential hazards. Specific slopes may not fit a single category, but these categories are useful for identifying hazard conditions and preparing a set of standard mitigation engineering designs for slope hazards. The categories are:

- Steep slopes without evidence of previous movement.
- Steep slopes with evidence of active movement.
- Steep slopes with increased potential for instability when disturbed.
- Steep slopes with narrow ridge tops.
- Steep slopes with a sensitive resource at the toe.
- Steep slopes previously modified by cutting and filling.

The BIC Team has developed standard geohazard mitigation engineering designs for each of the six categories, drawing on industry techniques commonly utilized in pipeline construction, as well as industry-specific guidance, including "Mitigation of Land Movement in Steep and Rugged Terrain for Pipeline Projects" (Interstate Natural Gas Association of America, 2016).

In addition to the measures described above, Atlantic and DETI have incorporated the measures in their Slip Avoidance, Identification, Prevention, and Remediation (SAIPR) Policy and Procedure to avoid, minimize, and mitigate potential landslide issues in slip prone areas prior to, during, and after construction along the entire TL-635 and AP-1 segments. The SAIPR Policy and Procedure identifies engineering design methods that would be used for slip prevention and correction during construction, including:

- drainage improvement, including providing subsurface drainage at seep locations through granular fill and outlet pipes, incorporating drainage into trench breakers using granular fill, and/or intercepting groundwater seeps and diverting them from the right-of-way;
- buttressing slopes with Sakrete trench breakers;
- changing slope geometry by making the slope shallower;
- benching and re-grading with controlled backfill;
- using alternative backfill;
- chemical (e.g., cement, lime) stabilization of backfill;
- geogrid reinforced slope that consists of benching existing slope, installing subsurface drains, and incorporating Geogrid reinforcement into compacted backfill; and/or
- retaining structures.

In the event slope movement or "slips" are discovered during inspection, primarily conducted by geotechnical inspectors, either during or following construction activities, the SAIPR Policy and Procedure identifies the steps that would be used for restoration of slips, including:

- notify DETI Engineering Management and Gas Environmental Business Support (GEBS), who would help evaluate priority of response, who would in turn notify appropriate FERC and appropriate state agencies. Additional federal and state agencies would be notified if the slip has or could impact a resource, such as a waterbody, wetland, threatened or endangered species, etc. The WVDNR WRS would be contacted within 48 hours if a slip or landslide occurs on the Lewis Wetzel WMA or Seneca State Forest;
- install temporary best management practices (BMPs) to prevent further slip, contain slip debris, and prevent impacts to waters of the state and US;
- collect data on the slip and submit to DETI;
- evaluate the data and select appropriate repair method;
- if applicable, place short term measures to stabilize the slip; and
- install and document final slip repair.

In addition, if geotechnical inspectors document the presence of potential indicators of instability, including tension cracks, slumping, erosion, or seeps, during construction and/or restoration, Atlantic and DETI would conduct additional analysis to confirm the effectiveness of mitigation measures and necessity of additional mitigation details.

Atlantic and DETI are working towards completion of the Phase 2 analysis and field surveys Atlantic and DETI have filed with the Secretary:

- outstanding geotechnical studies for previously identified sites SL024, SS018, SL235, and SL239; geohazard analysis field reconnaissance of an additional 17 sites on the ACP AP-1 mainline segment and 5 sites on the SHP TL-635 loopline segment; and prior to construction will submit additional geotechnical studies and mitigation designs proposed following the geotechnical studies and geohazard analysis field reconnaissance.

Atlantic and DETI filed with FERC land disturbance applications for West Virginia and Virginia on June 9 and July 28, 2017, respectively (FERC Accession Numbers 20170609-5196 and 20170728-5118, respectively). Included in these applications were site-specific geohazard mitigation measures for the six steep slope categories in the construction plans. These plans were stamped and sealed by a professional engineers-of-record registered in the respective states.

ENVIRONMENTAL CONDITION 52

***Prior to construction**, Atlantic and DETI shall complete the remaining field surveys for wells and springs within 150 feet of the construction workspace, and within 500 feet of the construction workspace in karst terrain, and file the results, including type and location, with the Secretary. (Section 4.3.1.5)*

COMPLIANCE STATEMENT

Prior to construction, Atlantic and DETI will complete the remaining field survey for wells and springs within 150 feet of the construction workspace, and within 500 feet of the construction workspace in karst terrain, and will file the results, including type and location.

ENVIRONMENTAL CONDITION 53

***Prior to construction**, Atlantic and DETI shall file with the Secretary a copy of its final wetland mitigation plans and documentation of USACE approval of the plans. (Section 4.3.3.8)*

COMPLIANCE STATEMENT

Atlantic and DETI will each file copies of their final wetland mitigation plans and documentation of USACE approval of these plans prior to construction.

ENVIRONMENTAL CONDITION 54

*Atlantic and DETI **shall not begin construction of the proposed facilities until**:*

a. all outstanding biological surveys are completed;

b. the FERC staff complete any necessary section 7 consultation with the FWS; and

c. Atlantic and DETI have received written notification from the Director of OEP that construction and/or use of mitigation (including implementation of conservation measures) may begin. (Section 4.7.1)

COMPLIANCE STATEMENT

Atlantic and DETI will not begin construction of any Project facility until all outstanding biological surveys are completed for that facility; the FERC staff completes any necessary section 7 consultation with the FWS; and Atlantic and DETI have received written notification from the Director of OEP that construction and/or use of mitigation (including implementation of conservation measures) may begin.

ENVIRONMENTAL CONDITION 55

Prior to construction and upon completion of 2017 surveys, Atlantic and DETI shall file with the Secretary and FWS the total acreages of:

a. northern long-eared bat occupied habitat that will be impacted by the ACP and Supply Header Projects; and

b. northern long-eared suitable habitat that will be impacted by the ACP and Supply Header Projects. (Section 4.7.1.4)

COMPLIANCE STATEMENT

Atlantic filed the total acreages of northern long-eared bat occupied and suitable habitat that will be impacted by the Projects on October 13, 2017 (FERC Accession Number 20171013-5176). This information was provided to the FWS by email on October 14, 2017. A copy of Atlantic's transmittal email to the FWS is provided as EC55 Attachment 1.

ENVIRONMENTAL CONDITION 56

*Atlantic and DETI shall **not begin** construction of the ACP and Supply Header Projects facilities or use of contractor yards, ATWS, or new or to-be-improved access roads **until**:*

a. Atlantic files with the Secretary documentation of communications with the Lumbee Indian Nation, Coharie Tribal Council, Haliwa-Saponi Tribe, and the Meherrin Tribe regarding traditional tribal sites, including natural resources gathering locations in the project area;

b. Atlantic and DETI file with the Secretary:

i. all survey reports, evaluation reports, reports assessing project effects, and site treatment plans, and cemetery avoidance treatment plans;

ii. comments on all reports and plans from the Pennsylvania, West Virginia, Virginia, and North Carolina State Historic Preservation Offices (SHPOs), the MNF, GWNF, and NPS, as well as any comments from federally recognized Indian tribes, and other consulting parties, as applicable; and

iii. revised Unanticipated Discovery Plans that include tribal contact information for those tribes that request notification following post-review discovery of archaeological sites, including human remains, during project activities;

c. the Advisory Council on Historic Preservation (ACHP) is afforded an opportunity to comment if historic properties will be adversely affected; and

d. the FERC staff reviews and the Director of OEP approves the cultural resources reports and plans, and notifies Atlantic and DETI in writing that treatment plans/mitigation measures (including archaeological data recovery) may be implemented and/or construction may proceed.

*All material filed with the Commission that contains **location, character, and ownership** information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering "**CUI//PRIV – DO NOT RELEASE**." (Section 4.10.7)*

COMPLIANCE STATEMENT

Atlantic and DETI acknowledge that construction of ACP and SHP facilities or use of contractor yards, ATWS, or new or to-be-improved access roads may not begin until:

a. Atlantic files with the Secretary documentation of communications with the Lumbee Indian Nation, Coharie Tribal Council, Haliwa-Saponi Tribe, and the Meherrin Tribe regarding traditional tribal sites, including natural resources gathering locations, in the project area;

b. Atlantic and DETI file with the Secretary:

   i. all survey reports, evaluation reports, reports assessing project effects, and site treatment plans, and cemetery avoidance treatment plans;

   ii. comments on all reports and plans from the Pennsylvania, West Virginia, Virginia, and North Carolina SHPOs, the MNF, GWNF, and NPS, as well as any comments from federally recognized Indian tribes, and other consulting parties, as applicable; and

   iii. revised Unanticipated Discovery Plans that include tribal contact information for those tribes that request notification following post-review discovery of archaeological sites, including human remains, during project activities;

c. the ACHP is afforded an opportunity to comment if historic properties will be adversely affected; and

d. the FERC staff reviews and the Director of OEP approves the cultural resources reports and plans, and notifies Atlantic and DETI in writing that treatment plans/mitigation measures (including archaeological data recovery) may be implemented and/or construction may proceed.

With regard to subpart *a* of this condition, Atlantic filed a summary of communications to date with the Lumbee Indian Nation, Coharie Tribal Council, Haliwa-Saponi Tribe, and Meherrin Tribe, including communications regarding traditional tribal sites and natural resources gathering locations in the ACP Project area, on October 13, 2017 (FERC Accession Number 20171013-5176). Atlantic will continue to file documentation of communications with these tribes, as warranted.

With regard to subparts *b.i* and *b.ii* of this condition, Atlantic and DETI have and will continue to file outstanding reports and plans and comments from agencies and other stakeholders on these reports and plans, as warranted.

With regard to subpart *b.iii* of this condition, Atlantic and DETI filed updates to the *Unanticipated Discovery Plans* for the Projects on August 11, 2017 (FERC Accession Number 20170811-5089). The updated plans include tribal contact information, by state, for tribes that requested notification following post-review discovery of archaeological sites, including human remains, during project activities.

With regard to subpart *c* of this condition, Atlantic notes that the ACP is expected to result in adverse effects on historic properties. Atlantic filed treatment plans for mitigating adverse impacts on archaeological historic properties in North Carolina and Virginia on July 28 and 31, 2017, respectively (FERC Accession Numbers 20170728-5119 and 20170731-5277, respectively). These treatment plans are currently under review by the appropriate SHPOs.

Atlantic and DETI will file comments from the SHPOs on these plans, when available. No archaeological historic properties will be affected by the ACP in West Virginia.

Atlantic filed assessment of effects reports for aboveground historic properties in West Virginia, Virginia, and North Carolina on July 28, 2017 (FERC Accession Number 20170728-5118). The status of review for these reports is as follows:

- The West Virginia SHPO commented on the West Virginia report in a letter to Atlantic dated September 1, 2017. A copy of this letter was filed on September 22, 2017 (FERC Accession Number 20170922-5153). Atlantic filed an update to the report addressing the comments from the West Virginia SHPO on October 13, 2017 (FERC Accession Number 20171013-5176). The update to the report is currently under review by the West Virginia SHPO. Atlantic will file comments from the West Virginia on this report, when available.

- The Virginia SHPO commented on the Virginia report in a letter to Atlantic dated September 11, 2017. A copy of this letter was filed on September 22, 2017 (FERC Accession Number 20170922-5153). Atlantic anticipates filing an update to the report addressing the comments from the Virginia SHPO on October 20, 2017. Atlantic will file comments from the Virginia SHPO on the updated report, when available.

- The North Carolina SHPO concurred with the results and recommendations of the North Carolina report in a letter to Atlantic dated September 26, 2017. A copy of this letter was filed on September 27, 2017 (FERC Accession Number 20170927-5104).

The SHP is not expected to adversely impact historic properties.

With regard to subpart *d* of this condition, Atlantic and DETI acknowledge that the Director of OEP must approve the cultural resources reports and plans and notify the companies in writing that treatment measures or mitigation, including archaeological data recovery, may be implemented or that construction may begin.

ENVIRONMENTAL CONDITION 57

***Prior to construction**, DETI shall continue to consult with the Westmoreland Conservancy regarding a route variation to minimize impacts on conservation easements, and shall file with the Secretary documentation regarding the results of its consultations and any proposed route modifications. (Section 3.4.2)*

COMPLIANCE STATEMENT

DETI has consulted with the Westmoreland Conservancy regarding its conservation easements and has incorporated a route variation to minimize impacts into its final route for the SHP. Prior to construction, DETI will file copies of its consultations with the Westmoreland Conservancy, the results of all environmental surveys, an updated 7.5-minute USGS topographic quadrangle map, and a large-scale alignment sheet that illustrates the route change.

ENVIRONMENTAL CONDITION 58

Atlantic shall incorporate the Butterwood Creek Route Variation into its final route for the ACP. ***Prior to construction****, Atlantic shall file with the Secretary the results of all environmental surveys, an updated 7.5-minute USGS topographic quadrangle map, and a large-scale alignment sheet that illustrates this route change. (Section 3.4.4)*

COMPLIANCE STATEMENT

Atlantic will incorporate the Butterwood Creek Route Variation into its final route for the ACP. Prior to construction, Atlantic will file the results of all environmental surveys, an updated 7.5-minute USGS topographic quadrangle map, and a large-scale alignment sheet that illustrates this route change.

ENVIRONMENTAL CONDITION 59

***Prior to construction**, Atlantic shall file with the Secretary documentation of concurrence from the VDEQ that ACP is consistent with the Coastal Zone Management Act (CZMA). (Section 4.8.6)*

COMPLIANCE STATEMENT

Atlantic filed documentation of concurrence from the VDEQ that the ACP is consistent with the CZMA on July 28, 2017 (FERC Accession Number 20170728-5118).

ENVIRONMENTAL CONDITION 60

***Prior to construction within the Emporia Powerline Bog and Handsom-Gum Powerline Conservation Sites**, Atlantic shall:*

a. complete hydrologic studies using methodologies developed in conjunction with the Virginia Department of Conservation and Recreation; and

b. develop in conjunction with the Virginia Department of Conservation and Recreation construction and restoration measures to avoid or minimize hydrology impacts on the sites for review and written approval by the Director of OEP.

COMPLIANCE STATEMENT

With regard to subpart *a*, Atlantic is completing hydrologic studies, including one year of hydrology monitoring, at the Emporia Powerline Bog and Handsom-Gum Powerline Conservation Sites using methodologies developed in conjunction with the VDCR. Atlantic previously filed a study plan for the hydrologic studies on November 9, 2016 (FERC Accession Number 20161109-5138), and a written response to VDCR comments on the study plan on February 24, 2017 (FERC Accession Number 20170224-5149). Atlantic anticipates submitting the results of the hydrologic study, including the monitoring, to the VDCR and FERC in the second quarter of 2018.

With regard to subpart *b*, Atlantic completed soil investigations in the wetlands adjacent to the Emporia Powerline Bog and Handsom-Gum Powerline Conservation Sites during the installation of hydrology monitoring wells. Information on soil strata obtained from this effort was used to develop mitigation measures to be employed by Atlantic during construction of the ACP through these sites. These measures are described in a Mitigation Plan, which Atlantic submitted to the VDCR on July 11, 2017 and filed with FERC on July 28, 2017 (FERC Accession Number 20170728-5118). In a reply letter to Atlantic dated September 22, 2017, the VDCR responded that a full year of hydrology monitoring should be completed prior to assessing whether the mitigation measures will be protective, but otherwise supported Atlantic's proposed mitigation measures. A copy of this letter was filed on October 13, 2017 (FERC Accession Number 20171013-5176). Atlantic's position is that the hydrology affects are assumed and that the proposed mitigation is sufficient to maintain the natural hydrology of these sites; however, a full year of hydrology monitoring will be conducted and the results provided to FERC and the VDCR in the second quarter of 2018 as noted above.

ENVIRONMENTAL CONDITION 61

***During construction**, to minimize potential impacts of water withdrawals on ESA-listed, proposed, and under review species, Atlantic and DETI shall limit water withdrawal to not exceed 10 percent of instantaneous flow at ESA sensitive waterbodies identified in appendix K of the EIS. (Section 4.7.1)*

COMPLIANCE STATEMENT

During construction, to minimize potential impacts of water withdrawals on ESA-listed, proposed, and under review species, Atlantic and DETI will limit water withdrawal to not exceed 10 percent of instantaneous flow at ESA sensitive waterbodies.

ENVIRONMENTAL CONDITION 62

***Prior to construction, but following tree clearing**, Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, the results of the Electrical Resistivity Investigation (ERI) studies along with any proposed construction modifications or alignment shifts to avoid impacts on Mingo Run and the Simmons-Mingo cave system. (Section 4.1.2.3)*

COMPLIANCE STATEMENT

Prior to construction, but following tree clearing, Atlantic will file, for review and written approval by the Director of OEP, the results of the ERI studies along with any proposed construction modifications or alignment shifts to avoid impacts on Mingo Run and the Simmons-Mingo cave system.

ENVIRONMENTAL CONDITION 63

***Prior to completing any geotechnical boring in karst terrain**, Atlantic shall file with the Secretary verification that it consulted with VDCR karst protection personnel regarding each geotechnical boring and shall follow the Virginia Cave Board's "Karst Assessment Standard Practice" for land development when completing the borings. (Section 4.1.2.3)*

COMPLIANCE STATEMENT

Atlantic does not currently plan to conduct geotechnical boring in karst terrain. Should it become necessary, in the future, to conduct geotechnical boring in karst terrain, Atlantic will file verification, prior to completing the geotechnical boring, that it consulted with VDCR karst protection personnel regarding each boring. Additionally, Atlantic will follow the Virginia Cave Board's "Karst Assessment Standard Practice" for land development when completing the geotechnical boring.

ENVIRONMENTAL CONDITION 64

***Prior to construction, but following tree clearing**, Atlantic shall:*

a. conduct ERI and/or air track drilling surveys of karst features identified within the construction workspace that are located within 5 miles of known or survey-identified bat hibernacula;

b. file a report(s) documenting these surveys with the Secretary and the appropriate federal and state agencies; and

c. if data suggests that construction activities have the potential to impact subsurface karst features that are connected to downstream bat hibernacula and/or the Madison Cave isopod suitable habitat (based on the ERI and/or air track drilling surveys), Atlantic shall consult with the FERC staff, FWS, and VDCR, and other appropriate federal and/or state agencies to develop the appropriate site-specific mitigation measures to avoid potential impacts on these species and their habitat. (Section 4.7.1)

COMPLIANCE STATEMENT

Prior to construction, but following tree clearing, Atlantic will:

a. conduct ERI and/or track drilling surveys of karst features identified within the construction workspace that are located within 5 miles of known or survey-identified bat hibernacula; the following four construction spreads have been determined to contain karst features which fall within the construction workspace and are located within five miles of a known bat hibernacula, and therefore require survey:

- Spread #02A (2018)
- Spread #03A (2018)
- Spread #03 (2019)
- Spread #04 (2019)

b. file a report(s) documenting these surveys with the Secretary and the appropriate federal and state agencies; and

c. if data suggests that construction activities have the potential to impact subsurface karst features that are connected to downstream bat hibernacula and/or the Madison Cave isopod suitable habitat (based on the ERI and/or air track drilling surveys), Atlantic will consult with the FERC staff, FWS, and VDCR, and other

appropriate federal and/or state agencies, to develop the appropriate site-specific mitigation measures to avoid potential impacts on these species and their habitat.

ENVIRONMENTAL CONDITION 65

***If the candy darter is proposed or listed during the life of ACP**, Atlantic shall assume presence of the candy darter within Knapp Creek, Clover Creek, Glade Run, Thomas Creek, and the Greenbrier River, and apply the FWS' enhanced conservation measures for aquatic species outlined in section 4.7.1 of the EIS to these waterbodies, and any perennial tributaries within 1 mile of these crossing locations to minimize impacts on this species (see appendix K of the EIS). (Section 4.7.1.12)*

COMPLIANCE STATEMENT

The 12-month finding and potential listing decision for the candy darter was issued by the FWS on October 4, 2017. The decision proposes listing the candy darter as threatened under the ESA. Consequently, construction or operations activities will adhere to the following measures, as described in Section 4.7.1 of the final EIS, at Knapp Creek (AP-1, MP 81.0), Clover Creek (AP-1, MP 75.5), Glade Run (AP-1, MP 76.0), and Thomas Creek (AP-1, MP 79.3), and in perennial tributaries within 1 mile of these crossings, and in the Greenbrier River [5] (the "ESA Sensitive Waterbodies"):

- Atlantic would alert the FWS and the appropriate state agencies when work begins in the ESA Sensitive Waterbodies.

- EIs would be onsite during construction activities and would have stop work authority. FERC third-party compliance monitors would also be onsite during construction, and if compliance issues are identified, the monitors would have the authority to stop work in the area until the compliance issue is resolved. Atlantic would utilize species experts to conduct all required biological monitoring (e.g., species relocations) and would document and report on these activities as they are conducted.

- There would be an increased buffer between refueling/overnight equipment and vehicle parking areas at ESA Sensitive Waterbodies (i.e., minimum of 300-foot separation).

- Any spills within 100 feet upslope of ESA Sensitive Waterbodies would be reported to the appropriate FWS office within 24 hours of identification for input on species-specific mitigation.

- Atlantic would install temporary equipment crossings to reduce the potential for increased erosion and sedimentation resulting from construction equipment and vehicular traffic crossing waterbodies. These temporary crossings would be removed following construction. At ESA Sensitive Waterbodies, Atlantic would not utilize the one time pass allowance during clearing activities; rather,

[5] Based on correspondence with the WVDNR on March 2, 2017, the candy darter is unlikely to occur in the main stem of the Greenbrier River.

equipment would move around or pass over installed bridges to minimize in-stream impacts.

- Any loss of circulation or inadvertent returns at HDDs occurring at ESA Sensitive Waterbodies would be reported to the appropriate FWS field office within 24 hours of identification for input on species-specific remediation guidance.

- If an ESA Sensitive Waterbody must be isolated for inadvertent return clean-up efforts, pumps of sufficient capacity would be used to maintain flows downstream at the site. The appropriate FWS field office would be consulted to determine if any additional remediation measures are appropriate to minimize impacts on the candy darter. In the case of an inadvertent return, additional comments from the appropriate FWS office would be obtained before drilling resumes.

- No grubbing would occur within 50 feet of ESA Sensitive Waterbodies between November 15 and April 1. For waterbodies requiring bridge installation during this timeframe, grubbing or grading within an approximately 25-foot area may be required through the riparian buffer to accommodate bridge installation; however, additional E&SC measures would be installed to protect the ESA Sensitive Waterbody. No grubbing would take place within 50 feet of the waterbody between November 15 and April 1 at waterbodies that are not crossed by the trenchline, but within the construction workspace.

- Blasting is proposed in areas where rock may be encountered in the trenchline of ESA Sensitive Waterbodies. In these waterbodies, the need for blasting would be determined on a site-specific basis shortly ahead of construction at that waterbody. For all ESA Sensitive Waterbodies identified in appendix K of the final EIS determined to require blasting, a site-specific blasting plan would be prepared and submitted to the FWS and the appropriate state agency in accordance with the notification requirements prior to blasting. Atlantic has committed to conducting blasting in the dry and utilizing matting to minimize noise and vibration.

- Atlantic would use compost filter socks at the edges of workspace and access roads within 300 feet of the ESA Sensitive Waterbodies. The sizing of the compost filter socks would be based on industry-accepted methodology and would typically consist of a single layer of 12-inch- or 18-inch-diameter compost filter sock. Where sizing calculations suggest use of large diameter compost filter socks, a triple stack of 18-inch-diameter compost filter socks would be used.

- Atlantic would use Priority 1 (green band) belted silt retention fence to cross wetlands and waterbodies. Atlantic would conduct installation and daily inspection and maintenance of the silt fence in accordance with the site-specific construction alignment sheets prior to and during trenching operations, stockpiling of saturated trench material, lowering-in or floating the pipeline into

the trench, and during backfilling of the trench to contain trench spoils and turbidity within the confines of the construction right-of-way.

- Atlantic would utilize E&SC BMPs on access roads identified in the field as having significant erosion potential within 0.25 mile of ESA Sensitive Waterbodies. If an access road crosses a waterbody with potentially suitable habitat for ESA-listed, proposed, or under review species and the access road requires in-stream activities for improvements, Atlantic would conduct surveys prior to any project activities. If Atlantic document ESA-listed, proposed, or under review species in the waterbody, they would not use the access road unless in-stream activities could be avoided such as through use of an existing bridge.

- ATWS would be sited at least 50 feet from ESA Sensitive Waterbodies, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land. Based on FWS recommendations, Atlantic has adopted a 100-foot ATWS setback from five North Carolina tributaries, including an UNT to Fishing Creek (MPs 33.7 and 34.8), UNT to Swift Creek (MP 40.3), UNT to Tar River (MP 58.8), and UNT to Contentnea Creek (MPs 73.1, 73.2 and 73.3).

- Atlantic proposes to complete waterbody crossings during low flow times of the year and when weather forecasts do not predict storm events. In ESA Sensitive Waterbodies, Atlantic would install in-stream silt/turbidity curtains or silt fencing at non-HDD waterbody crossing locations on the downstream side of the work area as appropriate based on conditions at time of crossing.

- Atlantic would implement BIC Team incremental controls described in Section 4.1.4.2 of the final EIS to mitigate erosion, sedimentation, and slope instability concerns within steep slope areas (defined as slopes with a minimum length of 100 feet and 30 percent or greater).

- To avoid off highway vehicle (OHV) access along the pipeline rights-of way and access roads, Atlantic has committed to implementing measures such as installation of OHV barriers (e.g., signs, fences, vegetation, or boulders). Barriers would be strategically placed to present physical barriers and to erase visual cues signaling the presence of the right-of-way from the access point. Atlantic would coordinate with the appropriate landowners and/or land managing agencies to identify locations where unauthorized OHV access is most likely to occur, and to develop the appropriate OHV blocking measures. At key crossing locations, such as ESA Sensitive Waterbodies, site-specific OHV blocking measures would be developed in consultation with the land-managing agencies and adjacent private landowners, as appropriate.

- Atlantic proposes to use municipal water sources for all water withdrawals previously planned at ESA Sensitive Waterbodies except for Jackson River, James River, Appomattox River, Tar River, and Contentnea Creek on ACP.

Water used for dust control would also be appropriated from municipal sources. To minimize potential impacts of water withdrawals on the candy darter, Atlantic would implement the following measures at ESA Sensitive Waterbodies:

- use 1 mm or smaller screens to minimize impingement/entrainment of mussel host fish species and ESA-listed, proposed and under review species;
- limit water withdrawal to not exceed 25 percent of instantaneous flow;
- ensure that intake velocity does not exceed 0.25 f/s;
- use floating intake structures to avoid impacts on the stream bed; and
- implement applicable TOYR.

- For water discharge:
  - algaecide would not be added to hydrostatic test water; Atlantic would use aeration to control algae in storage containers;
  - water would be discharged at a low flow rate to avoid erosion and rutting;
  - Atlantic would restore the discharge site to pre-discharge conditions if vegetation or cover/mulch/duff is removed during discharge;
  - filtration or chlorine removal methods would be used when municipal water is placed directly from the municipal source into the pipeline for use; when water is stored in aboveground containments for more than one week, the chlorine would dissipate during aeration and additional chlorine removal methods would not be needed;
  - Atlantic would not discharge into ESA Sensitive Waterbodies; and
  - Atlantic would discharge in upland areas a minimum of 300 feet from ESA Sensitive Waterbodies.

ENVIRONMENTAL CONDITION 66

Prior to construction, but following tree clearing, *Atlantic shall:*

a. conduct ERI and/or air track drilling surveys of the karst features identified during 2017 karst surveys that are within the construction workspace within the Madison Cave isopod priority area, including along proposed access roads;

b. file a report(s) documenting these surveys with the Secretary, and the appropriate federal and state agencies; and

c. if data suggests that construction activities have the potential to impact subsurface karst features that are connected to downstream Madison Cave isopod suitable habitat (based on the ERI and/or air track drilling surveys), Atlantic shall consult with the FERC staff, FWS, and VDCR, and other appropriate federal and/or state agencies to develop the appropriate site-specific mitigation measures to avoid potential impacts on this species and its habitat. (Section 4.7.1.13)

COMPLIANCE STATEMENT

Prior to construction, but following tree clearing, Atlantic will:

a. conduct ERI and/or air track drilling surveys of karst features within the construction workspace that are located within the Madison Cave Isopod priority area, including any proposed access roads; the following two construction spreads have been determined to contain karst features which fall within the construction workspace and the Madison Cave Isopod priority area, and therefore will be surveyed:

- Spread #04A (2018)
- Spread #05 (2019)

b. Atlantic will file a report(s) documenting these surveys with FERC and the appropriate federal and state agencies; and

c. If data suggests that construction activities have the potential to impact subsurface karst features that are connected to downstream Madison Cave isopod suitable habitat (based on the ERI and/or air track drilling surveys), Atlantic will consult with the FERC staff, FWS, and VDCR, and other appropriate federal and/or state agencies to develop the appropriate site-specific mitigation measures to avoid potential impacts on this species and its habitat.

ENVIRONMENTAL CONDITION 67

*Atlantic shall file in the **weekly construction status reports** the following for NSA S9, the Gatehouse, and the office building near BRP; the Route 17 HDD entry and exit sites; and NSAs S11, S13, and S14 near the Swift Creek entry site:*

a. the noise measurements from these NSAs, obtained at the start of drilling operations;

b. the noise mitigation that Atlantic implemented at the start of drilling operations; and

c. any additional mitigation measures that Atlantic will implement if the initial noise measurements exceeded a day-night equivalent sound level (L_{dn}) of 55 decibels on the A-weighted scale (dBA) at the nearest NSA and/or increased noise is greater than 10 dBA over ambient conditions. (Section 4.11.2.2)

COMPLIANCE STATEMENT

Atlantic will file in the weekly construction status reports the following for NSA S9, the Gatehouse, and the office building near BRP; the Route 17 HDD entry and exit sites; and NSAs S11, S13, and S14 near the Swift Creek entry site:

a. the noise measurements from these NSAs, obtained at the start of drilling operations;

b. the noise mitigation that Atlantic implemented at the start of drilling operations; and

c. any additional mitigation measures that Atlantic will implement if the initial noise measurements exceeded an L_{dn} of 55 dBA at the nearest NSA and/or increased noise is greater than 10 dBA over ambient conditions.

ENVIRONMENTAL CONDITION 68

Atlantic and DETI shall offer to conduct, with the landowner's permission, post-construction water quality tests, using the same parameters used in the preconstruction tests, for all water supply wells and springs within 150 feet of the construction workspace and within 500 feet of the construction workspace in karst terrain. (Section 4.3.1.7)

COMPLIANCE STATEMENT

Atlantic and DETI will offer to conduct, with the landowner's permission, post-construction water quality tests, using the same parameters used in the preconstruction tests, for all water supply wells and springs within 150 feet of the construction workspace and within 500 feet of the construction workspace in karst terrain.

ENVIRONMENTAL CONDITION 69

*DETI shall file a noise survey with the Secretary **no later than 60 days** after placing the JB Tonkin Compressor Station in service. If a full load condition noise survey of the entire station is not possible, DETI shall instead file an interim survey at the maximum possible horsepower load and file the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at the JB Tonkin Compressor Station under interim or full horsepower load conditions exceeds existing levels at NSAs S10, S11, S12, and S14 or 55 dBA L_{dn} at any other nearby NSAs, DETI shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. DETI shall confirm compliance with the above requirements by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (Section 4.11.2.2)*

COMPLIANCE STATEMENT

DETI will file a noise survey no later than 60 days after placing the JB Tonkin Compressor Station in service. If a full load condition noise survey of the entire station is not possible, DETI will instead file an interim survey at the maximum possible horsepower load and file the full load survey within 6 months. If the noise attributable to the operation of all of the equipment at the JB Tonkin Compressor Station under interim or full horsepower load conditions exceeds existing levels at NSAs S10, S11, S12, and S14 or 55 dBA L_{dn} at any other nearby NSA, DETI will file a report on what changes are needed and will install the additional noise controls to meet the level within 1 year of the in-service date. DETI will confirm compliance with the above requirements by filing a second noise survey no later than 60 days after it installs the additional noise controls.

ENVIRONMENTAL CONDITION 70

*DETI shall file a noise survey with the Secretary **no later than 60 days** after placing each of the Crayne and Mockingbird Hill Compressor Stations in service. If a full load condition noise survey of the entire station is not possible, DETI shall instead file an interim survey at the maximum possible horsepower load and file the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at the Crayne and Mockingbird Hill Compressor Stations under interim or full horsepower load conditions exceeds 55 dBA L_{dn} at any nearby NSAs, DETI shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. DETI shall confirm compliance with the 55 dBA L_{dn} requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (Section 4.11.2.2)*

COMPLIANCE STATEMENT

DETI will file a noise survey no later than 60 days after placing each of the Crayne and Mockingbird Hill Compressor Stations in service. If a full load condition noise survey of an entire station is not possible, DETI will instead file an interim survey at the maximum possible horsepower load and file the full load survey within 6 months. If the noise attributable to the operation of all of the equipment at the Crayne and Mockingbird Hill Compressor Stations under interim or full horsepower load conditions exceeds 55 dBA L_{dn} at any nearby NSA, DETI will file a report on what changes are needed and will install the additional noise controls to meet the level within 1 year of the in-service date. DETI will confirm compliance with the 55 dBA L_{dn} requirement by filing a second noise survey no later than 60 days after it installs the additional noise controls.

ENVIRONMENTAL CONDITION 71

***Following construction**, Atlantic shall replant long-leaf pine within the ATWS and the temporary construction workspace along the ACP Project route, and outside the 50-foot-wide permanent right-of way, where it was cleared for construction. Based on Atlantic's May 1, 2017 supplemental filing, long-leaf pine-wire grass communities occur between AP-2MPs 156.5 and 156.9. (Section 4.7.1.5)*

COMPLIANCE STATEMENT

Two small long-leaf pine-wire grass communities will be crossed by the ACP from approximate MPs 156.5 to 156.6 and 156.8 to 156.9 in Cumberland County, North Carolina. In these areas, Atlantic will replant long-leaf pine within the ATWS and the temporary construction right-of-way along the ACP route, and outside the 50-foot-wide permanent easement, where it is cleared for construction. This commitment has been added to the update to Atlantic's and DETI's *Restoration and Rehabilitation Plan*, which is provided as EC18 Attachment 1.

ENVIRONMENTAL CONDITION 72

*Atlantic shall file a noise survey with the Secretary **no later than 60 days** after placing each of the ACP compressor stations in service. If a full load condition noise survey is not possible, Atlantic shall instead file an interim survey at the maximum possible horsepower load and file the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at any station under interim or full horsepower load exceeds 55 dBA, L_{dn} at any nearby NSA, Atlantic shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. Atlantic shall confirm compliance with the 55 dBA L_{dn} requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (Section 4.11.2.2)*

COMPLIANCE STATEMENT

Atlantic will file a noise survey no later than 60 days after placing each of the ACP compressor stations in service. If a full load condition noise survey is not possible, Atlantic will instead file an interim survey at the maximum possible horsepower load and file the full load survey within 6 months. If the noise attributable to the operation of all of the equipment at any station under interim or full horsepower load exceeds 55 dBA, Ldn at any nearby NSA, Atlantic will file a report on what changes are needed and will install the additional noise controls to meet the level within 1 year of the in-service date. Atlantic will confirm compliance with the 55 dBA L_{dn} requirement by filing a second noise survey no later than 60 days after it installs the additional noise controls.

ENVIRONMENTAL CONDITION 73

***As part of its Implementation Plan and prior to construction**, Atlantic shall file with the Secretary, for review and written approval of the Director of OEP, a Mining Area Construction Plan that includes specific mitigation measures that it will use in areas of active or planned mining and that addresses issues related to mine subsidence and safe construction. Atlantic's Mining Area Construction Plan shall include documentation of its consultation with Western Pocahontas Properties (WPP) **including site-specific route deviations, as appropriate,** to resolve the concerns of WPP.*

COMPLIANCE STATEMENT

As part of its Implementation Plan and prior to construction, Atlantic will file a Mining Area Construction Plan that includes specific mitigation measures that it will use in areas of active or planned mining and that addresses issues related to mine subsidence and safe construction. Atlantic's Mining Area Construction Plan will include documentation of its consultation with Western Pocahontas Properties (WPP), including site-specific route deviations, as appropriate, to resolve the concerns of WPP.