ATLANTIC COAST PIPELINE, LLC
ATLANTIC COAST PIPELINE
Docket No. CP15-554-000 & CP15-554-001

and

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

Response to Data Request
Dated April 11, 2017

Prepared by

NATURAL RESOURCE GROUP

an ERM Group company

May 1, 2017

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
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GENERAL

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Response to Data Request
Dated April 11, 2017

Category: General

Question Number: 1 **Question Subpart:** a

Question:

Based on a review of the April 2016 and current alignment, the following inconsistencies and/or concerns have been noted. Provide an explanation or resolve.

a. Reductions in the size of additional temporary workspace (ATWS) are noted between AP-1 mileposts (MP) 267 and 279 and between AP-2 MPs 137 and 161, often by eliminating the two ATWS on the ditch side of the construction right-of-way while maintaining two ATWS on the working side of the construction right-of-way at the feature crossing locations. Where similar land use and topography exist (for example, between AP-1 MPs 10 and 30; AP-1 MPs 124 and 150; AP-1 MPs 187 and 300; etc.), use the same design principals to reduce ATWS usage on the remainder of the AP-1 and AP-2, or provide justification as to why ATWS reductions consistent with the milepost range identified above cannot be accomplished.

Response:

Atlantic utilized design principles for ATWS that are based on standard industry construction practices. Atlantic believes that the current ATWS design is required to allow construction to proceed in a safe and time efficient manner, while also meeting environmental regulations. For example, the current ATWS design will allow:

- spoil storage and pipe laydown at identified waterbody crossings where regulations require stockpile setbacks, including allowing additional material to be excavated due to additional depth requirements, and will assist in prevention of potentially impeding stream flow;

- spoil storage and pipe laydown at identified wetland crossings, where potential saturated and unstable soils can require additional excavations to meet depth requirements, and where such soils do not provide a safe and sufficiently stable surface for traditional linear pipe installation methods;

- spoil storage and pipe laydown at identified public roadways and other identified areas where access needs to be maintained, such as private drives, pipeline crossings, etc., and that can require additional trench depth for excavation; and

- sufficient work space in areas such as the above where segmented sections of the pipeline can occur; such segmented sections require in-trench work to be performed to tie in pipe sections, which requires sufficient workspace to provide for safe work conditions and efficient ingress and egress from the trench.

In areas where ACP has designed its route in parallel with existing utility rights-of-way to lessen its overall footprint, such as those referenced above (on AP-1 from milepost 267 to 279 and on AP-2 from milepost 137 to 161), the ATWS has been removed from the adjoining utility corridor side based on operator safety concerns focusing on the integrity of the existing adjoining utility facilities.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: General

Question Number: 1 **Question Subpart:** b

Question:

Based on a review of the April 2016 and current alignment, the following inconsistencies and/or concerns have been noted. Provide an explanation or resolve.

b. Numerous ATWS justifications project-wide are listed as topsoil segregation. Given this justification, confirm that Atlantic Coast Pipeline, LLC's (Atlantic) and Dominion Transmission, Inc.'s (DTI) have sufficiently designed the use of ATWS at those locations and would not require use of section IV.A.2 of the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan, which allows for the use of up to 25 feet of additional workspace without Director approval during construction for full right-of-way topsoil segregation.

Response:

Atlantic and DTI have worked to identify areas that would require topsoil segregation through land use identification and landowner consultation to help develop and design sufficient workspace for topsoil storage. Although multiple areas have been identified throughout the Project requiring topsoil segregation, Atlantic and DTI continue to consult with landowners and land managers to further identify areas that could require the preservation of topsoil and therefore believe that the use of section IV.A.2 of the FERC's Upland Erosion Control, Revegetation, and Maintenance Plan could still be required.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: General

Question Number: 1 **Question Subpart:** c

Question:

Based on a review of the April 2016 and current alignment, the following inconsistencies and/or concerns have been noted. Provide an explanation or resolve.

c. Atlantic committed in its response to Data Request No. 5 (June 13, 2016) to reduce the size of the ATWS at AP-1 MP 26.3. However, the size of this ATWS is unchanged. Reduce this workspace or provide justification why it can no longer be reduced.

Response:

After further review of this area, the planned ATWS will be required to facilitate pipe section lay down and spoil storage because of the delineated wetland to which it is adjacent.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: General

Question Number: 2 **Question Subpart:** N/A

Question:

The construction right-of-way, including ATWS, at AP-1 MP 125.6 appears to be 180 feet wide. Reduce the construction workspace to only that necessary to safely install the pipeline, or provide justification for the atypically wide ATWS at this location.

Response:

The construction workspace in the area of AP-1 MP 125.6 has been reduced to 150 feet wide.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Dated April 11, 2017

Category: General

Question Number: 3 **Question Subpart:** a-c

Question:

We received numerous comments on the draft environmental impact statement (EIS) questioning the need for the relatively large number of temporary and permanent access roads. Limit the number of access roads to that necessary to construct and operate the ACP and SHP. The following access roads may be redundant or unnecessary. Therefore, remove them or provide justification for their need. Note that we are requesting that Atlantic and DTI conduct a thorough review of the entire project to determine where access road reductions can be achieved, not just the three roads identified below.

a. AP-1 MP 64, access road 04-002-B025.AR1

b. AP-1 MP 90, access road 06-001-C028.AR2

c. AP-1 MP 92, access road 06-001-C037.AR3

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: General

Question Number: 4 **Question Subpart:** N/A

Question:

The January 27, 2017 Applicant-Prepared Biological Assessment indicates 41 mainline valves (MLVs) would be constructed for the ACP. Previous filings indicated 38 MLVs would be constructed for ACP. Provide updated facility and impact tables along with maps for the new facilities.

Response:

The valves listed below were not identified separately in the previous FERC filings; however, these valves are included in the proposed footprint of aboveground facilities sites for the ACP:

- Valve Site 0 at the Marts Junction Launcher Site;
- Valve Site 22A at Compressor Station 3; and
- Valve Site 28A at the Smithfield M&R Station.

The 41 valves identified in the Applicant-Prepared BA include these three valves along with the 38 mainline valves listed in the previous FERC filings. There are no new valves and no new impacts associated with valves.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: General

Question Number: 5 **Question Subpart:** N/A

Question:

Provide additional information on the workspace design, antenna height, tower guide wire installation, and lighting associated with the communication towers proposed at ACP and SHP aboveground facilities, and at non-leased properties that would require Section 7 authorization.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Dated April 11, 2017

Category: General

Question Number: 6 **Question Subpart:** N/A

Question:

Based on the route adjustments that were filed on January 19, 2017 and any other project design changes that have occurred since the draft EIS was issued, provide updated resource impact tables to inform our analysis of the ACP and SHP. Tables to be updated include, but are not limited to: updated RR6 table 6.4.6-1, public water supply wells (table 2.1.3-1); private water wells (table 2.1.3-2); springs (table 2.1.4-1);

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

GEOLOGY

Category: Geology

Question Number: 7 **Question Subpart:** N/A

Question:

Identify bedrock units by milepost that are comprised of phyllite or graphitic schist that may be identified as acid-forming. Provide updated Resource Report 6 table 6.4.6-1.

Response:

Based on a review of the geologic units crossed by the ACP and SHP, two units, the Alligator Back Formation and the Candler Formation, were determined to contain phyllite or graphitic schist. These formations have been incorporated into an updated version of Table 4.1.4-1 of the draft EIS, which is provided below.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

TABLE 7-1

Geologic Units Containing Potentially Significant Acid-Producing Sulfide Minerals

Project or Physiographic Province or Unit/Formation	Crossing Length (miles)
ATLANTIC COAST PIPELINE	
West Virginia	
Dunkard Group	3.0
Millboro Shale	1.3
Monongahela Group	10.3
Virginia	
Alligator Back Formation	2.1
Ashe Formation	2.3
Candler Formation	5.0
Chesapeake Group	2.8
Millboro Shale and Needmore Formation	9.4
Tabb Formation	14.0
North Carolina	
Black Creek Formation	68.2
Felsic Metavolcanic Rock [a]	4.3
Terrace Deposits and Upland Sediment [b]	24.6
Subtotal	**147.3**
SUPPLY HEADER PROJECT	
Pennsylvania	
Casselman Formation	1.5
Glenshaw Formation	1.3
Monongahela Group	1.1
West Virginia	
Dunkard Group	33.6
Subtotal	**37.5**
TOTAL	**184.8**

Sources: Orndorff and Daniels, 2004; Pennsylvania Geologic Survey, 2005; Taylor, 2015; WVGES, 2015

[a] Felsic (high feldspar and silica content) metavolcanic rocks in the Project area may be interbedded with mafic (high magnesium and iron content) metavolcanic rocks. The mafic metavolcanic rock could contain some minerals that are acid producing (Taylor, 2015).

[b] These materials have the potential to contain minor amounts of iron-oxide cemented sandstone, which could be acid producing (Taylor, 2015).

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Category: Geology

Question Number: 8 **Question Subpart:** N/A

Question:

In response to comments on the draft EIS (Accession Numbers 20170215-0006, 20170215-0008), verify that the mines mentioned in comments and other inactive and proposed coal mines were included in Atlantic's and DTI's previously filed data tables. If additional mines have been identified, provide a table and map(s), with mileposts, that identify inactive coal mines within construction workspaces.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Geology

Question Number: 9 **Question Subpart:** N/A

Question:

Describe the methods used to identify orphan oil and natural gas wells that are not incorporated into state databases. Describe how Atlantic and DTI would avoid or minimize impacts on wells that may be encountered during construction.

Response:

During civil survey efforts, oil and natural gas wells which are discernable, were identified and included on Project alignment sheets. If an unknown well is discovered during construction, DTI will treat the feature similarly to a previously unknown utility line. This will include identifying the feature and marking the location. The well will be flagged and avoided by the pipeline trenchline. If an unknown well is identified, and removing the feature is determined to be necessary, Atlantic or DTI would consult with the appropriate regulatory authorities and the owner, if needed, prior to proceeding.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Geology

Question Number: 10 **Question Subpart:** N/A

Question:

The updated Karst Survey Report filed on February 24, 2017 identified numerous point and area features and known and suspect closed depressions within the current project workspace. It appears that many of these features could be avoided by small route variations and/or potential workspace reductions. Clarify whether Atlantic and DTI propose to incorporate route and/or workspace design revisions to avoid or minimize impacts to these features. If proposed, identify a schedule for completing these revisions. Similarly, identify how Atlantic and DTI will incorporate and file project revisions with FERC that result from electric resistivity studies and karst surveys completed on current no-access land parcels.

Response:

During completion of the karst assessment field surveys, the results of the field investigations regarding the presence of karst features have frequently led to changes in the proposed route. However, there are numerous other factors that impact the final route location, which are considered by Atlantic/DTI staff when setting the route alignment. In addition, during construction, changes to the centerline to avoid karst features (ideally with enough separation to allow for the 25-foot buffer described in the *Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan*) can be made by adjusting the alignment of the trench within the approved workspace.

Referencing the second part of the question regarding no-access land parcels, once access permission is obtained the results of the karst survey will be reported in a final revision to the Karst Survey Report prior to construction.

The Electric Resistivity Imaging (ERI) survey will be conducted as part of the construction process to identify karst features and the bedrock profile. The survey will be completed prior to the start of trench excavation, so that the results of the survey can be used to provide information on the presence of karst features that did not intercept or were not visible at the ground surface.

In the event that an underground karst feature is identified during the ERI survey, an evaluation of the impact of construction on the karst feature will be made by the Karst Specialist. If an impact is expected, an evaluation of options to avoid, mitigate, or remediate the karst feature will be made in accordance with the *Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan*. As discussed in the plan, additional subsurface investigation may be required to better characterize the karst feature after completion of the ERI survey.

Response Provided By:

Carole McCoy
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Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Geology

Question Number: 11 **Question Subpart:** N/A

Question:

The proposed route east of Valley Center Road (AP-1 MP 88.5) appears to have an abundance of karst features, caves, and sinking streams. Incorporate a route variation to avoid these features.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Geology

Question Number: 12 **Question Subpart:** N/A

Question:

Complete an electric resistivity survey or similar survey within the Mingo Run valley to determine whether the Simmons-Mingo cave system would be impacted by pipeline construction, or whether there is a potential for fracture or voids to be intercepted that could divert streamflow into the cave system (refer to Accession Number 20170106-5095). If blasting is anticipated, determine whether blasting could result in the same stream diversion.

Response:

The Mingo Run Valley has been assessed by remote sensing and data review, and surveyed in the field from MP 65 – MP 65.7; however, no surface features were observed. ERI survey is planned for this area prior to construction.

It should be noted, however, that a dye trace reported in Medville (1977) and Medville and Storage (1986) demonstrated that there is a hydrological connection between a group of caves (Simmons Caves #2, #3, and #4) east of the main entrance to Simmons-Mingo Cave, and the cave stream in the Simmons-Mingo system. None of these caves fall within the 300-foot survey corridor or the planned workspace, all being mapped at the western edge of the 0.25 mile Karst Data Review Area. Similarly, the dye trace vector was located west of the workspace, and indicated that the water flowed preferentially towards the west and the valley of the Elk River. Interestingly, the subsurface groundwater flow direction being towards the west is opposite of the surface flow of the Mingo Run, which is towards the east. Nevertheless, due to its depth, the fact that it has been completely mapped, and that there are no known features within or adjacent to the proposed workspace, impacts from the proposed construction to the Simmons-Mingo Cave System are not expected.

The use of blasting in the Mingo Run Valley has not been determined. The crossing method for Mingo Run (waterbody unique ID srac112) is either dam and pump or flume and may require blasting. As noted above, ERI surveys are planned in this area in 2019. The results of these surveys will be used to determine if subsurface fractures are present. However, information obtained by Atlantic (referenced above) indicates that diversion of the stream is not expected.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Geology

Question Number: 13 **Question Subpart:** N/A

Question:

File the results of a fracture trace/lineament analysis utilizing remote sensing platforms (aerial photography and LiDAR), along with the results of existing dye trace studies, and 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 (public water supply wells and municipal water supplies, private wells, springs, caves systems, discharge to surface water). Provide a discussion of the findings.

Response:

This study is currently being planned. Findings from the study will be summarized in a separate report when the study is complete. Atlantic will file the results of this study prior to construction.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

SOILS

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Soils

Question Number: 14 **Question Subpart:** N/A

Question:

Clarify whether there are any areas where imported soils may be used. If soils will be imported, specify sources, estimated volumes to be imported and testing methods that will be implemented to ensure the soil is certified free of noxious weeds and soil pests.

Response:

At this time, Atlantic and DTI have not identified any areas where imported soils are planned to be used. If any area requiring imported soils is identified, Atlantic and DTI commit to obtaining imported soil from an approved source that meets all local and federal permits.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

WATER RESOURCES

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
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Dated April 11, 2017

Category: Water Resources

Question Number: 15 **Question Subpart:** N/A

Question:

The updated waterbody crossing table filed on March 24 lists 93 waterbodies crossed between AP-1 MP 62.9 to 64.9, including access road waterbody crossings. Confirm 93 waterbodies are crossed within this 2-mile stretch of the project. To minimize water impacts, limit access road use in this area to that necessary to safely construct ACP.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Water Resources

Question Number: 16 **Question Subpart:** N/A

Question:

Provide a site-specific plan for the newly proposed horizontal directional drill (HDD) at Mayo Creek (AP-1 MP 184.5) in Virginia.

Response:

The ACP route crosses Mayo Creek near its confluence with the James River. The HDD proposed at the James River crossing will also pass beneath Mayo Creek. Therefore, the site-specific design for the Mayo Creek crossing is included in the existing James River HDD design, which Atlantic filed on October 17, 2016 (FERC Accession Number 20161017-5045).

The master waterbody table (filed on March 24, 2017; FERC Accession Number 20170324-5284) and Applicant-Prepared BA (filed on January 27, 2017; FERC Accession Number 20170127-5203) were revised to include the HDD crossing method for Mayo Creek; however, no design change at the James River crossing was necessary to accommodate this revision.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Water Resources

Question Number: 17 **Question Subpart:** a-m

Question:

The George Washington National Forest (GWNF) Locally Rare Species Report filed February 24, 2017 notes that ACP would cross "27 waterbodies…Twentyfive of these waterbody crossings would be affected by pipeline construction, including 13 perennial streams, 10 intermittent streams, and 2 ephemeral streams. Two of the waterbody crossings (one perennial, one ephemeral) would be affected by new permanent access roads being developed from an existing trail". The draft Biological Evaluation (BE) filed by Atlantic on March 10, 2017 indicates that ACP would impact 30 waterbodies within the GWNF, of which two waterbodies would be affected by new permanent access roads. The revised Master Waterbody table filed on March 24, 2017 indicates that there are 25 pipeline crossings and 12 access road crossings within the GWNF. In addition… we note the following inconsistencies between recently filed tables:

a. The crossing of Gibson Hollow (AP-1 MP 99.3), Barn Lick Branch (AP-1 MP 115.8), and UNT to Stoutameyer Branch (AP-1 MP 121.1) are missing from the Master Waterbody Crossing table included in appendix B of the draft BE.

b. There are nine access road crossings of UNT to Muddy Run (AP-1 MP 93.7) identified in the Master Waterbody Crossing table; however, based on Unique IDs (sbaa008, sbaa009, sba010, and sba011), it appears there may only be four crossings as represented in appendix B of the draft BE.

c. The Master Waterbody Crossing table identifies six crossings of Laurel Run (AP-1 MPs 94.1 (2 crossings), 94.2, 9.4.4, 94.5, and 94.8), and a crossing of an UNT to Laurel Run at AP-1 MP 94.2. The FERC and U.S. Forest Service (FS) have provided previous comments regarding concerns with the numerous proposed crossings of Laurel Run due to potential impacts to wild brook trout (refer to October 26, 2016 Data Request No. 23). We also note that the draft BE does not identify any access road crossings of Laurel Run.

d. Appendix B of the draft BE identifies a permanent access road crossing of Dowell's Draft at AP-1 MP 117.1, but it is not included in the Master Waterbody Crossing table.

e. Two access road crossings of an UNT to Dowell's Draft are included in the Master Waterbody Crossing table; however, based on Unique IDs (saua418), it appears there is only one crossing consistent with appendix B of the draft BE.

f. Tables 5.3.2-1, 5.9.2-1, and 5.11.1-1 of the Applicant-Prepared BA identify the crossing method for Pig Basket Creek (AP-2 MP 47.6) as dam and pump, flume, or open cut; while the Master Waterbody Crossing table identifies the crossing

method as open cut. Milepost locations for this crossing are also inconsistent between tables in the Applicant-Prepared BA and the Master Waterbody Crossing table.

g. Confirm that the May 15-July 31 time of year restriction applies to Little Quankey Creek (AP-2 MP 15.7) and Neuse River (AP-2 MP 98.5); this appears to be a Virginia Department of Game and Inland Fisheries (VDGIF) time of year restriction which would not apply to these North Carolina waterbody crossings. The Master Waterbody Crossing Table identifies AP-2 MP 26.6 as a crossing of a UNT to Burnt Coat Swamp; however, tables 5.3.2-1, 5.9.2-1, and 5.11.1-1 identify this as Burnt Coat Swamp (not a tributary). Confirm the correct feature name for this crossing.

h. The Master Waterbody Crossing Table identifies 2 crossings of UNT to Little Buffalo Creek at AP-2 MPs 79.2 and 79.3; however, the Unique ID for both crossings is the same (sjob103). Confirm that there are two crossings of this waterbody.

i. Tables 5.3.2-1, 5.9.2-1, and 5.11.1-1 of the Applicant-Prepared BA identify a crossing of Johnson Swamp at AP-2 MP 107.6 in addition to a crossing of a UNT to Johnson Swamp at AP-2 MP 107.6; however, the Master Waterbody Crossing Table only identifies the crossing of the UNT to Johnson Swamp at AP-2 MP 107.6. Clarify if there is a crossing of both Johnson Swamp and a UNT to the swamp and which survey results apply to which crossing in the Applicant-Prepared BA.

j. Table 5.10.2-1 of the Applicant-Prepared BA indicates a crossing of Jacks Swamp at AP-3 MP 1.9; however, this crossing is not included in the Master Waterbody Crossing table. Clarify whether ACP still crossing Jacks Swamp at this location or if the survey results provided in table 5.10.2-1 of the Applicant-Prepared BA apply to a different crossing location.

k. The Master Waterbody Crossing Table identifies 7 waterbody crossings at AP-1 MP 85.4 of UNT to Lick Draft (2 crossings), Warwick Run (1 crossing), and Lick Draft (4 crossings); however, only 2 of these are identified as occurring within the GWNF. Verify the number of crossings and whether they are located within the GWNF boundaries.

l. Table 5.11.1-1 of the Applicant-Prepared BA indicates that there is an access road crossing of the Cowpasture River at AP-1 MP 97.8; however, this crossing is not indicated on the Master Waterbody Crossing Table.

m. Table 5.11.1-1 of the Applicant-Prepared BA indicates that McElroy Creek (MP 18.5) would be crossed utilizing dam and pump crossing method; however, appendix B-3 of the Applicant-Prepared BA indicates that this waterbody would

be crossed utilizing the cofferdam method. Provide an updated Master Waterbody Crossing table for SHP.

Provide an updated waterbody crossing table that accurately addresses the inconsistencies identified above. Note that we will assume any updated waterbody table that is filed would replace waterbody crossing information presented in previously filed documents such as the draft BE and Applicant-Prepared BA.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Water Resources

Question Number: 18 **Question Subpart:** N/A

Question:

Identify the location and temporary and permanent impact acreage of high quality wetlands such as Atlantic white cedar and cypress gum swamps.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

VEGETATION, WILDLIFE, and FISHERIES

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
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Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 19 **Question Subpart:** N/A

Question:

The FERC received Atlantic and DTI's updated forest fragmentation analysis submitted February 24, 2017. In this analysis, Atlantic and DTI used manual interpretation of aerial photography to delineate interior forest cores, defining small cores as less than 645 acres and large cores larger than 645 acres. In our October 26, 2016 Data Request No. 13, we requested that Atlantic and DTI use West Virginia state forest fragmentation data produced by the Natural Resource Analysis Center (NRAC) at West Virginia University, and the Virginia Department of Conservation and Recreation (VDCR) Virginia Natural Landscape Assessment (VaNLA) project to assess forest fragmentation impacts in West Virginia and Virginia. Only where these data sets did not provide coverage for the ACP and SHP area were manual interpretation to be used in the analysis. FERC requests the use of these data sets because both data sets not only delineate interior forest cores, but also assign ecological value of each core based on other attributes (e.g., landscape position, watershed drainages). Provide an updated table for Virginia and West Virginia, identifying National Forest System (NFS) lands, with the following data as requested in the October 26, 2016 data request, using the data sets requested above.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 20 **Question Subpart:** a-f

Question:

Develop a table for Virginia and West Virginia, identifying NFS lands, with the following data for each forested interior tract:

a. type of interior forest as defined by each data set (e.g., edge, patch, small core, medium core, large core);

b. core forest ranking (West Virginia data set) or ecological integrity category (West Virginia data);

c. county;

d. enter and exit milepost;

e. length crossed (feet); and

f. area affected directly (interior forest cutting) and indirectly (buffer zone areas of remaining forest immediately adjacent to one or both sides of the new corridor that would no longer be classified as interior forest due to the new, project-related disturbances) for both construction and operation.

Refer to the analysis in FERC's draft EIS for the Mountain Valley Project (MVP) and Equitrans Expansion Project (EEP) sections 4.4.1.2, 4.4.2.3, 4.5.2 and tables 4.4.2-1, 4.4.2-2, as well as the FERC's draft EIS for the Mountaineer Xpress Project and Gulf Xpress Project, section 4.5.4 and table 4.5-4 for examples.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 21 **Question Subpart:** N/A

Question:

Provide maps of interior forest cores that would be crossed by the project (small, medium, and large cores for West Virginia; ecological core areas for Virginia; small and large cores for North Carolina). Refer to the FERC's draft EIS for the MVP/EEP, figures 4.4.1-1, 4.4.1-2, and 4.4.1-3 for examples.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 22 **Question Subpart:** a

Question:

Regarding conservation sites, address the following:

a. Provide an updated draft EIS table 4.4.2-1 that includes Conservation Sites and Stream Conservation Units that lists which species were identified during field surveys, and those that occur on federal lands.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Vegetation, Wildlife, and Fisheries

Question Number: 22 **Question Subpart:** b

Question:

Regarding conservation sites, address the following:

b. In Atlantic's comments on the draft EIS, item 43 states several conservation sites, including the Lyndhurst Conservation Site, have been avoided by reroutes and are no longer within or adjacent to the ACP area. Based on Atlantic's October 26, 2016 response to a request for an updated list of unique, sensitive, and protected vegetation communities crossed, the Lyndhurst Conservation Site at AP-1 MP 149.4 was not included. However, current GIS route data shows the ACP may still cross the Lyndhurst Conservation Site. Verify if the Lyndhurst Conservation Site would be affected by construction or operation of the project.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 23 **Question Subpart:** a

Question:

Regarding proposed access road 36-016.AR1 located at MP 96.3 (Forest Road [FR] 281/Tower Mountain Road), address the following:

a. According to the updated Construction, Operations, and Maintenance (COM) Plan, table 2.1.1-1 and section 2.1.1.4, Atlantic indicates the road would be widened and gravel added to the entrance where the road intersects Indian Draft Road. According to the draft BE, table 2.1-2, Atlantic indicates the road would be regraded and gravel added in select locations. In response to Staff Recommendation 76a of the draft EIS, Atlantic stated that it would widen the entrance way where FR 281 intersects Indian Draft Road and apply gravel to the road surface. Based on a review of aerial maps, it appears the existing road is 10 feet wide in some locations and would require widening to accommodate construction equipment. Clarify specifically where widening, regrading, and gravel application would occur along the proposed access road.

Response:

Access road 36-016-AR1 is more than 10 feet wide based on field investigation. Atlantic is currently in the process of reviewing this access road and others with its general contractor to clarify where widening, re-grading, and graveling of this access road and others in the Project area would be required. Atlantic anticipates providing this information in July 2017.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Category: Vegetation, Wildlife, and Fisheries

Question Number: 23 **Question Subpart:** b

Question:

Regarding proposed access road 36-016.AR1 located at MP 96.3 (Forest Road [FR] 281/Tower Mountain Road), address the following:

b. While Atlantic provided details about proposed access road improvements in its January 27, 2017 supplemental filing in response to Staff Recommendation 76a of the draft EIS, it did not address why the road is needed and why other existing roads cannot be used to support construction and operation of the project. Provide this explanation.

Response:

This access road provides ACP access to the east side of Tower Mountain. This is a very remote area between State Route 670 and State Route 678, and is about 3 miles of right-of-way length, which is a long distance between access roads. Use of access road 36-016.AR1will cut this length in almost half. This area has very steep terrain and absence of this access road would pose a significant safety concern.

Response Provided By:

Carole McCoy
Director of Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 23 **Question Subpart:** c

Question:

Regarding proposed access road 36-016.AR1 located at MP 96.3 (Forest Road [FR] 281/Tower Mountain Road), address the following:

c. Because use of the existing road is of concern to the GWNF considering it falls within GWNF Management Prescription Areas 2C3 and 4D, provide documentation that the FS has been consulted and has no further concerns with Atlantic's proposed road modification or improvement activities.

Response:

Atlantic has requested comments from the GWNF regarding the proposed use of access road 36-016.AR1. Correspondence from this consultation will be filed when available.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 24 **Question Subpart:** N/A

Question:

The U.S. Fish and Wildlife Service (FWS) Virginia Field Office provided recommendations in the FWS comment matrix filed January 27, 2017 on the Applicant-Prepared BA (submitted March 28, 2017 to Atlantic and DTI) regarding the composition of proposed seed mixes presented in the Restoration and Rehabilitation Plan. Confirm that Atlantic and DTI would commit to these revised seed mixes and provide an updated Restoration and Rehabilitation Plan that incorporate the FWS recommendations.

Response:

Atlantic has reviewed the comments from the FWS Virginia Field Office pertaining to the seed mixes for Virginia identified in the *Restoration and Rehabilitation Plan* for the Projects. Atlantic's review process included determining seed-specific and site-specific applicability relative to growth under specific site conditions and determining how, if at all, the suggested seed mixes could affect erosion control and stabilization of soils on the rights-of-way. Atlantic also sought input from local and native seed suppliers to determine applicability and the potential for local seed availability during the proposed construction schedule. With this information, Atlantic has completed revisions to the seed mixes identified in an update to the *Restoration and Rehabilitation Plan*, which is provided as Q24 Attachment 1.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 25 **Question Subpart:** N/A

Question:

Confirm that the unknown raptor stick nests (STICK-UNO-18, 17, and 16) identified in the January 27, 2017 version of the Migratory Bird Plan are located within the Monongahela National Forest (MNF). Confirm that no other raptor or eagle nests were identified with the GWNF or MNF.

Response:

Raptor stick nests STICK-UNO-18, 17, and 16 are located within the MNF. In addition to these nests, a raptor stick nest (STICK-UNK-03) was identified in the GWNF. No bald eagle nests or roosting golden eagles were found during survey on National Forest Service lands. Additional information on survey results for the MNF and GWNF can be found in the *Bald and Golden Eagle Survey Report, Atlantic Coast Pipeline Project, Monongahela National Forest and George Washington National Forest*, which was sent to the U.S. Forest Service on July 7, 2016 and filed with FERC on July 18, 2016 (FERC Accession Number 20160718-5164).

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Vegetation, Wildlife, and Fisheries

Question Number: 26 **Question Subpart:** N/A

Question:

Note the FWS letter to FERC dated March 2, 2017 indicates the migratory bird season is March 15 through August 30 in Virginia, and April 1 through August 30 in North Carolina. Confirm that Atlantic and DTI are committed to clearing outside of the migratory bird season as established by the FWS.

Response:

Atlantic has agreed to felling trees and clearing vegetation outside of the time of year restrictions for the migratory bird season as recommended by the FWS for Virginia and North Carolina. Atlantic and DTI anticipate filing an update to the *Migratory Bird Plan* incorporating these recommendations in May 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Vegetation, Wildlife, and Fisheries

Question Number: 27 **Question Subpart:** N/A

Question:

VDGIF (2/7/17 letter) requested that Atlantic and DTI expand invasive and noxious species to include invasive plants recognized by regional (Mid-Atlantic Panel on Aquatic Invasive Species, and Mid-Atlantic Invasive Plant Council) or state (Virginia Invasive Species Workgroup / VDCR-Division of Natural Heritage) authorities. In addition, VDGIF requests that the Invasive Species Management Plan be expanded to include invasive aquatic species, such as zebra mussels, and mitigation measures be implemented to address potential transference of these species during water withdrawal and discharge, and on construction equipment and personal vehicles. Consult with the VDGIF and the authorities recommended by the VDGIF to expand the Invasive Species Management Plan to include aquatic plant species and other aquatic organisms, and the appropriate measures to control the introduction and spread of these species along the proposed route.

Response:

Over the last three years, Atlantic has conducted consultations regarding invasive plant species with the Virginia Department of Agriculture and Consumer Services (VDACS), VDCR, VDGIF, and the U.S. Forest Service (USFS). An *Invasive Plant Species Management Plan* was developed for the ACP based on recommendations from these agencies, review of Commonwealth plans and documents such as the Virginia Invasive Species Management Plan (Virginia Invasive Species Working Group, 2012) and the Virginia Invasive Plant Species List (VDCR, 2014), and standards established in FERC Plans and Procedures. Invasive plant species along the ACP were documented during wetland/waterbody delineations and rare plant field surveys. All surveys results have been recorded, including instances of non-listed invasive plants. A draft of the *Invasive Plant Species Management Plan* was submitted to the FERC as an appendix to Resource Report 1 in September 2015, and several updates have been filed with FERC since then; the latest version of the plan was filed with FERC on November 15, 2016 (Accession Number 20161115-5160). Atlantic will continue to consult, as needed, with the agencies listed above to ensure invasive plants are not spread to other areas of the Commonwealth due to construction and operation of the Project.

In the letter dated February 7, 2017, the VDGIF commented that Atlantic did not address impacts and mitigation for invasive animal species. The VDGIF specifically identified concerns related to the spread of zebra mussels (*Dreissena polymorpha*) during hydrostatic testing of the pipeline. Table 27-1 below identifies the waterbodies proposed as sources for hydrostatic testing water. Although these waterbodies were surveyed to identify rare mussels, all mussels found during the survey were documented. No instances of zebra mussels were found in any of the waterbodies listed in Table 27-1 during the surveys. A copy of Atlantic's Mussel Survey Report was filed with FERC on September 30, 2016 (Accession Number 20160930-5311).

TABLE 27-1

Hydrostatic Test Water Sources for the Atlantic Coast Pipeline in Virginia

Pipeline/AP-Line	Approximate Milepost	Unique ID	USGS Waterbody Name	Stream Classification
MAINLINE PIPELINE				
AP-1				
	87.2	shie061	Back Creek	Perennial
	91.5	nhd_va_j_003	Jackson River	Perennial
	97.8	sbaa015	Cowpasture River	Perennial
	111.4	sauy004	Calfpasture River	Perennial
	129.2	saua413	Jennings Branch	Perennial
	161.8	nhd_va_c_037	South Fork Rockfish River	Perennial
	184.7	sbup015	James River	Perennial
	220.8	scuk011	Appomattox River	Perennial
	260.7	sdic007	Nottoway River	Perennial
LATERAL PIPELINE				
AP-3				
	32.6	ssol015	Nottoway River	Perennial
	38.6	ssoa010	Blackwater River	Perennial
	61.0	osur001	Prince Lake	Reservoir
	62.4	osua400	Western Branch Reservoir	Reservoir
	64.4	nhd_va_c_048	Nansemond River	Perennial
	81.8	schp001	South Branch Elizabeth River	Perennial

According to the U.S. Geological Survey (USGS, 2017), the sighting of zebra mussels nearest to the ACP is a cluster identified in 1997 in the Buckhannon River in Barbour County, West Virginia, over 10 miles from the Project. This area lies outside of the scope of the Project. Therefore, the species will not impose a threat to the waterbodies crossed by the proposed pipeline.

Once hydrostatic testing is complete, the test water will be discharged to well-vegetated upland areas or back to the same source from which it was obtained, which will eliminate the translocation of invasive aquatic species that may be present. Prior to discharging hydrostatic test water into an upland location, all applicable buffers, slope, soil permeability, and depth to bedrock will be considered to prevent hydrostatic test water from flowing back to regulated surface waters. Personnel will monitor the flow rate into a containment structure to better allow the water to absorb into the ground.

According to the VDCR, additional invasive animal species of high concern in Virginia include:

- Rapa whelk *(Rapana venosa*);
- Chinese mitten crab (*Erlochelr sinensis*);
- Emerald ash borer (*Agrilus planipennis*);
- Northern snakehead fish (*Channa argus*);

- Imported fire ant (*Solenopsis invicta*);
- Rusty crayfish (*Orconectes rusticus*); and
- Sirex woodwasp (*Sirex noctillo*).

The rapa whelk inhabits marine environments, and has been found in the Chesapeake Bay area of Virginia (U.S. Department of Agriculture [USDA], 2016). The proposed route will not cross the Chesapeake Bay, and therefore will not likely encounter this invasive species. Similarly, the Chinese mitten crab inhabits coastal estuaries and has been found along the Chesapeake Bay. The proposed route terminates in Chesapeake, Virginia, but crosses few tidal wetlands. The emerald ash borer is a beetle that inhabits forested areas and feeds on ash (*Fraxinus*) foliage and bark. The only confirmed populations within Virginia are in Fairfax County (Emerald Ash Borer Information Network, 2017). The proposed route is over 100 miles from this county, and therefore will not likely encounter this invasive species. The only confirmed populations of the Northern snakehead fish in Virginia are within the tributaries to the Potomac and Rappahannock Rivers (VDGIF, 2014). The proposed route is over 50 miles from these two rivers, and will not likely encounter the invasive species. According to the Purdue University Pest Tracker, the imported fire ant has not been found to date in Virginia (Center for Environmental and Research Information Systems, 2016). The USGS has confirmed no observations of the rusty crayfish in Virginia to date (USGS, 2017). Although the sirex woodwasp inhabits pine species, the U.S. Department of Agriculture (USDA, 2011) has not listed any positive sirex woodwasp counties and/or independent cities within Virginia.

To remedy the potential spread of invasive species, the Monongahela and George Washington National Forests have requested that wash stations be located at the entrances and exits of both forests. Several of these wash stations will be located near the border of West Virginia and Virginia, which will avoid spread of the invasive species from West Virginia to Virginia.

Through recent consultations with the West Virginia Department of Agriculture and VDACS, it was determined the spread of gypsy moths (*Lymantria dispar dispar*) to non-infected areas was a concern, especially during construction. All of the counties/cities crossed by the Project are listed as quarantined for gypsy moth. Therefore, spread of gypsy moth to un-quarantined areas is not a concern. Atlantic will ensure that wash stations are placed along the proposed route at the border of Virginia and North Carolina to prevent any spread of gypsy moths. Additionally, Atlantic has contacted VDACS to conduct specialized gypsy moth training for Atlantic's contractor during construction.

References

Center for Environmental and Research Information Systems. 2016. Purdue University. Survey Status of Red imported fire ant - Solenopsis invicta. Available at: http://pest.ceris.purdue.edu/map.php?code=ISASAZA. Accessed February 2017.

Emerald Ash Borer Information Network. 2017. Virginia Information. Available at: http://emeraldashborer.info/state/virginia.php. Accessed February 2017.

U.S. Department of Agriculture. 2011. 2011 Sirex noctilio Positive Counties. Available at: http://www.nyis.info/user_uploads/files/ER_SirexPosCounties_2011.pdf. Accessed February 2017.

U.S. Department of Agriculture. 2016. Rapa whelk. Available at: https://www.invasivespeciesinfo.gov/aquatics/rapawhelk.shtml. Accessed February 2017.

U.S. Department of Agriculture. 2017. Chinese Mitten Crab. Available at: https://www.invasivespeciesinfo.gov/aquatics/mittencrab.shtml. Accessed February 2017.

U.S. Geological Survey. 2017. Orconectes rusticus. Available at: https://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=214. Accessed February 2017.

Virginia Department of Conservation and Recreation. 2014. Virginia Invasive Plant Species List. Available at: http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf. Accessed January 2015.

Virginia Department of Game and Inland Fisheries. 2014. Northern Snakehead. Available at: https://www.dgif.virginia.gov/fishing/snakehead/. Accessed February 2017.

Virginia Invasive Species Working Group. 2012. Twelve Invasive Species of High Concern in Virginia. Available at: http://www.dcr.virginia.gov/natural-heritage/vaisc/documents/VISWG-Invasives-Brochure.pdf. Accessed January 2015.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

SPECIAL STATUS SPECIES

Category: Special Status Species

Question Number: 28 **Question Subpart:** a-l

Question:

The following inconsistencies regarding survey completion have been noted:

a. Based on table 5.10.2-1 of the Applicant-Prepared BA, Little Quankey Creek (AP-2 MP 15.7) and Jacks Swamp (AP-3 MPs 0.6 and 1.9) were considered unsuitable habitat at the time of the survey due to low water levels; confirm if additional surveys are to be conducted at these waterbody locations and provide survey results.

b. Based on the Master Waterbody Crossing Table, there are 2 crossings of Little Quankey Creek (AP-2 MPs 15.3 and 15.7); based on the unique ID and survey results provided in the Applicant-Prepared BA, it appears that only the MP 15.7 crossing location has been surveyed. Based on the potential for Endangered Species Act (ESA)-listed species to occur at MP 15.3, confirm if Atlantic has or will conduct surveys at this crossing location and provide survey results.

c. Tables 5.3.2-1, 5.9.2-1, and 5.11.1-1 of the Applicant-Prepared BA provide survey results for UNT to Little Sapony Creek (AP-2 MP 53.3), Little Sapony Creek (AP-2 MP 54.0), and Sapony Creek (AP-2 56.3); however, the Master Waterbody Crossing table indicates that mussel, Neuse River waterdog, Carolina madtom, and North Carolina spiny crayfish surveys are pending at these locations.

d. The Applicant-Prepared BA tables 5.9.2-1 and 5.11.1-1 identify two crossings of Flat Rock Branch 1 and 2 with survey results for Carolina madtom and mussels, respectively, at MPs 43.7 and 44.5. Table 5.3.2-1 identifies Flat Rock Branch 1 and 2 with Neuse River waterdog survey results at MPs 44.5 and 44.8. The Master Waterbody Crossing Table (3/24/17 version) identifies three crossings of Flat Branch at MPs 43.7, 44.4, and 44.8, but does not indicate that the crossing at MP 44.8 has been surveyed. Confirm which surveys results apply to which crossing locations; and/or if surveys are pending at any of these crossing locations.

e. Based on the Master Waterbody Crossing, there appears to be 2 crossings of Toisnot Swamp (AP-2 MP 62.8 and MP 62.9). Due to the potential for ESA-listed species within this waterbody, confirm that Atlantic has or intends to survey the MP 62.9 crossing location and provide the results of these surveys.

f. Tables 5.3.2-1 of the Applicant-Prepared BA provide survey results for the Neuse River waterdog for Beaverdam Swamp (AP-2 MP 23.1), and Marsh Swamp (AP-

2 MP 69.7); however, the Master Waterbody Table indicates that the Neuse River waterdog surveys are pending. In addition, table 5.11.1-1 of the Applicant-Prepared BA indicate that survey results are pending for mussels for Marsh Swamp (AP-2 MP 69.7); however, the Master Waterbody Crossing table indicate mussel surveys are complete at this location.

g. Based on the Waterbody Crossing Table, there are four crossing of perennial UNT to Marsh Swamp at AP-2 MPs 70.4, 70.5, 70.9, and 71.0; however, only one of these locations appears to have been surveyed (MP 71.0). Due to the potential for ESA-listed species at these waterbody crossings, and suitable habitat for Neuse River waterdog identified at MP 71.0, confirm whether Atlantic has or will conduct surveys at MPs 70.4, 70.5 and 70.9 waterbody crossings. In addition, tables 5.9.2-1 and 5.11.1-1 of the Applicant-Prepared BA provide survey results for the MP 71.0 crossing location, but table 5.3.2-1 provides survey results for the MP 70.9 crossing. Confirm if survey results provided in table 5.3.2-1 should actually apply to the MP 71.0 crossing.

h. Tables 5.3.2-1 of the Applicant-Prepared BA provides survey results for Carolina madtom at UNT to Johnson Swamp at AP-2 MP 107.6; however, the Master Waterbody Crossing Table indicates that survey results are pending for this species.

i. Tables 5.9.2-1 and 5.11.1-1 of the Applicant-Prepared BA indicate additional surveys are pending at Parker Pond Swamp / John K Swamp at AP-2 MP 110.6; however, the Master Waterbody Crossing table does not indicate potential for ESA-listed species, nor pending surveys. In addition, Parker Pond Swamp is not identified in the Master Waterbody Crossing Table.

j. Per the Master Waterbody Crossing Table, there are two crossing locations of Mayo Creek, perennial tributary of the James River, at AP-1 MP 181.9 and MP 184.5. Per table 5.11.1-1, due to the potential presence of the green floater, mussel surveys will be conducted at AP-1 MP 184.5. Confirm that mussel surveys will also occur at the MP 181.9 crossing location.

k. Confirm that Atlantic will conduct Roanoke logperch surveys at both crossings of Butterwood Creek (AP-1 MPs 241.9 and 253.7).

l. Table 5.8.2-1 of the Applicant-Prepared BA provides survey results for Spring Branch (AP-1 MP 273.0); however, the Master Waterbody Crossing table indicates there is another crossing of Spring Branch at AP-1 MP 274.3. Confirm if Roanoke logperch habitat assessments will also be conducted at this location and provide survey results.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 29 **Question Subpart:** a-c

Question:

Provide an updated species survey status table that addresses the inconsistencies identified above and describes survey status as follows:

a. miles, acres, or other pertinent unit of measurement of pending surveys by county and state and by species or resource;

b. the percentage of these surveys that have not been completed due to denied landowner access; and

c. the anticipated completion date for pending surveys.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 30 **Question Subpart:** N/A

Question:

The FWS West Virginia Field Office has requested that the candy darter (*Etheostoma osburni*), which is currently proposed for federal listing, be included in the Applicant-Prepared BA for the project. Provide a species account and impact analysis, and describe the conservation measures that would be implemented to avoid, reduce, or mitigate for impacts on the species.

Response:

Atlantic will provide a species account and impact analysis for the candy darter and identify the conservation measures that would be implemented to avoid, reduce, or mitigate for impacts on this species in May 2017. Atlantic will continue to consult with the FWS and will respond to their questions and requests directly and/or by filing supplemental information to the Applicant-Prepared BA, as needed.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Category: Special Status Species

Question Number: 31 **Question Subpart:** a-b

Question:

Provide an updated table that addresses federally-listed bat surveys on NFS lands as follows:

a. miles, acres, or other pertinent unit of measurement of pending surveys by survey type for both the MNF and GWNF;

b. results of all previous federally-listed bat surveys by survey type for both the MNF and GWNF.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 32 **Question Subpart:** a-e

Question:

Based on Information for Planning and Conservation (IPaC) data, both the Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) have the potential to occur in Westmoreland and Greene Counties, Pennsylvania, which are crossed by SHP. Therefore, provide the following:

a. Recent correspondence with the FWS Pennsylvania Field Office that describes the proposed SHP;

b. A description of DTI's bat survey efforts and results;

c. An impact analysis;

d. A description of DTI's proposed conservation measures that would be implemented to avoid, reduce, or mitigate for impacts on the species; and

e. Documentation from the FWS Pennsylvania Field Office stating it concurs that no additional measures are needed for these species.

Response:

a. Correspondence with the PA FWS regarding bats includes the following:

Agency/Contact Name(s)	Date(s) of Correspondence	Description	FERC Accession Number
L. Zimmerman and M. Turner	10/28/2014	Introductory project letter	20150918-5212
P. Shellenberger	6/30/2015	Bat study plan approval	20150918-5212
M. Turner	11/12/2015	Bat survey report submittal	20151113-5192
L. Zimmerman	1/28/2016	Bat survey response letter	20160324-5120
P. Shellenberger	3/2/2016	Preliminary Applicant-Prepared BA submittal	20160324-5120
M. Turner	1/27/2017	Updated Draft Applicant-Prepared BA and Migratory Bird Plan submittal	20170127-5202

b. In 2015, bat surveys were conducted on the SHP in Pennsylvania according to the FWS *2015 Range-wide Indiana Bat Summer Survey Guidelines* and the approved SHP Pennsylvania bat survey study plan. Survey results were provided in a report submitted to the FWS Pennsylvania Field Office on November 12, 2015 and filed with FERC on November 13, 2015 (FERC Accession Number 20151113-5192).

c. The Pennsylvania Segment Protected Bat Species Presence/Probable Absence Survey Report submitted to FERC on November 13, 2015 (see table above) indicated that no Indiana bats or northern long-eared bats were detected during

Project field surveys. On January 27, 2016, the FWS Pennsylvania Field Office provided a letter confirming DTI's survey results and affirming that the SHP Project does not overlap any known protected bat habitats within Pennsylvania (see table above).

d. DTI anticipates no impact to protected bat habitats on the SHP in Pennsylvania, and therefore, has implemented no species-specific conservation measures for Indiana or northern long-eared bats.

e. The January 28, 2016 letter from PA FWS concluded that the SHP Project in Pennsylvania was not likely to adversely affect Indiana or northern long-eared bats.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 33 **Question Subpart:** a-d

Question:

The following species occur or have the potential to occur in the counties crossed by ACP or SHP according to FWS IPaC; some of these species have been introduced based on the location of proposed communication towers. Provide correspondence with the appropriate FWS Field Office that these species do not require further consideration, and the rationale (e.g., no suitable habitat in project area), or if applicable, provide species account, impact analysis, and conservation measures that would be implemented to avoid or mitigate impacts on the species.

a. Diamond darter (Crystallaria cincotta) (Randolph and Pocahontas, West Virginia);

b. Sensitive joint-vetch (Aeschynomene virginica) (Prince George, Virginia);

c. Smooth coneflower (Echinacea laevigata) (Bath, Virginia); and

d. Canby's dropwort (Oxypolis canbyi) (Scotland, North Carolina).

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 34 **Question Subpart:** N/A

Question:

Provide the results of desktop analysis and/or resource surveys for ESA-listed or under review species that may occur according to FWS IPaC data or agency consultation at the communication towers sites where tree clearing and/or ground disturbing activities are proposed.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 35 **Question Subpart:** N/A

Question:

Confirm that the conservation measures identified in sections 2.8.2.1 through 2.8.3.4 of the Applicant-Prepared BA filed January 27, 2017 apply not only to ESA-listed species, but also to ESA species that are currently under review for listing by the FWS.

Response:

The conservation measures identified in sections 2.8.2.1 through 2.8.3.4 of the Applicant-Prepared BA are project level conservation measures that apply not only to ESA-listed species, but also to ESA species that are currently under review for listing by the FWS, as appropriate.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 36 **Question Subpart:** a-c

Question:

Provide an updated list of "ESA sensitive waterbodies" identified in appendix B-3 of the Applicant-Prepared BA based on the FWS West Virginia, Virginia, and North Carolina Field Offices' guidance, which includes:

a. waterbodies with known or potential for ESA-listed and under review species presence based on surveys and/or agency data;

b. all perennial tributaries within 1 mile upstream and downstream of the waterbodies identified in sub bullet a. that would be crossed by ACP or SHP, or are proposed as a water source; and

c. all perennial tributaries within 1 mile upstream and downstream of the waterbodies identified in sub bullet a that are adjacent to and within 100 feet of construction workspace or access roads.

Response:

Atlantic anticipates filing an updated list of "ESA sensitive waterbodies" in May 2017. Atlantic will continue to consult with the FWS regarding "ESA sensitive waterbodies" and will respond to their questions and requests directly and/or by filing supplemental information to the Applicant-Prepared BA, as needed.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 37 **Question Subpart:** N/A

Question:

Identify if in-stream HDD guide wire installation would be required at any of the ESA sensitive waterbodies as defined in data request 28. If in-stream guide wire installation is proposed, provide a description of this process, an analysis of the potential impacts to aquatic organisms from this activity, and conservation measures that would be implemented to mitigate potential impacts.

Response:

Atlantic does not propose to use in-stream guide wire for HDDs of any sensitive waterbodies.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 38 **Question Subpart:** N/A

Question:

Provide a list of all access roads located within 0.25 mile of ESA sensitive waterbodies as defined in data request 28. Include distance and direction of the waterbody from project workspace. Identify those access roads that have significant erosion control potential.

Response:

Atlantic and DTI continue to consult with the FWS regarding ESA sensitive waterbodies.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 39 **Question Subpart:** N/A

Question:

Identify the erosion control devices that would be implemented to minimize downstream siltation and turbidity during in-stream construction activities in high velocity/flow waterbodies that are known or have the potential to contain ESA-listed or under review aquatic species as defined in data request 28.

Response:

Downstream siltation and turbidity are generally controlled through use of best management practices, such as conducting work during low flow conditions, limiting the duration of in-stream construction activities, placement of spoils on the bank above the high water mark, proper sizing of pumps and flume pipe, and frequent inspections of construction materials forming the waterbody crossing. Additionally, available erosion and sediment control (ESC) measures may include turbidity curtains, filter/dewatering bags, and sediment barriers depending on the circumstances encountered during the time of the crossing.

In accordance with section 2.8.2.11 of the Applicant-Prepared BA, an enhanced ESC measure, compost filter sock (CFS), will be installed at the edges of workspace and access roads within 300 feet of sensitive waterbodies. CFS is generally recognized as having superior suspended solids filtering and removal efficiency as compared to most sediment barrier technologies, and is often used for protection of exceptional/high quality environmental resources.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 40 **Question Subpart:** a

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

a. Employ third-party Biological Monitors at all ESA sensitive waterbodies as defined in data request 28. Biological Monitors should be biologists with experience with the taxa potentially found in waterbodies being monitored, must be familiar with the project-specific requirements at each waterbody, and have the authority to stop work.

Response:

Atlantic has committed to removing aquatic species at sensitive waterbody crossings that are planned for dry crossings prior to construction using biologists with experience with the subject taxa. In addition, FERC monitors and Atlantic environmental inspectors will be onsite during construction activities and will have the authority to stop work. Since the work will be conducted in the dry stream channel and after the aquatic species have been removed by the species specialists, further involvement by Biological Monitors is not necessary. However, should the dry segment of the stream channel at the crossing become inundated after species removal, then work would be stopped until the species specialists have returned to the area and cleared it of aquatic species, if present. A Biological Monitor would not be necessary at open cuts or those waterbodies crossed by HDD as the FERC monitors and Atlantic inspectors would be present and would be more familiar with construction practices. Should the need arise to assess any federally listed species during crossings of these streams the biologists with experience with the subject taxa would be consulted.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** b

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

b. Alert the FWS and appropriate state agencies when work begins in ESA sensitive waterbodies as defined in data request 28, within the Madison Cave isopod priority area, within 6 miles of Virginia big-eared bat hibernacula, 5 miles of Indiana bat and northern long-eared bat hibernacula.

Response:

Atlantic will notify the FWS and appropriate state agencies when work begins in ESA sensitive waterbodies, within Madison Cave isopod priority areas, within 6 miles of Virginia big-eared bat hibernacula, and within 5 miles of Indiana bat and northern long-eared bat hibernacula.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** c

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

c. In ESA sensitive waterbodies as defined in data request 28, no grubbing would occur within 100 feet of the waterbody between November 15 and April 1.

Response:

In verbal comments discussed in a meeting with FWS staff on November 29, 2016; in an email with detailed comments received from the FWS on December 12, 2016; and in comments provided to FERC by the FWS on January 31, 2017, FWS staff requested the following:

> In the streams which contain T&E species and their tribs, no grubbing should occur within 50 ft of the stream from Nov 15 – April 1. These 12 digit HUCs were provided to ACP on December 1, 2016, via email."

Atlantic updated the Applicant-Prepared BA filed on January 27, 2017 (FERC Accession Number 20170127-5203) with this conservation measure.

Atlantic continues to consult with the FWS on the need to expand the no-grubbing zone from 50 feet to 100 feet.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** d

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

d. In ESA sensitive waterbodies as defined in data request 28, confirm that Atlantic and DTI would install in-stream silt/turbidity curtains at non-HDD waterbody crossing locations.

Response:

Atlantic will install in-stream silt/turbidity curtains at non-HDD waterbody crossing locations on the downstream side of the work area where the water depth is greater than 3 feet.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** e

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

e. Enhanced erosion control measures shall include the implementation of triple stack sock or super silt fence (silt fence backed by chain link fence) at the edges of construction workspace and access roads within 300 feet of all ESA sensitive waterbodies as defined in data request 28.

Response:

As described in section 2.8.2.11 of the Applicant-Prepared BA filed January 27, 2017 (FERC Accession Number 20170127-5203), Atlantic and DTI propose to utilize an enhanced ESC (i.e., CFS) at the edges of workspace and access roads within 300 feet of sensitive waterbodies. CFS is generally recognized as a superior ESC measure compared to conventional sediment barrier technologies and is often used for protection of exceptional/high quality environmental resources.

Sizing of the CFS at these sensitive waterbody locations will be based on industry-accepted methodology and will typically consist of a single layer of 12-inch or 18-inch diameter CFS. However, where sizing calculations suggest use of a larger diameter CFS, a triple stack of 18-inch diameter CFS will be used.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** f

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

f. Locate ATWS at least 100 feet from ESA sensitive waterbodies, as defined in data request 28, to further minimize potential impacts on ESA-listed and under review aquatic species from increased sedimentation and turbidity. This measure is also consistent with Atlantic's commitment on the MNF and GWNF.

Response:

Atlantic and DTI will adhere to the requirement in the FERC Procedures to "locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from the water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land" and at locations where Atlantic agreed to 100 foot setbacks at waterbodies in the MNF and GWNF. Additional erosion and sediment control measures, as described in section 2.8.2.11 of the Applicant-Prepared BA (FERC Accession Number 20170127-5203), will be implemented at ESA sensitive waterbodies.

Locating ATWS 100 feet from waterbodies, as opposed to the 50 foot setback required by the FERC Procedures, would increase the vehicle traffic and equipment needed to relay spoil an additional 50 feet from the waterbody, increase the duration of the crossing, and increase the chances of a rain event and erosion occurring during the crossing. Consequently, Atlantic and DTI believe that locating ATWS 100 feet from waterbodies would result in overall greater impact. Moreover, the additional erosion and sediment control measures proposed by Atlantic and DTI for sensitive waterbodies, as described in the Applicant-Prepared BA, would effectively mitigate the risk of sediment reaching ESA sensitive waterbodies during construction.

Atlantic and DTI continue to consult with the FWS regarding this recommendation.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** g

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

g. For water withdrawals from ESA sensitive waterbodies with ESA-listed or under review species as defined in data request 28, 1) use 1 millimeter screen; 2) ensure that intake velocity does not exceed 0.25 feet per second; and 3) do not withdraw more than 10 percent of the instantaneous flow.

Response:

Atlantic has committed to using 1 millimeter screen and restricting intake velocity to 0.25 feet per second at the screen surface at waterbodies with ESA-listed or under review species as defined in Question 28. The FWS provided a comment matrix in May 2016 in which they required that no more than 25 percent of the flow be withdrawn from a waterbody. Atlantic has incorporated the 25 percent restriction for the water withdrawal plans into the Project design.

Atlantic continues to consult with the FWS regarding appropriate restrictions on water withdrawals.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** h

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

h. For water discharge:

(i) if adding an algaecide, confirm that the algaecide is safe for all aquatic species that have the potential to occur in waterbodies near the discharge;

(ii) discharge water at low flow rate to avoid erosion and rutting;

(iii) should vegetation or cover/mulch/duff be removed during discharge, restore the discharge site to pre-discharge conditions;

(iv) if using water from municipal sources, use filtration to remove chemical additives (e.g., chlorine) to acceptable levels before discharge;

(v) do not discharge into waterbodies with known or potential occurrences of ESA-listed or under review species as defined in data request 28; and

(vi) discharge a minimum of 300 feet from waterbodies.

Response:

i. Algaecide is not proposed. Atlantic and DTI are proposing to use aeration to control algae in storage containers.

ii. Atlantic and DTI will discharge water at a rate that would not cause erosion or rutting.

iii. Atlantic and DTI would restore discharge areas to pre-discharge conditions.

iv. 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 above ground containments for more than a week, Atlantic and DTI anticipate that the chlorine in the water would dissipate during aeration and chlorine removal would not be needed.

v. Atlantic and DTI does not propose direct discharge to any waterbodies.

vi. Atlantic and DTI propose to discharge in uplands areas at least 300 feet from sensitive waterbodies.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 40 **Question Subpart:** i

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

i. Identify where in-stream blasting would be required in ESA sensitive waterbodies as defined in data request 28, and provide a site-specific blasting plan for FWS review and concurrence 30 days prior to initiating in-stream activities. FWS has also requested that blasting be conducted in the dry and matting be used to minimize noise and vibration in these waterbodies.

Response:

Table B-3 of the Applicant-Prepared BA filed by Atlantic and DTI on January 27, 2017 (FERC Accession Number 20170127-5203) provides a list of "sensitive waterbodies" which will require blasting. Site specific blast plans developed during construction will be prepared by a Certified Blasting Specialist to meet Federal and State/Commonwealth rules and regulations. Atlantic and DTI will adhere to the notification requirements of these rules and regulations prior to blasting. Atlantic and DTI will provide copies of site specific blast plans for ESA sensitive waterbodies to the FWS for informational purposes and will notify the FWS in advance of blasting activities at these waterbodies. Atlantic and DTI committed to conducting blasting in the dry and to the use of matting to minimize noise and vibration for ESA sensitive waterbodies as described in sections 5.8.4 (Roanoke logperch), 5.9.4 (Carolina madtom), and 5.11.3 (mussels) of the Applicant-Prepared BA, which was filed on January 27, 2017 (FERC Accession Number 20170127-5203).

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Category: Special Status Species

Question Number: 40 **Question Subpart:** j

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

j. Develop site-specific blasting plans for FWS review and concurrence 30 days prior to blasting occurring within 0.5 mile of known and survey identified bat hibernacula. Blasting occurring within 0.5 mile of hibernacula would require third-party Biological Monitors at the cave entrances if occurring during the hibernation period. FWS recommends avoiding blasting within 0.5 mile of bat hibernacula during the hibernation period as defined in consultation with FWS.

Response:

All site specific blast plans developed during construction will be prepared by a Certified Blasting Specialist to meet all Federal and State/Commonwealth rules and regulations. Atlantic and DTI will adhere to the notification requirements of these rules and regulations prior to blasting. Atlantic and DTI will provide copies of site specific blast plans for blasting occurring within 0.5 mile of known and survey identified bat hibernacula to the FWS for informational purposes and will notify the FWS in advance of blasting activities in these areas.

Based on the current construction schedule, blasting is not anticipated to occur in the winter months when bats are hibernating. Atlantic and DTI do not believe that a Biological Monitor is necessary at hibernacula within 0.5 mile of blasting based on the type of blasting that would be conducted for the Project. As described in the Applicant-Prepared BA filed on January 27, 2017 (FERC Accession Number 20170127-5203), although relatively little research has been done, the available literature suggests that bats are generally not disturbed by low-level vibrations due to blasting near hibernacula. A study of an Indiana bat hibernaculum in New York suggests vibration levels measured at the entrance to hibernacula at 0.2 inch/second did not disturb Indiana bats (Besha, 1984). Furthermore, bats are often protected within the cave environment from ground-level disturbances. Underground measurements at bat roost locations in Hellhole Cave, West Virginia suggested that vibrations where bats roosted were 1.33 to 2.76 times less than surface measurements (West Virginia Department of Environmental Protection, 2006). Blasting associated with ACP and SHP construction will be significantly less than blasting associated with the quarrying or construction operations described in the literature. No negative long-term population effects are expected due to blasting. Blasting will be conducted in a manner that will not compromise the structural integrity of nearby caves.

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Category: Special Status Species

Question Number: 40 **Question Subpart:** k

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

k. Develop site-specific blasting plans for FWS review and concurrence 30 days prior to blasting occurring within the Madison Cave isopod priority area (AP-1 MPs 123.7 to 149.6) and within 0.5 mile of Cochran's Cave entrances #2 and #3.

Response:

Site specific blast plans developed during construction will be prepared by a Certified Blasting Specialist and will meet Federal and State/Commonwealth rules and regulations. Atlantic will adhere to the notification requirements of these rules and regulations prior to blasting. In addition, Atlantic will provide copies of site specific blasting plans for blasting occurring within the area identified above to the FWS for informational purposes and will notify the FWS in advance of any blasting activities in these areas.

Atlantic will conduct blasting in a manner that will not compromise the structural integrity or alter the karst hydrology of known or inferred subsurface karst structures. If voids greater than 6 inches within the first 10 feet of bedrock are encountered during track drilling, then blasting would not be used, or subsurface investigation will be conducted to determine if the voids have connectivity with a deeper structure.

The Project plans have been prepared to protect the karst features, and the assessment of adverse effects is based on the proposed plans; therefore, further approval by the FWS on technical construction techniques is not practical. Based on Atlantic's commitments regarding the qualifications of the Certified Blasting Specialists, monitoring by karst specialists during construction, implementation of the *Karst Terrain Assessment, Construction, Monitoring, and Mitigation Plan*, and the assessment of impacts in the Applicant-Prepared BA, Atlantic does not believe that concurrence on the blasting plans by FWS staff is necessary.

Atlantic continues to consult with the FWS regarding impacts related to blasting and Madison Cave isopod.

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Category: Special Status Species

Question Number: 40 **Question Subpart:** l

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

l. Prior to construction, provide the FWS with an Off-Highway Vehicle Control Plan for review and concurrence that describes the measures that would be implemented to prevent access to ESA sensitive waterbodies as defined in data request 28, and to Madison Cave isopod priority area (AP-1 MPs 123.7 to 149.6). The FWS recommends that barriers be installed where the pipeline crosses ESA sensitive waterbodies as defined in data request 28, as these crossing areas could be used as a trail, which could lead to bank destabilization and additional impacts to ESA-listed or under review species.

Response:

Atlantic and DTI will implement blocking measures, as warranted, to restrict Off Highway Vehicle (OHV) access along the pipeline rights-of-way and access roads opened up for construction equipment and vehicles. This could include installation of OHV barriers at appropriate locations along the rights of way. Barriers may consist of signs, fences, vegetation, or boulders. More specific information on these measures is provided below.

Berms will be placed across the right-of-way where it intersects an existing road. Berm slopes shall not exceed 30 percent. Berms will be placed across the right-of-way as part of erosion control, and will be strategically placed to reduce visibility and mimic local topography.

Large rocks, stumps, limbs, and related material removed and stockpiled during construction will be strategically placed, without making it appear as a challenging obstacle course. The placement will be done in a manner to present a physical barrier as well as to erase visual cues signaling the presence of the right-of-way from the access point.

Signs warning the public that OHV use is prohibited along the pipeline right-of-way will be installed if requested by the property owner. Signs may dissuade some OHV users.

Atlantic and DTI will coordinate with the appropriate land managing agencies to identify locations where unauthorized OHV access to Federal and State/Commonwealth lands via the pipeline right-of-way is most likely. At these key crossing locations, such as sensitive

waterbodies, site-specific OHV blocking measures will be developed in consultation with the land managing agencies and adjacent private landowners, as appropriate.

Since OHV measures are constructed on a site specific basis as approved by land managing agencies and private landowners, Atlantic and DTI do not believe review of these plans by the FWS is necessary.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Category: Special Status Species

Question Number: 40 **Question Subpart:** m

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

m. Replace long-leaf pine and wiregrass where removed within the temporary workspace to compensate for the removal of 111.1 acres of red-cockaded woodpecker suitable habitat.

Response:

Although long-leaf pine communities are the preferred nesting habitat of the red-cockaded woodpecker (RCW), suitable foraging habitat is less specific and includes pines or mixed pines/hardwoods. The 111.1 acres of RCW habitat identified along the ACP route includes foraging habitat and not nesting habitat. Furthermore, Atlantic conducted surveys in accordance with USFWS recommendations within 0.5 mile of the potential foraging habitat and did not observe any RCW nesting sites, the presence of which would have indicated potential use of the adjacent foraging habitat. Long-leaf pine and wiregrass communities were identified in only two RCW potential foraging habitat locations in Cumberland County between mileposts 156.5 and 156.9, however no RCW nesting sites were located within 0.5 mile of these locations. Therefore, Atlantic does not believe that replacing any minor and isolated communities of long-leaf pine and wiregrass is warranted.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** n

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

n. Water discharges would occur downgradient only from karst features (discharge upgradient of karst features, regardless of distance, should not occur).

Response:

The conservation measures described in Question 40, which are intended to protect the habitat of the Madison Cave Isopod (MCI), are taken directly from Atlantic's and DTI's *Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan*, dated January 20, 2017 (FERC Accession Number 20170127-5202), and are an expansion of the Avoidance and Minimization Measures (AMMs) for the conservation of the MCI as embodied in the NiSource/Columbia Gas Multi Species Habitat Conservation Plan (NiSource, 2013). The aforementioned AMMs were developed by GeoConcepts and NiSource Conservation staff with guidance provided by the Karst Program of VA DCR-NHP and the FWS (Denton, et al, 2016). Since terrain and other conditions could limit the discharge locations, Atlantic cannot commit to discharging downgradient of karst features. Atlantic's and DTI's *Karst Terrain Assessment, Construction, Monitoring and Mitigation Plan* provides mitigation measures to ensure protection of karst features and channels that flow to those features:

11. Hydrostatic test water will not be obtained from karst features (only free-flowing streams).

12. Hydrostatic testing water from new pipe installations shall not be discharged into flagged or marked buffer areas of sinkholes, fissures, or other karst features or channels or surface features that flow towards those features. Discharging of hydrostatic testing water shall be performed in the following manner (in order of priority and preference):

    a. Discharge hydrostatic test water downgradient of flagged or marked buffer areas of sinkholes, fissures, or other karst features unless on-the-ground circumstances (e.g., man-made structures, terrain, or other sensitive resources) prevent such discharge.

b. If water cannot be discharged downgradient as described in 12a, discharge water into uplands greater than 300 feet from flagged or marked buffer areas of sinkholes, fissures, or other karst features unless on-the-ground circumstances (e.g. man-made structures, terrain, other sensitive resources) prevent such discharge.

c. If the conditions listed in either 12a or 12b are not practicable, discharge water as far from flagged or marked sinkholes, fissures, or other karst features as is practical and utilize additional sediment and water flow control devices to minimize effects.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Category: Special Status Species

Question Number: 40 **Question Subpart:** o

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

o. Employ Biological Monitors to monitor construction activities in proximity to the Madison Cave isopod sensitive karst features that have been identified by the FWS Virginia Field Office in December 7, 2016 correspondence between Kim Smith (FWS) and Sara Throndson (Natural Resource Group/Environmental Resources Management). If a subsurface void or conduit should open or be intersected in the process of excavation/and or trenching, work in that area would be stopped immediately and the void would be isolated from the rest of the work area with sandbags or other suitable materials. The void would be inspected within 24 hours by the karst specialist and Biological Monitor, and the most appropriate remedial method would be determined on a case-by-case basis. If a void were to occur within the proximity to the Madison Cave isopod sensitive karst features, Atlantic would contact the FWS Virginia Field Office immediately to coordinate the remedial assessment.

Response:

Atlantic has agreed to provide a karst specialist during construction in areas underlain by karst-forming bedrock and/or within areas of known karst terrain (based on the presence of karst surface features). Should excavation or trenching uncover a subsurface void or conduit, the karst specialists would determine the appropriate restorative measures to protect the feature and groundwater and have oversight of the activity. In addition, Atlantic agrees to notify the FWS and have a Biological Monitor on call to investigate the exposure of any previously unidentified voids or conduits (based on Atlantic's survey efforts prior to construction) that occur within the priority area for Madison Cave isopod. Stop work authority would remain with the FERC monitors, Atlantic's environmental inspectors, and the karst specialists as they would be most familiar with construction techniques and best management practices to protect the resource.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 40 **Question Subpart:** p

Question:

The FWS West Virginia, Virginia, and North Carolina Field Offices have requested the following commitments from Atlantic and DTI. Confirm that Atlantic and DTI would commit to the implementation of these conservation measures. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS.

p. During maintenance of the permanent right-of-way during operations, maintain minimum mower blade height of 8 to 10 inches (preferably 12 to 14 inches) in Highland, Bath, Augusta, Nelson, and Rockbridge Counties, Virginia to minimize impacts on the rusty patched bumble bee.

Response:

Atlantic will commit to maintaining a minimum blade height of approximately 10 inches during permanent right-of-way maintenance in Highland, Bath, Augusta, and Nelson Counties, Virginia. The ACP does not cross Rockbridge County, Virginia, thus maintenance operations are not anticipated in this county. Also, the SHP is not located within these counties, thus this measure would not apply to the SHP.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 41 **Question Subpart:** N/A

Question:

The FWS has indicated that should federally listed (including currently under review species that are proposed for listing prior to project completion) aquatic species be identified during future surveys at pending waterbodies where non-HDD techniques are proposed, the impact on the identified species would be considered likely to adversely affect and additional conservation measures would be required to mitigate for incidental take. We recommend that Atlantic and DTI discuss this possibility and identify additional conservation measures that could be implemented if species are identified during surveys to avoid further delays in completion of Section 7 consultation. Provide correspondence and additional conservation measures that would be implemented should this occur.

Response:

Conservation measures that would be implemented for federally listed aquatic species identified during future surveys (including currently under review species that are proposed for listing prior to project completion) were described in the Applicant-Prepared BA filed by Atlantic and DTI on January 27, 2017 (FERC Accession Number 20170127-5203).[1] The conservation measures identified in the Applicant-Prepared BA were developed based on on-going consultations with the FWS. The measures are designed to avoid or minimize impacts on species, or alternatively, trigger additional consultation with the FWS if the species is found or listed (for under review and proposed species).

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

[1] See sections 5.3.4 (Neuse River waterdog), 5.8.4 (Roanoke logperch), 5.9.4 (Carolina madtom), 5.10.4 (Chowanoke crayfish), and 5.11.3 (federal, proposed, and under review mussels) of the Applicant-Prepared BA.

Category: Special Status Species

Question Number: 42 **Question Subpart:** N/A

Question:

Provide a description of the "incremental controls that would be implemented to mitigate erosion and sedimentation and slope instability concerns" at waterbodies referenced in section 2.8.2.11 of the Applicant-Prepared BA.

Response:

The statement cited above is in reference to incremental controls (ICs) that will be implemented in accordance with the Best in Class (BIC) Steep Slopes program. These ICs will provide enhanced protection of those waterbodies located within steep slope areas (defined as slopes with a minimum length of 100 feet and inclination of 30 percent or greater). An extensive number of IC measures have been identified as part of the BIC Steep Slopes program (which includes results from the geohazards analysis, soils surveys, field work, etc.) for use by the pipeline construction team to respond to site-specific conditions encountered in the field. In general, IC measures will be selected in the field using a decision tree/work flow process developed as part of the BIC Steep Slopes program.

The available IC measures are organized into categories based on the targeted objective or intended use for each BIC slope, including but not limited to: subsurface drainage; grading, backfill, and mechanical stabilization; surface erosion measures; trench improvements; right-of-way surface management; right-of-way diversions; monitoring; stress relief; typical right-of-way configurations; detailed engineering; and planning. Each category contains multiple IC options, such as targeted drains, seep collectors, retaining walls, soil nailing, and reduced slope breaker spacing, all with the objective of providing protection above and beyond that achieved through implementation of the baseline regulatory required controls.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 43 **Question Subpart:** N/A

Question:

Provide missing footnote letter "e" from Applicant-Prepared BA table 5.4.2-1, Known Federally Listed Bat Hibernacula within 5 miles of the Atlantic Coast Pipeline.

Response:

Footnote "e" in the Species Association column should have been footnote "f": Northern long-eared bat captures reported at this site during project surveys in 2016. A footnote "e" should have been included on the Priority Number and Max Population Estimate columns that read: Sites not listed in FWS 2007a.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 44 **Question Subpart:** N/A

Question:

As requested in the October 26, 2016 environmental information request, Data Request No. 24.e, provide the acreage of Indiana bat suitable habitat that would be cleared by construction and operation of ACP and SHP.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 45 **Question Subpart:** N/A

Question:

Based on recent correspondence with FWS, there is concern that the increased use of access roads near bat hibernacula (both noise emissions and vibrations) could adversely impact hibernating bats. To better understand this potential, provide a description of the current average traffic levels at the access roads located within 0.5 mile of known and survey identified bat hibernacula relative to the average expected trips (where a trip is up and back) per day or week during construction and operation. Confirm whether the access roads within 0.5 mile of known and survey identified bat hibernacula are upgradient or downgradient of the proposed access roads.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 46 **Question Subpart:** a-b

Question:

The FWS West Virginia and Virginia Field Offices and the VDCR in letter dated February 23, 2017 continue to express concern with regard to the potential for trenching, blasting, and water discharge activities to impact subterranean karst features and karst waters that could indirectly impact bat hibernacula and Madison Cave isopod priority habitat. To better understand subterranean connectivity of karst features within the construction workspace to these sensitive karst features, the FERC and FWS West Virginia and Virginia Field Offices request that Atlantic and DTI consult with the West Virginia and Virginia Speleological Survey, VDCR, or other agencies for existing cave system mapping data, existing dye trace studies, and facture trace and lineament analysis for the following areas:

a. Within 5 miles of known and survey identified bat hibernacula;

b. Within the Madison Cave isopod priority area. (FERC acknowledges receipt of the Cochran's Cave Conservation Area Investigation Update received January 27, 2017.)

Response:

Atlantic's karst survey specialist, GeoConcepts, has consulted closely with Virginia Speleological Survey (VSS), West Virginia Speleological Survey (WVSS), Virginia Cave Conservancy (VCC), and the Karst Waters Institute (KWI) to map and identify karst features and caves. Atlantic has obtained all pertinent data and information from the listed organizations regarding cave entrance locations, spring locations, cave maps, and dye trace data.

Specific dates of consultation with these agencies are as follows:

- **VSS, KWI, CCV:** 4/11/2017, 4/3/2017, 10/18/2016, 9/7/2016, 8/25/2016, 7/11/2016, 4/29/2016, 4/7/2016, 4/4/2016, 3/11/2016, 2/23/2016, 11/12/2015, 5/8/2015, 4/30/2015, 4/29/2015, 9/12/2014;

- **WVASS:** 4/18/2017, 4/13/2017, 12/6/2016, 12/2/2016, 12/2/2016, 5/10/2016;

- **VDCR-NHP:** 4/20/2017, 4/19/2017, 4/17/2016, 4/13/2017, 4/10/2017, 4/6/2017, 4/4/42017, 4/3/2017, 3/29/2017, 3/27/2017, 3/22/2017, 3/21/2017, 3/20/2017, 3/16/2017, 3/13/2017, 2/27/2017, 12/15/2016, 9/16/2016, 9/12/2016, 9/11/2016, 7/12/2016, 6/29/2016, 6/21/2016, 6/8/2016, 6/7/2016, 5/6/2016, 4/29/2016, 4/27/2016, 4/4/2016, 3/16/2016, 3/3/2016, 12/31/2015, 12/30/2015, 6/11/2015, 5/29/2015; and

- **VDEQ:** 4/19/2017, 4/18/2017, 4/10/2017, 4/6/2017, 3/27/2016, 3/29/2017, 2/7/2016.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Category: Special Status Species

Question Number: 47 **Question Subpart:** N/A

Question:

Provide the FERC and FWS a consolidated report of available literature, and based on this information, describe the potential impacts of construction activities on the subterranean habitat, bat hibernacula, and Madison Cave isopod priority areas. Also, identify where there are survey gaps in the existing literature, where Atlantic plans on conducting additional subsurface investigations (e.g., electrical resistivity imaging) and the timeline for these surveys. If data suggests that construction activities would impact underground karst features that are connected to downstream bat hibernacula and/or Madison Cave isopod priority area, Atlantic should work with the FWS and VDCR to develop conservation measures that avoid or minimize these impacts, or discuss compensation.

Response:

A consolidated report of available literature regarding karst will be compiled and provided in June 2017.

Atlantic has worked with the FWS and VDCR to develop conservation measures that avoid and minimize impacts to karst features. These measures are detailed in the *Karst Terrain Assessment Construction, Monitoring, and Mitigation Plan* that was filed with FERC on January 27, 2017 (FERC Accession Number 20170127-5203). On this same date, Atlantic filed the preliminary results of investigations to assess possible impacts of construction of the ACP to the Cochran's Cave Conservation Area and the karst groundwater recharge to Moffett Lake. This provides the results of the subsurface investigation (Electrical Resistivity Imaging and Air Track Drilling), hydrological investigation, and dye trace results. Atlantic will perform additional subsurface investigations to identify and/or verify the location of voids. These surveys are intended to supplement mitigation planning during the construction phase of the Project. The additional subsurface investigations will take place when trees have been cleared from the right-of-way. Locations of known or suspected karst features are scheduled for Electrical Resistivity Imaging and/or Air Track Drilling survey and are listed in Table 47-1.

Evidence of cave networks, cave openings, or open throat features has been identified near and within the workspace as described in section 5.12 of the Applicant-Prepared BA, which was filed with FERC on January 27, 2017 (FERC Accession Number 20170127-5203). Any of these feature types may contain or lead to suitable habitat for or populations of the Madison Cave isopod. Due to the challenge in surveying for the species and a negative survey not being sufficient to confirm absence of the species due to its life history, presence is assumed at features identified as open throat sinkholes, as these features may connect to suitable or occupied habitat within the Madison Cave isopod suitable habitat area. Graded filters will be placed on any open throat features within the workspace that cannot adhere to a 25 foot buffer.

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

TABLE 47-1

Locations of Known or Suspected Karst Features

MP Begin	MP End	Year planned for Subsurface Investigation
64.1	65.4	2018
65.4	75.1	2019
79.95	80.2	2018
80.6	80.8	2018
87.37	87.5	2018
88.45	88.95	2018
90.33	90.92	2018
92.01	92.21	2019
92.95	93.21	2019
94.58	95.79	2019
95.53	97.46	2019
100.7	100.81	2018
102.19	103.11	2019
103.11	108.36	2018
122.75	123.4	2018
123.7	125.9	2018
125.9	153.2	2019

Category: Special Status Species

Question Number: 48 **Question Subpart:** a-c

Question:

Any tree clearing within the 0.25 mile of known northern long-eared bat hibernacula, or potential impacts on bat hibernacula would make Atlantic and DTI ineligible to use the programmatic Biological Opinion and streamlined consultation framework associated with the species 4(d) rule. In addition, "disturbing or disrupting hibernating individuals when present, as well as the physical or other alternation of the hibernaculum's entrance or environment when bats are not present if the result of the activity will impair essential behavioral patterns, including sheltering northern long-eared bats" would make Atlantic and DTI ineligible for the 4(d) rule. To qualify for the 4(d) rule, we recommend Atlantic and DTI commit to implement the following:

a. No treeclearing with 0.25 mile of known and survey confirmed hibernacula, including the access road within 0.25 mile of bat hibernacula PH-S018;

b. Follow the protocol outlined in data request 46 to confirm that construction activities would not alter the environment of downstream hibernacula, making hibernacula unsuitable for northern long-eared bats; and

c. Follow the site-specific blasting plan recommendations described in data request 40.j to ensure hibernating bats are not disturbed.

Atlantic and DTI will need to use the 4(d) Rule Streamlined Consultation form (or its contents; https://www.fws.gov/midwest/endangered/mammals/nleb/s7.html) to notify the FWS that ACP and SHP meet the requirements of the streamlined 4(d) Rule consultation framework. If these recommendations are not followed, Atlantic and DTI would not qualify to use the programmatic Biological Opinion and streamlined consultation framework associated with the 4(d) rule and would need to conduct standard consultation which would require: 1) completion of roost tree surveys and calculation of impacts on roost trees; 2) calculation of impacts on known habitat within the home ranges of northern long-eared bat (specifically defined as habitat within 3 miles of positive acoustic and mist-nest surveys or within 1.5 miles of documented maternity roost trees per 2014 interim guidelines); and 3) calculation of impacts on suitable habitat within 5 miles of the species hibernacula. Atlantic and DTI would also need to consult with the FWS to determine additional conservation measures that would need to be implemented to mitigate for these impacts.

Response:

Due to the potential for take of northern long-eared bats from tree clearing activities within 0.25 mile of a known northern long-eared bat hibernacula, the streamlined consultation framework would not be applied, and standard Section 7 consultation would be conducted. The standard Section 7 guidance provided at the link above does not outline the three requirements listed, and

the FWS specifically stated in an email on January 7, 2017 that roost tree surveys for northern long-eared bat are not required for mitigation purposes, but could be used to determine habitat suitability in the Project area. Atlantic and DTI continue to collect potential roost tree data for Indiana bat and northern long-eared bat for informational purposes. In a meeting on November 22, 2016, the FWS also stated that the three-mile buffer does not apply to northern long-eared bat (FERC Accession Number 20170127-5202). Atlantic and DTI are seeking clarification regarding the requirement for a 5-mile buffer around suitable hibernacula for northern long-eared bat. The FWS has not asked for additional analysis as described above for northern long-eared bat.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 49 **Question Subpart:** N/A

Question:

Confirm that Atlantic would use a dry crossing technique and would install in-stream silt/turbidity curtains at the crossing location if Neuse River waterdogs are identified during future surveys.

Response:

Atlantic changed the crossing method of the Neuse River from open cut to coffer dam so that installation would completed "in the dry". Silt/turbidity curtains would be used downstream to reduce turbidity if Neuse River waterdogs are identified during surveys.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 50 **Question Subpart:** N/A

Question:

Provide copies of correspondence indicating that the FWS North Carolina Field Office has reviewed and concurs with the North Carolina Fish and Non-Fish Aquatics Collection and Relocation Protocol for Instream Construction Activities as this Plan would be implemented in waterbodies with known or potential for ESA-listed or under review species.

Response:

Atlantic submitted a revised *North Carolina Fish and Aquatic Taxa Collection and Relocation Protocol for Instream Construction Activities* to the FWS North Carolina Field Office on March 10, 2017 (FERC Accession Number 20170310-5157). Atlantic will file comments on the plan from the FWS when available.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 51 **Question Subpart:** N/A

Question:

The FWS North Carolina Field Office has confirmed that Neuse River waterdog are not found in the Roanoke River. Remove this waterbody from the list of waterbodies where presence is assumed for this species in the Applicant-Prepared BA and corresponding waterbody tables.

Response:

Roanoke River will be removed from the list of waterbodies where presence is assumed for Neuse River waterdog. Atlantic will continue to consult with the FWS and will respond to their questions and requests directly and/or with filing supplemental information to the Applicant-Prepared BA, as needed.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 52 **Question Subpart:** N/A

Question:

Based on March 1, 2017 meeting notes between Atlantic and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), NOAA Fisheries appears to indicate that the shortnose sturgeon (*Acipenser brevirostum*) has the potential to occur in the same waterbodies as the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), which means that the ACP has the potential to impact this species. (The species is currently identified as "No Effect" because it is not located in the project area in the January 27, 2017 Applicant-Prepared BA.) If this is the case, provide full species account, impact analysis, and conservation measures that would be implemented to avoid or mitigate impacts on the species, and provide correspondence with NOAA Fisheries regarding the appropriate conservation measures for this species.

Response:

Atlantic has contacted NOAA Fisheries seeking clarification regarding shortnose sturgeon potential occurrences in the Project area. Atlantic will file a response from NOAA Fisheries when available.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 53 **Question Subpart:** N/A

Question:

During Atlantic's March 1, 2017 meeting with NOAA Fisheries, NOAA Fisheries requested additional information on the substrate of the Neuse River to determine if the Neuse River could provide suitable spawning habitat for Atlantic sturgeon. NOAA Fisheries also expressed concern regarding potential inadvertent releases from an HDD occurring during spawning and indicated that timing restrictions may be applicable. Based on pending regulations, the proposed Critical Habitat for this species may extend to the crossing location within the Cape Fear River. Therefore, provide correspondence with NOAA Fisheries that identifies: 1) which crossing locations could serve as suitable spawning habitat for Atlantic sturgeon; 2) the timing restrictions or other conservation measures that would apply (including for HDDs); and 3) status of the Cape Fear River Critical Habitat.

Response:

Atlantic continues to consult with NOAA Fisheries on potential adverse impacts on Atlantic sturgeon at the Neuse River and Cape Fear River crossings. The response below includes Atlantic's assessment of impacts to Atlantic sturgeon.

Locations Suitable for Spawning by Atlantic Sturgeon:

Atlantic has identified the Neuse River crossing as the only location with potential spawning habitat for Atlantic Sturgeon along the ACP route due to the presence of occupied habitat above and below the proposed crossing location. The substrate at the Neuse River crossing is composed of 5% silt, 5% gravel, and 90% sand. The preferred spawning habitat includes well oxygenated areas with flowing water and hard bottom substrate such as cobble, coarse sand, hard clay, and bedrock. While the crossing is primarily composed of sand, the sand is finer texture and not considered suitable for spawning habitat by Atlantic sturgeon.

While the segment of the Neuse River crossed by ACP may support passage of this species, the specific area is not expected to support spawning activities. Due to the fact that Atlantic would cross the Neuse River using the cofferdam method outside of the spawning season when the species is not anticipated to be present, and would not completely obstruct the flow of the river for species passing through this area, no adverse effects are anticipated to Atlantic sturgeon at this crossing.

The Roanoke River and South Branch Elizabeth Rivers are planned to be crossed by HDD; as requested during a conference call with NOAA Fisheries on March 1, 2017, Atlantic provided reports for risk of inadvertent return at these waterbodies to NOAA Fisheries. Consultations with NOAA Fisheries are on-going and correspondence will be provided as available.

The ACP crossings of the Cape Fear and James Rivers, which have known occurrences of Atlantic sturgeon, would cross within segments above dams/obstructions such that the species is

not known to occur at the proposed crossing locations. The Nottoway River is not known to support spawning Atlantic sturgeon.

Timing Restrictions or Other Conservation Measures:

Atlantic has agreed to adhere to the in-stream moratorium period between February 1 and June 30 in the Neuse River recommended by NOAA Fisheries. The Cape Fear River will be crossed using HDD avoiding in-stream work so no restriction is anticipated at this crossing. The Neuse River crossing is proposed as a cofferdam so in-stream work will be required; however, the work will be conducted outside of the NOAA Fisheries' recommended moratorium.

Atlantic will adhere to FERC Plans and Procedures; implement its SPCC Plan, Restoration and Rehabilitation Plan, HDD Plan, Blasting Plan, Invasive Species Plan, and Winter Construction Plan; and comply with conditions in Stormwater Construction Permits, the State Section 401 Water Quality Certification Permit, and USACE Section 404 Permits; and other applicable regulations.

Status of Cape Fear River Critical Habitat:

According to the June 3, 2016 Federal Register notice on proposed *Endangered and Threatened Species; Critical Habitat for the Endangered Carolina and South Atlantic Distinct Population Segments of Atlantic Sturgeon*, NOAA Fisheries states that the telemetry data have not indicated Atlantic sturgeon passage above Lock and Dam #1; however, they believe that fish passage is possible based on reports of Atlantic sturgeon above Lock and Dam #1. Lock and Dam #2, which is located approximately 31.5 river miles above Lock and Dam #1, is the proposed upper limit of the occupied critical habitat of Atlantic sturgeon. The Cape Fear River segment above Lock and Dam #2 up to Lock and Dam #3 (approximately 23 river miles) has been proposed as unoccupied critical habitat by Atlantic sturgeon because it has been deemed by NOAA Fisheries to be essential for the conservation of the species.

The ACP crosses the Cape Fear River by HDD approximately 3.25 river miles above (upstream) Lock and Dam #3 (upper most point of proposed unoccupied critical habitat for Atlantic sturgeon). Based on the fact that Atlantic is proposing to cross the Cape Fear River via HDD with an approved inadvertent return contingency plan 3.25 river miles above the uppermost point of the unoccupied critical habitat, over 26 river miles above the uppermost point of potentially occupied critical habitat, and nearly 57 river miles above the uppermost point of NOAA Fisheries confirmed presence habitat (based on telemetry data), Atlantic does not anticipate adverse effects to Atlantic sturgeon or its proposed critical habitat in the Cape Fear River.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 54 **Question Subpart:** N/A

Question:

According to FWS Virginia Field Office and VDGIF, there are documented occurrences of the Roanoke logperch within Butterwood Creek (AP-1 MPs 249.1 and 253.7), and within Waqua Creek (AP-1 MP 267.4). In addition, Atlantic confirmed suitable habitat for this species at these locations during 2016 habitat assessments. Based on the low detectability of this species during individual surveys, presence of this species should be assumed at both Butterwood Creek and Waqua Creek. Confirm that Atlantic would assume presence in these waterbodies. Based on this assumption, provide an inadvertent release probability analysis for an HDD of Butterwood Creek at both crossing locations (AP-1 MPs 249.1 and 253.7), and Waqua Creek (AP-1 MP 267.4). If the probability of an inadvertent release is low, the FWS recommends using the HDD method at these crossings to avoid potential impacts on Roanoke logperch. If an HDD is not feasible, consult with the FWS to identify additional conservation measures that would be implemented to avoid, minimize or mitigate for the potential take of this species, provide copies of this correspondence, and identify the conservation measures that Atlantic would implement.

Response:

Atlantic's consultation with FWS regarding these streams is ongoing.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 55 **Question Subpart:** N/A

Question:

Because presence of ESA-listed and/or under review species have been documented and/or assumed at these crossing locations, provide an inadvertent release analysis of Nottoway River (AP-1 MP 260.7), Sturgeon Creek (AP-1 MP 272.0), and Neuse River (AP-3 MP 98.5) crossing locations. If the probability of an inadvertent release is low, the FWS recommends using the HDD method at these crossings to avoid potential impacts to ESA-listed and/or under review species. If HDD is not feasible, consult with the FWS to identify additional conservation measures that would be implemented to mitigate potential take, provide copies of this correspondence, and identify the conservation measures that Atlantic would implement.

Response:

Atlantic's consultation with FWS regarding these streams is ongoing.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 56 **Question Subpart:** N/A

Question:

The FWS North Carolina Field Office has indicated that due to similarity in habitat requirements between Neuse River waterdog and Carolina madtom, where suitable habitat is identified for one species, it is likely to be suitable for the other. Furthermore, due to the low detectability of Carolina madtom during individual surveys, Carolina madtom presence should be assumed where suitable habitat has been identified. Consult with the FWS North Carolina Field Office regarding this concern and provide updated tables 5.3.2-1 and 5.9.2-1 of the Applicant-Prepared BA based on these consultations. Describe the conservation measures that would be implemented where assuming presence of Carolina madtom.

Response:

Atlantic will consult with the North Carolina FWS Field Office regarding habitat suitability for the Neuse River waterdog and Carolina madtom and will provide Carolina madtom conservation measures in May 2017 for presence-assumed locations per consultation with the FWS. Additionally, Atlantic will implement the *North Carolina Fish and Other Aquatic Taxa Removal and Relocation Plan* at these crossings, as applicable.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 57 **Question Subpart:** N/A

Question:

Confirm that none of the waterbodies where the Carolina madtom or Chowanoke crayfish are assumed to be present or were observed during field surveys would require blasting.

Response:

Chowanoke crayfish are assumed present in the Roanoke River; no blasting will be conducted in this river. Carolina madtom were identified during survey in Swift Creek, Contentnea Creek, and Little River; no blasting will be conducted in these waterbodies. Presence is assumed for Carolina madtom in Fishing Creek, Tar River, and Neuse River, but habitat was not suitable at any of the crossing locations for these waterbodies; no blasting will be conducted in Fishing Creek, Tar River, or Neuse River.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 58 **Question Subpart:** N/A

Question:

The January 27, 2017 Applicant-Prepared BA indicates that 56 karst features were delineated in Augusta County within the survey corridor within the Madison Cave isopod priority area/suitable habitat (MPs 123.7 to 149.6) (page 184); however, table 5.12.2-1 only identifies 55 features. Resolve this discrepancy.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 59 **Question Subpart:** N/A

Question:

The FWS Virginia Field Office indicated that they provided Atlantic with a list of sensitive karst features on December 7, 2016 (K. Smith to Throndson email). Provide an updated table 5.12.2-1 of the Applicant-Prepared BA that includes these sensitive karst features.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 60 **Question Subpart:** N/A

Question:

Provide an explanation of the criteria and process that Atlantic used to determine presence of Madison Cave isopod within the karst features identified in table 5.12.2-1 of the Applicant-Prepared BA.

Response:

Using field survey data collected for karst features by the karst specialists for the Project, potentially suitable habitat for the Madison Cave isopod was defined as: 1) features that fell within the Madison Cave isopod priority area/suitable habitat area (as identified in the FWS's Virginia Ecological Services Strategic Plan) and 2) features described as being open throat and/or having a potential drainage were assumed to be potentially suitable habitat where the Madison Cave isopod may occur. At these features, Madison Cave isopod was assumed present, due to the difficulty in conducting accurate surveys for the species.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 61 **Question Subpart:** N/A

Question:

In table 5.12.2-1 of the Applicant-Prepared BA, at some karst features Atlantic indicates that "impacts to 25-foot buffer are anticipated, install graded filter". Clarify what is meant by "impacts to 25-foot buffer are anticipated." If workspace or access roads are located within the 25-foot buffer, describe if Atlantic has explored reroutes or neckdowns to increase the distance between the karst feature and construction workspace or access road.

Response:

The phrase "impacts to 25-foot buffer…" means that a feature is close enough to the centerline and trench excavation that there will be soil disturbance within the 25-foot buffer planned around that feature. If this is the case, options will be explored to either divert the centerline within an acceptable margin inside of the planned workspace, to utilize neck downs, or reroutes, thus allowing the 25-foot buffer to remain intact. The installation of a graded filter will only be considered if these other avoidance/mitigation measures are not practical based on site specific conditions.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 62 **Question Subpart:** N/A

Question:

Revise table 5.12.2-1 of the Applicant-Prepared BA to include the direction of the karst feature relative to the workspace or access road.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 63 **Question Subpart:** N/A

Question:

Presence of ESA-listed aquatic species does not need to be assumed at Little Creek (AP-3 MP 86.5) in Johnston County, North Carolina. The occurrences that have been documented by the FWS and Natural Heritage Inventory are for a different Little Creek that is a perennial tributary to Swift Creek and is not currently crossed by ACP. Update the Applicant-Prepared BA and corresponding waterbody tables accordingly.

Response:

Atlantic and DTI will remove the assumed presence of ESA-listed species in Little Creek in Johnston County, North Carolina. Additionally, the update to the master waterbody crossing table which Atlantic and DTI anticipate filing in May 2017 will remove the assumed presence of ESA-listed species at this crossing. Atlantic will continue to consult with the FWS and will respond to their questions and requests directly and/or with filing supplemental information to the Applicant-Prepared BA, as needed.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 64 **Question Subpart:** a-h

Question:

Based on correspondence with the FWS, mussels should be assumed at the following waterbodies and all perennial tributaries within 1 mile upstream and downstream of these waterbodies, based on documented occurrences of these species. Update the Applicant-Prepared BA and corresponding waterbody tables accordingly.

a. Dwarf wedgemussel: Nottoway River (both crossings), Virginia; and Rocky Swamp, Little River, North Carolina (not Little Creek, North Carolina);

b. Clubshell: Hacker's Creek, West Virginia (not McElroy Creek, West Virginia);

c. James spinymussel: Cowpasture River, Mill Creek, Virginia (not Cape Fear River, North Carolina);

d. Snuffbox: McElroy Creek, West Fork River, West Virginia;

e. Tar River spinymussel: Fishing Creek, Swift Creek, Little River, Tar River, North Carolina;

f. Yellow lance: Nottoway River (both crossings), Virginia; and Swift Creek, Tar River, Little River, and Fishing Creek, North Carolina (not the Neuse River);

g. Atlantic pigtoe: NottowayRiver (AP-3 MP 32.6), Appomattox River, Mill Creek, Virginia; and Roanoke River, Little River, Cape Fear River, North Carolina (not the Neuse River); and

h. Green floater: Greenbrier River, West Virginia; James River, Mayo Creek, UNT tributaries to the James River (MPs 184.9 and 185.4) Meherrin River (both crossings), Virginia; and Roanoke River, Swift Creek, Tar River, and Neuse River, North Carolina.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 65 **Question Subpart:** N/A

Question:

The FWS recommends implementing the VDGIF time of year restriction for James spinymussel for all in-water activities at Cowpasture River and Mill Creek. If surveys identify James spinymussel at Calfpasture River (AP-1 MPs 111.4, 112.2, 113.5, and 116.7) or Jackson River (AP-1 MP 91.5), FWS would also recommend implementation of the VDGIF time of year restriction at these locations, including water withdrawal activities. Confirm if Atlantic would implement these conservation measures and update the Applicant-Prepared BA and corresponding waterbody tables accordingly.

Response:

Time of year restrictions for James spinymussel for in-stream activities, including water withdrawals, will be implemented at Cowpasture River and Mill Creek. In comments provided on March 28, 2017 on the January 27, 2017 Applicant-Prepared BA, the FWS stated

> If federally listed mussels or mussels under review are not identified during the remaining surveys in Calfpasture and Jackson Rivers, then the Service will not recommend time-of-year restrictions. However, if federally listed mussels or mussels under review are identified during these surveys, we recommend that water should not be withdrawn from or discharged to those waters. If applicant continues to pursue this they should include an alternatives analysis showing this is the only option along with the stringent measures they will include to minimize impacts.

Time of year restrictions for in-stream activities, including water withdrawals, will be implemented if James spinymussel is identified during surveys in either the Calfpasture or Jackson Rivers. These conservation measures will be provided to the FWS in May 2017. Atlantic will continue to consult with the FWS and will respond to their questions and requests directly and/or with filing supplemental information to the Applicant-Prepared BA, as needed.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 66 **Question Subpart:** N/A

Question:

If the construction workspace has moved to avoid impacts on an ESA-listed plant population, expand the survey corridor by 150 feet from the edge of the workspace and conduct additional surveys in the expanded survey corridor to verify that additional individuals are not located adjacent to the construction workspace or access roads, and to account for indirect impacts (e.g., downslope erosion and sedimentation, changes in light regime) on federally listed plants.

Response:

Atlantic surveyed for federally listed plant species along a 300-foot-wide study corridor on the ACP mainline route and a 50-foot-wide study corridor on proposed access roads. The edge of the study corridor was measured 150 feet and 25 feet, respectively, from the proposed pipeline and access road centerline to establish the 300-foot and 50-foot corridors. As the route has been adjusted, the survey corridor was expanded to incorporate a 150-foot buffer on the newly proposed centerline, not the edge of workspace. The survey protocols developed by Atlantic and reviewed and approved by the resource agencies included this approach. Atlantic will continue to survey according to the approved protocols, which includes maintaining a 150-foot and 25-foot buffer from the centerline of the proposed pipeline and access road centerline, respectively.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 67 **Question Subpart:** N/A

Question:

Note that the FS Land Resource Management Plans for the MNF do not allow for activities that result in adverse impacts on several federally listed species located within the MNF, including the small whorled pogonia. The FWS recommend providing additional analysis and several additional conservation measures be implemented to mitigate for impacts on the small whorled pogonia populations identified on the MNF and GWNF per the FWS comments on the January 27, 2017 version of the Applicant-Prepared BA (comments on small whorled pogonia evaluation report) submitted to Atlantic and DTI on March 28, 2017. Provide Atlantic's response to FWS comments on the small whorled pogonia evaluation report and Applicant-Prepared BA, and confirm that Atlantic would commit to the implementation of FWS recommended conservation measures for this species. If any of these would not be implemented, describe why they do not apply and/or what alternative measures Atlantic and DTI propose to implement and verify that they are acceptable to the FWS and FS.

Response:

Additional detail regarding the small whorled pogonia analysis will be provided to the FWS in May 2017. Atlantic will continue to consult with the FWS and will respond to their questions and requests directly and/or with filing supplemental information to the Applicant-Prepared BA, as needed.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 68 **Question Subpart:** N/A

Question:

Atlantic and DTI have committed to avoidance of direct impacts on ESA-listed plant species should they be observed during future surveys prior to construction. In addition, the FWS has recommended consultation for ESA-listed plant species documented within the survey corridor adjacent to the workspace or access roads to account for potential indirect impacts on ESA-listed plant species. Confirm that Atlantic and DTI would consult with the FWS should any ESA-listed plant species be documented within the survey corridor in future survey efforts.

Response:

Atlantic and DTI will consult with the FWS should any ESA-listed plant species be documented within the survey corridor in future survey efforts.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 69 **Question Subpart:** N/A

Question:

Provide environmental constraints mapping to the FWS for review and concurrence prior to construction that identifies the avoidance and minimization measures to be implemented for the ESA-listed and under review species, including timing restrictions by pipeline spread by county. These maps would be utilized by EIs and monitors during construction to ensure compliance with Section 7 consultation.

Response:

Atlantic and DTI will provide environmental constraints mapping (as an electronic map layer) to the FWS for review and concurrence prior to construction. The mapping will identify the avoidance and minimization measures to be implemented for the ESA-listed and under review species, including timing restrictions, by pipeline spread and county.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 70 **Question Subpart:** N/A

Question:

In the March 10, 2017 version of the draft BE, section 5.5.7.1, Atlantic commits to replant "all additional temporary workspaces and the outermost portions of the construction right-of-way, including 20 feet on the working side and 13 feet on the spoil side" with a combination of indigenous tree and shrub seedlings on NFS lands as referenced in the COM Plan (attached to the draft BE as appendix C). In addition, Atlantic commits to shaping or feathering right-of-way edges by retaining forest vegetation up to 10 feet into the construction right-of-way along straight-line tangents of pipeline corridor that are visible to the public. However, section 20.2 of the COM Plan states that "Atlantic is considering active planting of the outermost 20 feet of the working side of the construction right-of-way and the remaining 13 feet of the spoil side of the construction right-of-way, including all additional temporary extra workspace areas, with a combination of indigenous tree and shrub seedlings. If replanting is conducted, tree and shrub species, seed stocks, and planting densities…" Furthermore, section 20.1 states that "Atlantic is considering "feathering" the edges of the right-of-way during construction on NFS lands." Clarify Atlantic's commitments regarding replanting of native tree and shrub seedlings and feathering on NFS lands, and update the appropriate FS documents, including the draft BE and the COM Plan, accordingly.

Response:

Atlantic's intent, assuming approval by the USFS, is to replant all additional temporary workspaces and the outermost portions of the construction right-of-way, including 20 feet on the working side and 13 feet on the spoil side, with a combination of indigenous tree and shrub seedlings on National Forest Service lands. In addition, Atlantic also intends, pending USFS approval of the revised COM Plan, to shape or feather right-of-way edges on National Forest Service lands by retaining the existing forest vegetation up to 10 feet into the construction right-of-way along straight-line tangents of pipeline corridor in areas that are visible to the public. The wording in Atlantic's draft COM Plan and draft BE will be revised in the next versions to indicate Atlantic's commitment to replanting the right-of-way within National Forest Service lands as described above.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 71 **Question Subpart:** N/A

Question:

As requested in our October 26, 2016 Data Request No. 28.k, during 2015 and 2016 field surveys, Atlantic identified American ginseng (*Panax quinquefolius*), a Virginia state-listed species, within the construction right-of-way. The GWNF has requested that Atlantic prepare a Relocation Plan for American ginseng to outline the conservation measures that would be implemented, including transplantation. Prepare an American Ginseng Relocation Plan that fully describes the conservation measures, and the conservation measures that would apply to the American willow-herb and American vetch, developed in coordination with the GWNF to be included with the COM Plan.

Response:

Atlantic anticipates filing an *American Ginseng Relocation Plan* in June 2017 after relocation habitat surveys are completed in the Spring of 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Special Status Species

Question Number: 72 **Question Subpart:** N/A

Question:

Based on VDGIF correspondence dated February 7, 2017, additional surveys are pending for both the eastern tiger salamander and Mabee's salamander. Provide the results of these surveys and conservation measures that would be implemented if either species is detected or presence is assumed.

Response:

Wetlands surveyed for eastern tiger salamander and Mabee's salamander in 2016 with negative results will be re-surveyed in 2017 as required by the approved survey protocols. For newly identified or previously inaccessible wetlands, a desktop habitat assessment will be conducted, and any wetlands characterized as having suitable habitat for the species will be surveyed using previously approved protocols. The results of the desktop assessment and field surveys will be provided in a forthcoming report in June 2017. If occupied wetlands are identified Atlantic will coordinate with the VDGIF herpetologist to determine site specific appropriate measures and will implement erosion control measures such as sediment barriers to prevent the movement of sediment from the construction workspace into the wetlands.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 73 **Question Subpart:** N/A

Question:

In the VDGIF correspondence dated February 7, 2017, VDGIF requested that Atlantic and DTI consider the recently added Virginia Species and Greatest Conservation Need (SGCN) species including the eastern red bats, hoary bats, and silver-haired bats in analysis of impacts and potential conservation measures. Provide an analysis of potential impacts to these species and any conservation measures that Atlantic and DTI would implement to mitigate these impacts.

Response:

Atlantic has considered impacts to previously listed SGCN and provided tables of SGCN and the general conservation measures to be implemented by the Project to minimize potential impacts to these species (FERC Accession Number 20160729-5256). Potential impacts to recently incorporated SGCN, including eastern red bats, hoary bats, and silver-haired bats, will be assessed as requested and an updated SGCN analysis will be provided in June 2017.

Atlantic previously committed to beginning site preparation and clearing activities in November 2017 which avoids the active summer roosting season and fall swarming periods for bats. Detailed discussion of conservation measures for all previously known and newly documented hibernacula for federally listed bats is provided in the updated draft Applicant Prepared Biological Assessment filed on January 27, 2017 (FERC Accession Number 20170127-5203). These conservation measures also apply to other bat species. Project-specific measures that will be implemented that may contribute to minimizing impacts on listed bat species are listed in Table 73-1.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

TABLE 73-1

Project-Specific Minimization Measures for Protected Bat Species

Minimization Measure	Potential Result of Measure
Utilize routing as a tool to avoid impacts on discrete habitats and environmental features.	Minimize impacts to forested habitats used for roosting and foraging.
Atlantic and DTI have collocated facilities with existing pipeline facilities, electric transmission lines, transportation corridors, or recently disturbed areas to minimize habitat fragmentation.	Minimize habitat fragmentation.
Additional temporary workspaces will be located in upland areas a minimum of 50 feet from the wetland edge (with the exception of site-specific modifications as requested by Atlantic and DTI and approved by the FERC).	Minimize impacts on drinking water and prey species.
Prior to initiating pre-clearing activities and construction, conduct environmental training for company and contractor supervisory personnel.	Ensures Project personnel are complying with Project permits and environmental plans.
Hire Environmental Inspectors to monitor compliance during the construction and restoration phases of the Projects.	Ensures Project personnel are complying with Project permits and environmental plans.
Minimize tree removal during construction.	Minimize impacts to forested habitats used for roosting and foraging.
Equipment refueling and lubricating at waterbodies will typically occur in upland areas that are 100 feet or more from the edge of the waterbody and adjacent wetlands.	Minimize impacts on drinking water and prey species.
Implement the SPCC Plan.	Minimize impacts on drinking water and prey species.
Restore streambeds and banks to pre-construction contours and stabilize following construction.	Minimize impacts on drinking water and prey species.
Install permanent erosion and sediment controls as described in the Plan and Procedures and the Erosion and Sediment Control Plan.	Minimize impacts on drinking water and prey species.
Install temporary equipment crossings to reduce the potential for turbidity and sedimentation resulting from construction equipment and vehicular traffic crossing waterbodies.	Minimize impacts on drinking water and prey species.
Discharge water back to the waterbody after filtration or settling through an approved holding structure to avoid affecting water quality.	Minimize impacts on drinking water and prey species.
Karst protection measures as described in section 2.8.2.9 and in Attachment F of the Applicant-Prepared BA.	Minimize impacts on potential hibernacula.

Category: Special Status Species

Question Number: 74 **Question Subpart:** N/A

Question:

Per the VDGIF February 7, 2017 letter, confirm that Atlantic would adhere to the April 1 through July 31 time of year restriction for the state threatened Loggerhead Shrike in the Rockfish Valley Region of Nelson County, in addition to Highland, Bath, and Augusta Counties (outside of MPs 114.8-126.0 where surveys were completed).

Response:

Atlantic originally planned to adhere to the recommended time of year restrictions (from March 15 to August 31) in Bath, Highland, and Augusta Counties, except for mileposts 114.8-126 in Augusta County, Virginia. Therefore, Atlantic coordinated with the VDGIF and GWNF to conduct loggerhead shrike surveys within the 11-mile segment between mileposts 114.8-126 in 2016. No loggerhead shrikes or signs of the species were detected during survey. Survey methodology and results were provided to the VDGIF and GWNF in the *Virginia Segment Habitat and Presence/Absence Survey Report for the Loggerhead Shrike (Lanius ludovicianus) 2016 Field Season* on August 8, 2016. However, Atlantic plans to clear all vegetation in Bath, Highland, Rockfish Valley in Nelson, and Augusta Counties outside of the March 15 through August 31 timeframe. No impacts are expected to loggerhead shrikes.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 75 **Question Subpart:** N/A

Question:

The VDGIF identify Fountains Creek as a confirmed Anadromous Fish Use Area crossed by ACP. The Master Waterbody Crossing table (3/24/17 version) identifies three open cut crossings of "Fontaine Creek" at AP-1 MPs 299.4 (2) and 299.6, and 2 crossings of "UNT to Fountains Creek" at AP-1 MPs 296.9 and 297.4. Clarify if the three crossings at AP-1 MPs 299.4 and 299.6 are actually of "Fountains Creek" referenced by the VDGIF instead of "Fontaine Creek" or if the unnamed tributaries are incorrectly named.

Response:

The USGS 7.5 minute quadrangle maps of this area use Fontaine Creek and Fountains Creek interchangeably for the same creek. Impact tables will be updated to reflect this correction.

Fontaine Creek is anastomosed at the AP-1 (MP 299.4 – 299.6) crossing locations. The three open cut crossings of "Fontaine Creek" indicated in the 3/24/17 version of the master waterbody crossing table include crossings of three individual channels of one waterbody (Fontaine Creek). The master waterbody crossing table will be revised to indicate a single crossing of this anastomosed waterbody.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 76 **Question Subpart:** N/A

Question:

Note that the VDGIF provided updated time of year restrictions for construction activities within 0.25 mile of rookeries to extend from February 1 through July 31; confirm that Atlantic would adhere to this time of year restriction and update the Migratory Bird Plan accordingly.

Response:

On April 12, 2017, a letter was sent to the Virginia Department of Game and Inland Fisheries (FERC Accession Number 20170412-5098) regarding four rookeries within the 0.25 mile buffer restriction area. Due to other human activities or inactivity at three rookeries, Atlantic does not believe the activity restrictions at these three rookeries are required. At a fourth rookery, the HDD workspace reaches the edge of the restriction buffer and Atlantic has asked for relief of the restriction to complete the HDD due to the distance of the rookery to the workspace and inactivity of the rookery at the time of survey. These updates will be included in an update to the *Migratory Bird Plan* which Atlantic and DTI anticipate filing in May 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 77 **Question Subpart:** N/A

Question:

The VDGIF has requested consideration of impacts and conservation measures for the Golden-Winged Warbler and Cerulean Warbler in several comment letters to Atlantic and DTI. These species were not addressed in Atlantic's Species Impacts and Conservation Measures table filed March 24, 2017, nor are they addressed in the Migratory Bird Plan. Provide an impact analysis as requested by the VDGIF in its February 7, 2017 letter, and describe the conservation measures that would be implemented to mitigate potential impacts to these species.

Response:

Atlantic will clear vegetation outside of the nesting season for the golden-winged warbler and the cerulean warbler; therefore, no direct impacts on nesting birds are expected. Temporary loss of suitable habitat could occur during construction; however, the temporary construction right-of-way will be restored and permanent loss of forest will be minimized over time. The *Migratory Bird Plan* describes impacts from forest fragmentation on interior forest birds, such as the golden-winged warbler and cerulean warbler, and includes conservation measures for migratory birds, which will also minimize impacts on cerulean warblers. Atlantic and DTI anticipate filing an update to the *Migratory Bird Plan* and a revised forest fragmentation analysis in May 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 78 **Question Subpart:** a-h

Question:

As requested in our October 26, 2016 Data Request No. 29, based on the 2015 Supply Header Project West Virginia Plant Report and the 2016 Interim West Virginia Botany Report, the following SGCN species were identified during surveys; however, based on the information provided, it is not clear if the individuals documented are located within the ACP and/or SHP construction workspace and would be directly impacted by the projects, or are located adjacent to the workspace. Provide a description of the impacts on each of these West Virginia SGCN species from construction and operation of ACP and/or SHP, and description of the conservation measures, developed in coordination with the West Virginia Division of Natural Resources (WVDNR) that would be implemented to avoid or minimize impacts on these species:

a. Brome-like sedge (*Carex bromoides ssp. bromoides*) (ACP);

b. Troublesome sedge (*Carex molesta*) (SHP);

c. Necklace sedge (*Carex projecta*) (SHP);

d. False Indian-plantain (*Hasteola suaveolens*) (SHP);

e. Butternut (*Juglans cinerea*) (ACP);

f. Four-flowered loosestrife (*Lysimachia quadriflora*) (SHP);

g. Smooth hedge-nettle (*Stachys tenuifolia*) (ACP and SHP); and

h. Bashful bulrush (*Trichophorum planifolium*) (ACP).

Response:

Surveys for SGCN species were not requested by the WVDNR; however, Atlantic and DTI documented occurrences of the species when they were encountered by field crews during plant surveys for the ACP and SHP. Detailed information on these species findings, such as GPS location and population size, was not collected if field identification was uncertain and required verification in the laboratory or herbarium cross-reference. In some cases, population location cannot be confirmed within or beyond the Project workspace based on the available survey data; direct impacts were assumed where populations could not be confirmed outside the workspace. Information of SGCN species is provided in Table 78-1; this table includes population impact acreages, where available.

Conservation measures for West Virginia SGCN on the SHP and ACP were filed with FERC on July 29, 2016 (FERC Accession Number 20160729-5256). Conservation measures are based in part on the plans, references, and guidelines listed below:

- FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures);
- Atlantic and DTI's *Fire Prevention and Suppression Plan* (FPSP);
- Atlantic and DTI's *Invasive Plant Species Management Plan* (IPSMP);
- Atlantic and DTI's *Restoration and Rehabilitation Plan* (RRP) (includes seed mixes, rates, and seeding locations by County/City; the use of only native forb species; and incorporation of measures consistent with the National Strategy to Promote Pollinator Health);
- Atlantic and DTI's *Spill Prevention, Control, and Countermeasures Plan* (SPCCP);
- Atlantic and DTI's *Construction, Operations, and Maintenance Plan* (COMP) for activities on USFS lands;
- Atlantic and DTI's *Timber Removal Plan* (TRP);
- Atlantic and DTI's *Fugitive Dust Control and Mitigation Plan* (FDCMP); and
- West Virginia Division of Environmental Protection's *Erosion and Sediment Control Best Management Practice Manual* (ESCBMPM) (2006).

Some of the conservation measures identified in these plans, references, and guidelines apply to all habitats and are referred to as "General Measures" in Table 78-1.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

TABLE 78-1

Impacts to Plant Species of Greatest Conservation Need in West Virginia on the Atlantic Coast Pipeline and Supply Header Project [a]

Species Common and Scientific Name	Status [b]	Managing Agency	2015 Survey Occurrences [c]	2016 Survey Occurrences [c]	Impact Summary	Impact Acreage	Conservation Measures
Atlantic Coast Pipeline							
Brome-like Sedge (*Carex bromoides* ssp. *bromoides*)	S3	WVDNR	Population found in MNF	Population found in a forested wetland on private land near MP 72.2 in Pocahontas County	2015 population avoided by a reroute; 2016 population crosses workspace. A direct impact to the population is expected.	0.25	Procedures; reduced construction width (75 feet); ATWS wetland/waterbody buffer (50 feet); wetland habitat mitigation—TBD based on CWA Section 404 permitting through the COE; TRP; FDCMP; IPSMP; general measures
Troublesome sedge (*Carex molesta*)	S3	WVDNR	Found on private land	None	Population may be within workspace; direct impact assumed.	NA [d]	Procedures; reduced construction width (75 feet); ATWS wetland/waterbody buffer (50 feet); wetland habitat mitigation—TBD based on CWA Section 404 permitting through the COE; TRP; FDCMP; IPSMP; general measures
Butternut (*Juglans cinerea*)	S3	WVDNR	Single tree found on private land in Randolph County	Single tree found on private land near MP 76.6 in Pocahontas County.	2015 tree on avoided by reroute; 2016 tree outside construction workspace.	0.0	None
Four-flowered loosestrife (*Lysimachia quadriflora*)	S1	WVDNR	None	Found in MNF along lower half of FR 1012 (access road 05-001-E064.AR1).	No direct impact expected. Occurrence should have been reported as *Lysimachia quadrifolia*; no change to existing road (FR 1012) footprint anticipated.	0.0	None
Smooth hedge-nettle (*Stachys tenuifolia*)	S3	WVDNR	None	None	No direct impact expected. No direct impact expected.	0.0	None

TABLE 78-1 (continued)

Impacts to Plant Species of Greatest Conservation Need in West Virginia on the Atlantic Coast Pipeline and Supply Header Project [a]

Species Common and Scientific Name	Status [b]	Managing Agency	2015 Survey Occurrences [c]	2016 Survey Occurrences [c]	Impact Summary	Impact Acreage	Conservation Measures
Bashful bulrush (*Trichophorum planifolium)*	S1	WVDNR	None	Found on MNF land between MP 81.2-81.4; species was identified in the lab	Population may be within workspace; direct impact assumed.	NA [d]	TRP; FDCMP; IPSMP; general measures
Supply Header Project							
Troublesome sedge (*Carex molesta*)	S3	WVDNR	Found on private land	None	Population may be within workspace; direct impact assumed.	NA [d]	TRP; FDCMP; IPSMP; general measures
Necklace sedge (*Carex projecta*)	S3	WVDNR	Found on private land	None	Population may be within workspace; direct impact assumed.	NA [d]	Procedures; reduced construction width (75 feet); ATWS wetland/waterbody buffer (50 feet); TRP; FDCMP; IPSMP; general measures
False Indian-plantain (*Hasteola suaveolens*)	S3	WVDNR	Found on private land	None	Population may be within workspace; direct impact assumed.	NA [d]	TRP; FDCMP; IPSMP; general measures
Butternut (*Juglans cinerea*)	S3	WVDNR	Found on private land	None	Population may be within workspace; direct impact assumed.	NA [d]	TRP; FDCMP; IPSMP; general measures
Four-flowered loosestrife (*Lysimachia quadriflora*)	S1	WVDNR	None	None	No direct impact expected.	0.0	None

[a] Species in the ACP Project area based on field data from the 2015 and 2016 field seasons; SHP results are from 2015 field surveys.

[b] State ranking indicates relative species rarity: critically imperiled (S1) or imperiled (S2) or vulnerable (S3).

[c] Additional surveys will occur in 2017 at locations where access was restricted. See species survey reports for more details on incomplete survey areas. Atlantic will consult with the necessary agencies regarding additional surveys.

[d] Impact acreage cannot be calculated. Though S1-S3 species encountered during Project-wide surveys were documented, detailed occurrence information, including GPS location and population size, was not collected for species that were verified in the laboratory or herbarium cross-reference.

Notes: ATWS = additional temporary workspace; COE = U.S. Army Corps of Engineers; CWA = Clean Water Act; FDCMP = Fugitive Dust Control and Mitigation Plan; IPSMP = Invasive Plant Species Management Plan; MNF = Monongahela National Forest; NA = not applicable; WVDNR = West Virginia Division of Natural Resources; TBD = to be determined; TRP = Timber Removal Plan

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Special Status Species

Question Number: 79 **Question Subpart:** N/A

Question:

As requested in our October 26, 2016 Data Request No. 34, based on correspondence provided by Atlantic with the NCWRC, Atlantic committed to preparing a desktop habitat assessment for the Bachman's Sparrow and Cerulean Warbler. Provide a desktop habitat assessment for the Bachman's Sparrow and Cerulean Warbler in North Carolina, describe the potential impacts to the Bachman's sparrow and its suitable habitat, and describe any conservation measures, developed in coordination with the NCWRC, that Atlantic would implement to avoid or minimize impacts to this species.

Response:

The cerulean warbler and the Bachman's sparrow are birds of conservation concern, which are discussed in Atlantic's and DTI's *Migratory Bird Plan*. As noted in other responses, Atlantic and DTI anticipate filing an update to this plan in May 2017. A detailed analysis for the Bachman's sparrow and cerulean warbler species is not appropriate in the *Migratory Bird Plan* as the plan was developed to address impacts on all migratory birds listed in 50 CFR 10.13 under the jurisdiction of the FWS. A desktop habitat assessment and species description for or the Bachman's sparrow and cerulean warbler was provided in a response to Atlantic's August 12, 2016 data request filed on August 23, 2016 (FERC Accession Number 20160823-5194). Atlantic will use conservation measures that will avoid or minimize impacts to the cerulean warbler including the following: implementing the applicable measures described in the *Migratory Bird Plan*; conducting tree clearing and vegetation maintenance outside the primary bird nesting season; reducing the width of the constructions corridor in wetlands (75 feet); using a workspace wetland buffer of 50 feet; implementing wetland habitat mitigation; and implementing the FERC Plan, which does not allow routine vegetation maintenance clearing more frequently than every 3 years, with the exception of a 10-foot-wide corridor centered over the pipeline.

Atlantic will complete a review of the current proposed route and the previously provided desktop habitat assessment and will provide an update in May 2017, if necessary.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

LAND USE, SPECIAL INTEREST AREAS, AND VISUAL RESOURCES

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Land Use, Special Interest Areas, and Visual Resources

Question Number: 80 **Question Subpart:** N/A

Question:

Provide revised land use, special interest area, and visual resources impact tables that reflect areas affected by the most currently proposed route and right-of-way configurations. This includes, but is not limited to, route variations adopted since issuance of the draft EIS, areas where the construction right-of-way has changed based on agency or landowner discussions, and areas where the permanent right-of-way along the AP-1 mainline would be reduced to 50 feet (per Staff Recommendation 13 of the draft EIS). The tables may be presented in their original format (per the resource reports, per a data request response, etc.); however, to accommodate updates, the information provided should contain data and details equivalent to that presented in the tables found in the draft EIS.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Land Use, Special Interest Areas, and Visual Resources

Question Number: 81 **Question Subpart:** N/A

Question:

Clarify if the project would cross any certified, or transitioning to certified, organically managed lands beyond the organic farms identified in the draft EIS, such as lands in the Pocahontas Organic District in Pocahontas and Randolph Counties, West Virginia (Accession Number 20170310-0104). If organically managed lands would be affected by the project, identify their location, the crop(s) grown, and construction and operation impacts (acres), and verify that Atlantic would develop a site-specific Organic Farm Protection Plan for these organic lands in addition to certified organic farms.

Response:

Upon review of our records, Atlantic can confirm that the ACP does not cross any certified, or transitioning to certified, organically managed lands beyond the organic farms identified in the draft EIS, including lands in the Pocahontas Organic District in Pocahontas and Randolph Counties, West Virginia.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Land Use, Special Interest Areas, and Visual Resources

Question Number: 82 **Question Subpart:** a-b

Question:

In response to comments on the draft EIS, address the following regarding access roads:

a. Describe how Atlantic would accommodate construction equipment and vehicles on public roads where the road is narrower than that previously discussed as needed to accommodate equipment (30 feet), located in steep terrain, etc. and no improvements have been identified by Atlantic; and

b. For each access road where an improvement is required, clarify what specific improvement or modification would occur. Provide a revised access road table that identifies this information.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Land Use, Special Interest Areas, and Visual Resources

Question Number: 83 **Question Subpart:** N/A

Question:

Provide an update of Atlantic's consultations with the Virginia Outdoors Foundation regarding easement crossings.

Response:

Atlantic filed information with FERC providing an update on the Virginia Outdoors Foundation easement crossings in a Supplemental Filing on March 31, 2017 (FERC Accession Number 20170331-5087).

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
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Category: Land Use, Special Interest Areas, and Visual Resources

Question Number: 84 **Question Subpart:** N/A

Question:

Describe how Atlantic and DTI would deter unauthorized access of its permanent right-of-way, which could prohibit or prolong revegetation efforts.

Response:

Berms will be placed across the right-of-way where it intersects an existing road. Berm slopes shall not exceed 30 percent. Berms will be placed across the right-of-way as part of erosion control, and will be strategically placed to reduce visibility and mimic local topography.

Large rocks, stumps, limbs, and related material removed and stockpiled during construction will be strategically placed, without making it appear as a challenging obstacle course. The placement will be done in a manner to present a physical barrier as well as to erase visual cues signaling the presence of the right-of-way from the access point.

Where deemed appropriate by the landowner, locking gates may be installed according to Atlantic's specifications. Gate openings will be a minimum of 16 feet wide to accommodate pipeline maintenance vehicles and equipment.

Signs warning the public that OHV use is prohibited along the pipeline right-of-way will be installed if requested by the property owner. Signs may dissuade some OHV users.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

SOCIOECONOMICS

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Socioeconomics

Question Number: 85 **Question Subpart:** N/A

Question:

Confirm that Atlantic would coordinate with the Virginia Department of Transportation to address the conditions set forth in their letter dated March 6, 2017 (Accession Number 20170306-5044).

Response:

Atlantic has met with the Virginia Department of Transportation (VDOT) to address any concerns they might have with the Project. During the meetings, Atlantic addressed the conditions set forth in VDOT's letter dated March 6, 2017 (Accession Number 20170306-5044) and affirmed Atlantic's commitment to abide by VDOT's conditions.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Socioeconomics

Question Number: 86 **Question Subpart:** N/A

Question:

Describe how waste would be disposed of during construction, and confirm that disposal facilities would have the capacity to dispose of project-related waste volumes along with current local, non-project related disposal volumes.

Response:

Roll-Off dumpsters will be placed at each Contractor Yard to collect packaging and refuse. The dumpster provider will deliver an empty dumpster and remove the full one as needed. Larger waste will be loaded directly on trucks at the work site utilizing approved access roads. All waste will be removed and disposed of in a properly approved/licensed waste disposal facility. Construction of the ACP and the SHP are estimated to produce a total of 0.31 million tons of solid waste over a two year period.

Table 86-1 below provides information on the solid waste capacity of each Commonwealth/State to support the Projects.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Table 86-1
Pipeline Construction Solid Waste

State	Estimated Pipeline Construction Solid Waste (Million Tons)	2015 Solid Waste Volume (Million Tons)*	Remaining Landfill Capacity (Million Tons)*
Pennsylvania	0.01	20	Not Available
West Virginia	0.06	2	Not Available
Virginia	0.15	10	244
North Carolina	0.09	12	559

Sources:
Pennsylvania - http://www.dep.pa.gov/Business/Land/Waste/SolidWaste/Residual/Pages/default.aspx.
West Virginia - https://www.state.wv.us/swmb/State%20Plans/2017%20Complete%20State%20Plan.pdf.
Virginia - http://www.deq.virginia.gov/Portals/0/DEQ/Land/ReportsPublications/2016_Annual_Solid_Waste_Report.pdf.
North Carolina - https://ncdenr.s3.amazonaws.com/s3fs-public.

CULTURAL RESOURCES

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 87 **Question Subpart:** N/A

Question:

Note that all material filed with the Commission containing location, character, and ownership information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: “CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE."

Response:

All of the material filed with the Commission containing location, character, and ownership information about cultural resources has the cover and any relevant pages therein clearly labeled in bold lettering: “CONTAINS PRIVILEGED INFORMATION – DO NOT RELEASE."

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 88 **Question Subpart:** N/A

Question:

File correspondence with agencies and consulting parties not previously filed, and provide comprehensive tables of all agency and consulting party communication throughout the SHP and ACP projects.

Response:

Updated tables listing communications with State Historic Preservation Offices (SHPOs) and other consulting parties for the ACP and SHP are provided as Q88 Attachments 1 through 8. Copies of correspondence with SHPOs and other consulting parties not previously filed with the Commission are provided as Q88 Attachment 9.

Q88 Attachment 9 contains location information for archaeological sites. This attachment, which is marked CONTAINS PRIVILEGED INORMATION – DO NOT RELEASE, has been filed under separate cover.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 89 **Question Subpart:** N/A

Question:

File correspondence with American Indian tribes not previously filed, and provide a comprehensive table of all tribal communications throughout the SHP and ACP projects.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 90 **Question Subpart:** N/A

Question:

File pending survey reports, testing reports, and treatment plans, including the comprehensive standing structure reports that Environmental Resources management committed to prepare for ACP. Provide recommendations for National Register of Historic Places (NRHP) eligibility, assessment of project impacts on historic properties, and recommendations for mitigation of adverse effects.

Response:

Pending survey reports, testing reports, and treatment plans, including the comprehensive standing structure reports that Environmental Resources Management committed to prepare for the ACP, will be filed as they are completed. Recommendations for NRHP eligibility, assessment of Project impacts on historic properties (pending SHPO concurrence on eligibility recommendations), and recommendations for mitigation of adverse effects will be included in those documents.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 91 **Question Subpart:** N/A

Question:

File Virginia Cultural Resource Information System forms and any other SHPO site forms not previously filed or included in the survey reports.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 92 **Question Subpart:** N/A

Question:

For all sites and properties where ACP recommends avoidance using boring or HDD (44SN0308, 46GV400, the Blue Ridge Parkway, the Appalachian Trail, etc.), provide scaled plan and profile drawings and other information as specified in Section 9 of the Guidelines for Reporting on Cultural Resources Investigations for National Gas Projects.

Response:

Atlantic will provide avoidance plans in conjunction with the treatment plans for sites or properties where avoidance using boring or HDD is recommended. The avoidance plans will include all of the information required in Section 9 of FERC's *Guidelines for Reporting on Cultural Resources Investigations for National Gas Projects*, including scaled plan and profile drawings.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Dated April 11, 2017

Category: Cultural Resources

Question Number: 93 **Question Subpart:** N/A

Question:

Provide the percent of archaeological surveys completed for each state for each project, of historic architecture surveys completed for each state for each project, and the percent of surveys remaining for each state for each project. Breakdown percentages according to facility type (pipeline corridor/contractor yard/ access road, etc.).

Response:

Tables 93-1 through 93-4 below provide the percent of archaeological and historic structures surveys completed and remaining for each Project, by Commonwealth/State and facility type.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Table 93-1

Archaeological Survey Progress for the Atlantic Coast Pipeline

Project Component	*State*	*Percent Complete / Remaining*
Pipeline Corridor	West Virginia	98.8 / 1.2
	Virginia	98.9 / 1.1
	North Carolina	98.2 / 1.8
Access Roads	West Virginia	97.0 / 3.0
	Virginia	94.0 / 6.0
	North Carolina	94.0 / 6.0
Contractor Yards	West Virginia	100 / 0
	Virginia	100 / 0
	North Carolina	100 / 0
Aboveground Facilities	West Virginia	99.0 / 1.0
	Virginia	99.5 / 0.5
	North Carolina	99.0 / 1.0
Microwave Towers	West Virginia	75.0 / 25.0
	Virginia	100 / 0
	North Carolina	90.9 / 9.1

Table 93-2

Historic Structures Survey Progress for the Atlantic Coast Pipeline

Project Component	*State*	*Percent Complete/Remaining*
Pipeline Corridor	West Virginia	100 / 0
	Virginia	100 / 0
	North Carolina	100 / 0
Access Roads	West Virginia	100 / 0
	Virginia	100 / 0
	North Carolina	100 / 0
Contractor Yards	West Virginia	100 / 0
	Virginia	100 / 0
	North Carolina	100 / 0
Aboveground Facilities	West Virginia	100 / 0
	Virginia	100 / 0
	North Carolina	100 / 0
Microwave Towers	West Virginia	0 / 100
	Virginia	0 / 100
	North Carolina	0 / 100

Table 93-3

Archaeological Survey Progress for the Supply Header Project

Project Component	*State*	*Percent Complete/Remaining*
Pipeline Corridor	Pennsylvania	100 / 0
	West Virginia	99.8 / 0.2
Access Roads	Pennsylvania	100 / 0
	West Virginia	100 / 0
Contractor Yards	Pennsylvania	100 / 0
	West Virginia	100 / 0
Aboveground Facilities	Pennsylvania	100 / 0
	West Virginia	100 / 0

Table 93-4

Historic Structures Survey Progress for the Supply Header Project

Project Component	*State*	*Percent Complete/Remaining*
Pipeline Corridor	Pennsylvania	100 / 0
	West Virginia	100 / 0
Access Roads	Pennsylvania	100 / 0
	West Virginia	100 / 0
Contractor Yards	Pennsylvania	100 / 0
	West Virginia	100 / 0
Aboveground Facilities	Pennsylvania	100 / 0
	West Virginia	100 / 0

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 94 **Question Subpart:** N/A

Question:

Provide an updated comprehensive table of cultural resources sites in the current area of potential effect (APE), the NRHP status, and any pending cultural resources work. Include the milepost or other location identifier.

Response:

For the ACP, updated tables identifying archaeological sites and aboveground cultural resources in the current APE, including the NRHP status and recommendations for additional work, are provided as Q94 Attachments 1 and 2, respectively. For the SHP, updated tables identifying archaeological sites and aboveground cultural resources in the current APE, including the NRHP status and recommendations for additional work, are provided as Q94 Attachments 3 and 4, respectively. An updated bibliography of survey and testing reports for the ACP and SHP is provided as Q94 Attachment 5.

Q94 Attachments 1 and 3 contain location information for archaeological sites. These attachments, which are marked CONTAINS PRIVILEGED INORMATION – DO NOT RELEASE, have been filed under separate cover.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 95 **Question Subpart:** a-d

Question:

Provide updated cultural resources aerial maps at a 1:200 scale, printed preferably on 11- x 17-inch size pages, of the pipeline corridor, off-corridor facilities and yards, and access roads that show the following:

a. The survey corridor and the construction workspace;

b. Previously recorded and newly recorded archaeological sites and historic architecture resources within the APE. Differentiate sites that are recommended as eligible for listing on the NRHP or not evaluated for eligibility;

c. Areas not surveyed; and

d. Proposed HDD entry and exit locations, as well as proposed guide wire positions, traffic lanes, and any other workspace needed for horizontal directional drills or other drilling operations.

Response:

Atlantic and DTI anticipate filing a response to this Question on May 8, 2017.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 96 **Question Subpart:** N/A

Question:

The Virginia Outdoors Foundation proposes to receive and manage the 1,034-acre Hayfields Farm property as a substitute for acreage affected by the ACP route that is currently part of a conservation easement. Consider whether the Hayfields Farm property is subject to the Section 106 process, and if so, provide any appropriate Section 106 documentation.

Response:

Atlantic believes that the Hayfields Farm property is not subject to Section 106 review as it is not within the visual APE and no ground disturbing activities associated with the ACP are proposed within the property. Moreover, the property is being offered to the Virginia Outdoors Foundation for long-term open space preservation. No adverse impacts from ACP on historic properties would occur as a result of the transfer of the property to the Virginia Outdoors Foundation, assuming such properties are present on Hayfields Farm.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 97 **Question Subpart:** N/A

Question:

Consult with landowner Stuart L. Matthews regarding the possible historic significance of his family home and appropriate protection measures for his family cemetery within the project APE, as reported in his letter (Accession Number 20170106-0011).

Response:

The family home located on the Stuart L. Matthews property (tracts 20-240 and 20-241) was surveyed by ERM architectural historians in November 2016. The results of this survey can be found in *Phase I Architectural Survey of the Atlantic Coast Pipeline Project: North Carolina Addendum 4 Report* (FERC Accession Number 20170324-5283). Recorded as Historic Resource JT1949, the property is recommended not eligible for listing on the NRHP because it is a common form of its architectural type and has had material and structural changes. Comments from the North Carolina SHPO on this assessment are pending. Atlantic will file comments from the SHPO when available.

A review of historic maps for the area did not identify a cemetery on the Stuart L. Matthews property. Additionally, no evidence of a cemetery was found during an archaeological survey of the proposed pipeline corridor on the property, which occurred on August 5, 2014. Results of this survey were reported in *Phase I Archaeological Survey for the Atlantic Coast Pipeline Project, North Carolina Components, Seasons 1 and 2* (FERC Accession Number 20150918-5213 for a draft report and 20160617-5152 for a revised final report). The North Carolina SHPO concurred with the survey results in letters dated October 27, 2015 (on the draft report; FERC Accession Number 20151113-5192) and May 24, 2016 (on the revised report; FERC Accession Number 20160701-5255).

Efforts have been made to consult with Mr. Matthews regarding the findings of the architectural and archaeological surveys; however, no response from Mr. Mathews has been received to date.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 98 **Question Subpart:** N/A

Question:

Provide a status report on the survey, evaluation, and effect assessment of the structures and grounds of property 008-0011 (The Wilderness owned by the Koontz family) in Bath County, Virginia. Clarify whether Dominion has identified the private driveway through the property as an access road for the project; it is shown as such on some but not all project documentation. If so, evaluate alternative to this access road since the driveway passes directly in front of the residence. Report also on agency and local informant communication regarding the property.

Response:

The Wilderness (008-0011) property is discussed in *Phase I Historic Architectural Survey of the Atlantic Coast Pipeline: Virginia Addendum 4 Report* (FERC Accession Number 20170110-5143). The property was recommended as potentially eligible for listing on the NRHP. The Virginia Department of Historic Resources (VDHR) concurred with this recommendation in a letter to Atlantic dated April 6, 2017 (FERC Accession Number 20170406-5362). A description of the site is provided with the response to Question 105c. An assessment of affect for The Wilderness will be provided in a forthcoming report.

In addition to the proposed pipeline and associated workspace across The Wilderness, Atlantic previously identified an access road on this property; however, the road has been eliminated from the Project design. No access roads are proposed for construction or operation of the ACP on this property; the only Project facilities on The Wilderness property are the pipeline and associated construction workspace and permanent easement.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 99 **Question Subpart:** N/A

Question:

Provide a status report on the survey, evaluation, and effect assessment of properties along the project route through Nelson County, Virginia. Include access roads and off-right-of-way facilities. Report also on agency and local informant communication regarding the properties and historic districts.

Response:

With the exception of microwave tower locations, all components of the ACP within Nelson County have been surveyed for aboveground cultural resources. This includes survey of 27.2 miles of centerline, 40 access roads, one water impoundment, and one cathodic protection ground bed. In cases where access to an aboveground cultural property was not available, survey was conducted from public rights-of-way.

A total of 15 aboveground historic resources were recorded during survey in Nelson County (see attached table). Two resources, 062-0117 and 062-5119, are listed on the NRHP. Five of the resources (062-0092, 062-5119-0113, 062-5121, 062-5160, and 032-5180) are recommended eligible for listing on the NRHP. The remaining eight resources in Nelson County are recommended as not eligible for listing on the NRHP.

An assessment of effects report will be prepared and submitted to the SHPO once remaining field studies have been completed. This report will include a summary of the work to date and a table and map of all resources within the Project APE. For resources that have been recommended eligible for listing on the NRHP, an assessment of effects findings will be provided. The report will be filed with FERC and submitted to the VDHR for review when available.

Efforts are being made to correspond with Bob Carter and the Nelson County Historical Society regarding historic resources in Nelson County. Atlantic will provide an update on these efforts as warranted.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Dated April 11, 2017

Category: Cultural Resources

Question Number: 100 **Question Subpart:** a-f

Question:

For each cemetery in the project APE, provide a cemetery treatment plan that includes the following:

a. A discussion of the relevant laws and guidelines regarding the treatment of cemeteries and human remains;

b. Maps that show the location of each cemetery in relation to the construction workspace, the location of proposed protective fencing, and the location and limits of any other proposed treatment measures such as dust control or traffic speed limits. Use a consistent scale for the maps, and provide both meters and feet in the scale bar;

c. A discussion of the proposed project construction method and proposed avoidance measures during construction for each cemetery, including an explanation of any proposed constriction of the construction right-of-way;

d. The results of consultation with SHPOs, municipal agencies, and local informants regarding individual cemeteries;

e. For cemetery 46UP319, provide treatment measures for vehicle traffic along the access road that skirts the cemetery, such as weight limits, speed limits, and dust control measures; and

f. For cemetery 46GV0394, consider treatment measures for vehicle traffic along the access road that passes the cemetery, such as weight limits, speed limits, and dust control measures.

Response:

Atlantic and DTI will provide cemetery treatment plans for each State in conjunction with the other treatment plans to be prepared for the Projects. The cemetery treatment plans will include each of the items identified in subparts a through f of this Question.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 101 **Question Subpart:** N/A

Question:

Consult with the (state-recognized) Lumbee Indian Nation, Coharie Tribal Council and Haliwa-Saponi Tribe regarding tribal sites in the project area and the locations of natural resources that may be part of the tribes' traditional practices.

Response:

Atlantic has contacted and is working to consult with the Lumbee Indian Nation, Coharie Tribal Council, Haliwa-Saponi Tribe as well as the Meherrin Tribe regarding tribal sites and the locations of natural resources that may be part of the tribes' traditional practices in North Carolina. Atlantic also is communicating with the Executive Director of the North Carolina Commission on Indian Affairs to set up a meeting with tribal leadership. Atlantic will provide an update on these consultations when available.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 102 **Question Subpart:** N/A

Question:

Regarding the "Phase I Historic Architectural Survey of the Atlantic Coast Pipeline Project, North Carolina Addendum 4 Report" filed March 24, 2017, provide figure 25, RB0678, proposed NRHP boundary and relationship to project, which is missing.

Response:

The missing figure is provided below.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

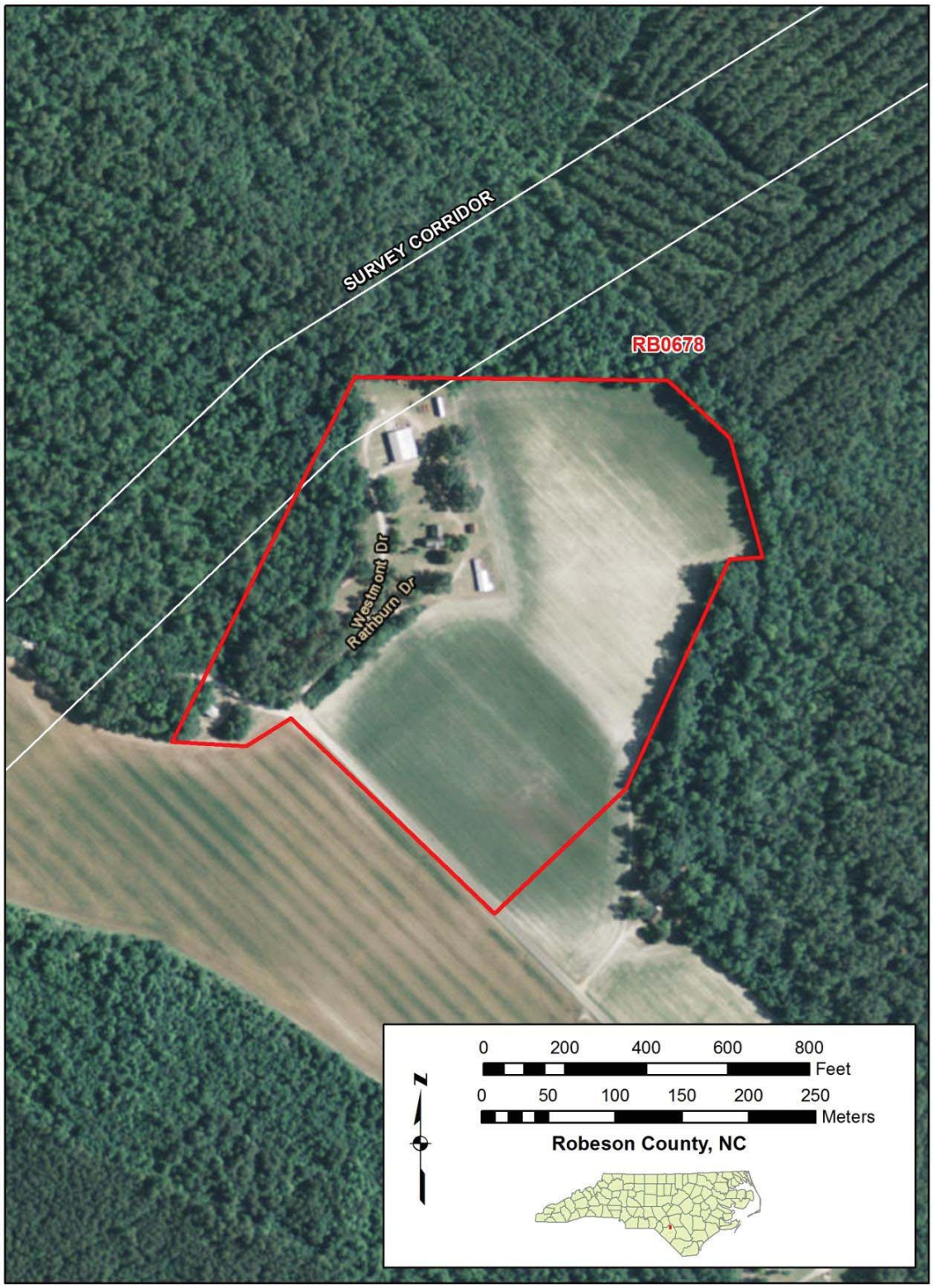

Figure 25. RB0678, proposed NRHP boundary and relationship to Project

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Category: Cultural Resources

Question Number: 103 **Question Subpart:** a

Question:

The Augusta County Historical Society commented that historic resources in Augusta County, Virginia would be affected by the project. In particular identify whether the following properties are within the area of potential effect for the project, and would they be affected? If outside the APE, how far?

a. The archaeology of the Jonathan Harper House. Provide corrected information about the archaeological findings for this property listed on the NRHP;

Response:

The western edge of the NRHP boundary for the Jonathan Harper House is located approximately 80 meters (276 feet) to the east of the Project corridor. Archaeological surveys were conducted along the right-of-way in the vicinity of the site on December 9, 2015. No archaeological material or aboveground features were encountered during those investigations. Survey results for this area were provided in *Phase I Archaeological Survey for the Atlantic Coast Pipeline Project, Virginia Addendum 2* (FERC Accession Number 20160729-5257). The VDHR concurred with these results in a letter dated February 2, 2017 (FERC Accession Number 20170224-5149).

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
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Dated April 11, 2017

Category: Cultural Resources

Question Number: 103 **Question Subpart:** b

Question:

The Augusta County Historical Society commented that historic resources in Augusta County, Virginia would be affected by the project. In particular identify whether the following properties are within the area of potential effect for the project, and would they be affected? If outside the APE, how far?

b. The East Burial Mound;

Response:

The East Burial Mound (44AU0035) is located approximately 600 meters (1,969 feet) to the east of the ACP corridor. While several sites were found in the Project corridor in this vicinity, there is no evidence that these sites are associated with the East Burial Mound. The Augusta County Historical Society commented in particular about two sites (44AU0919 and 44AU920) recorded for the ACP in this area. Both of these sites were recommended not eligible for the NRHP in *Phase I Archaeological Survey for the Atlantic Coast Pipeline Project: Virginia Addendum Report 3* (FERC Accession Number 20160930-5311). The VDHR concurred with the recommendations for these sites in a letter to Atlantic dated February 3, 2017 (FERC Accession Number 20170224-5149).

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Cultural Resources

Question Number: 103 **Question Subpart:** c

Question:

The Augusta County Historical Society commented that historic resources in Augusta County, Virginia would be affected by the project. In particular identify whether the following properties are within the area of potential effect for the project, and would they be affected? If outside the APE, how far?

c. Linear resources (for example, the Great Wagon Road, railroads and several turnpikes) that will be crossed by the project in Augusta County, and their historical significance. Provide additional information about these resources.

Response:

Linear resources, including associated features such as bridges, culverts, and railroad depots, were recorded as part of the architectural survey for the ACP. A number of linear resources were documented in Augusta County, including the Appalachian Trail Historic District (021-5012), the Blue Ridge Parkway Historic District (045-0120), the Chesapeake and Ohio Railroad (007-5513), and approach roads to the McDowell Battlefield (045-0120). The Appalachian Trail, Blue Ridge Parkway, and Chesapeake and Ohio Railroad were recorded as part of the initial architectural survey (*Architectural Reconnaissance Survey of the Atlantic Coast Pipeline Corridor)*. The Blue Ridge Parkway Historic District was previously recommended as potentially eligible, while the Appalachian Trail Historic District and McDowell Battlefield were both previously recommended as eligible. The McDowell Battlefield Study Area (045-0120) includes a section of the Staunton-Parkersburg Turnpike (007-5210), constructed ca. 1840, which has been determined eligible for the NRHP by the VDHR. The VDHR agreed that the Chesapeake and Ohio Railroad is eligible in a letter to Atlantic dated March 24, 2017 (see Q88 Attachment 9). The effect of the proposed ACP on these eligible resources will be addressed in a forthcoming Assessment of Effects report.

In addition to the Chesapeake and Ohio, two additional railroads are recorded in Augusta County by the VDHR: the Chesapeake and Western Railroad (007-5241) and the Valley Railroad Corridor (007-5176). The Chesapeake and Western Railroad's terminus at the foot of Narrow Back Mountain (northwest of Staunton) is approximately 4.6 miles north-northeast of the Project corridor, and its route follows an easterly and northeasterly course, while the Project corridor bends to the southeast; the resource is not crossed by Project. The Valley Railroad Corridor was identified in 2012 as part of a survey of an underpass that was part of the rail line. The 36-mile section of the rail line from Staunton to Lexington was said to include a number of secondary resources, including bridges, abutments, culverts, and depots. The underpass was determined to be ineligible as an individual resource, but the VDHR suggested that it could be a contributing resource to a historic district that included the railroad corridor. The ACP crosses the railroad corridor at Interstate 64/81 near Brookwood. A comparison of historic and modern aerial

photographs shows that the railroad bed was destroyed by the construction of the interstate in the 1960s.

The Great Wagon Road has not been recorded as an individual resource in Augusta County. A trace of the Great Wagon Road has been documented in Patrick County, but has not been assessed for NRHP eligibility. The Great Wagon Road connected Philadelphia with the Piedmont South and served as a major migration route for German and Scots-Irish immigrants through the Shenandoah Valley. The road is believed to have followed Route 613 south from Staunton to Greenville. The ACP crosses Route 613 near the community of Folly Mills. No historic features of the road were observed during the archaeological survey.

Sources:

Virginia Department of Historic Resources, http://dhr.virginia.gov/.

Virginia Cultural Resource Information System, http://dhr.virginia.gov/vcris/vcrisHome.htm.

Response Provided By:

Robert Bisha
Environmental Technical Advisor
804-273-3010

Category: Cultural Resources

Question Number: 103 **Question Subpart:** d

Question:

The Augusta County Historical Society commented that historic resources in Augusta County, Virginia would be affected by the project. In particular identify whether the following properties are within the area of potential effect for the project, and would they be affected? If outside the APE, how far?

d. Stone walls known on several properties in Augusta County. Consult with other local informants, and the Virginia Department of Historic Resources regarding the significance of the walls as individual properties and as part of a historic landscape. Provide additional information about these resources.

Response:

A review of the VDHR website and VCRIS forms for Augusta County did not produce any stone walls that have been recorded as individual resources. Statewide, 21 stone walls were recorded as individual resources, but none were listed on or determined eligible for the NRHP. Three examples in the City of Roanoke were recommended as contributing structures to the Wasena Historic District. A wall in the town of Wise in Wise County constructed during the New Deal era was determined not eligible for the NRHP by the VDHR. A number of stone walls in the Shenandoah Valley that were recorded as individual resources were previously recommended not eligible for the NRHP because they were of a common form or lacked integrity because they no longer enclosed agricultural fields or were disassociated from their original farms (002-5143, 002-5144, 053-6409, 053-6411).

Stone walls along roads and agricultural fields and pastures have been documented as part of a number of Rural Historic Districts (RHD) throughout the state, including John Marshall's Leeds Manor RHD (Fauquier County), Ben Venue RHD (Rappahannock County), and Bear's Den RHD (Clark and Loudon Counties). The walls are evidence of patterns of spatial organization and are considered one of a number of defining elements of rural historic landscapes. Stone walls are also found around cemeteries and as retaining walls around residences. A study of stone walls in the proposed Gooney Manor RHD in Warren County concluded that these features found throughout the Shenandoah Valley were primarily a result of the process of field clearing and were only occasionally constructed with sufficient height and angle to serve as a livestock enclosure. They also served to mark property boundaries, but this was not typically their primary function (Lewes and Houston 2003).

Stone walls were recorded during both the architectural and archaeological surveys for the ACP when found in association with other historical features, including farmsteads, ruins of structures, or existing fields. In Augusta County, the architectural surveys did not note any stone walls associated with historic structures or landscape features within the Project APE. Two

archaeological sites containing the remnants of stone walls were recorded within the 300-foot survey corridor in Augusta County during the surveys for the ACP (44AU0860, 44AU0878).

Site 44AU860 consists of a collapsed structure, the ruins of an outbuilding, a possible well, and five stone wall segments associated with a farmstead. The site was identified during the Phase 1 investigation, but was not evaluated pending additional shovel testing and research (*Phase I Archaeological Survey for the Atlantic Coast Pipeline Project: Virginia Components*; FERC Accession Number 20150918-5213). That additional work was completed as part of the Addendum 4 survey (*Phase I Archaeological Survey for the Atlantic Coast Pipeline Project: Virginia Addendum Report 4*; FERC Accession Number 20170224-5150). A total of 38 historic artifacts were collected from the surface and from 11 of 144 shovel tests excavated at the site. The stone walls are composed of creek-rounded limestone cobbles and are approximately 2 m wide and 0.5–1.0 m high. They vary in length from 15–87 meters. Two of the five walls appear to align with current property boundaries, but the remaining three are likely landscape features associated with the farmstead. Based on the loss of integrity of the architectural features and the lack of potential to yield information important to history, the site is recommended as ineligible for the NRHP. The VDHR has not yet commented on these findings.

Site 44AU0878 was identified during the survey for Addendum 2 (*Phase I Archaeological Survey for the Atlantic Coast Pipeline Project: Virginia Addendum Report 2*; FERC Accession Number 20160729-5257). It also contains five sections of stone wall, as well as the ruins of a stone chimney and two circular rock piles that may be filled-in cisterns or push piles. A total of eight artifacts were recovered from three of six shovel tests excavated at the site. The stone walls at the site are about 2 feet wide and 2.5 feet tall. The function of the walls is not clear. One wall borders an existing dirt road, while another is perpendicular to the road and located on either side where a gate was likely located. Two walls are perpendicular to each other and would appear to enclose the dwelling house and an adjacent activity area. The walls are of the type commonly found in the region and do not exhibit any unique or significant construction techniques. The site does not meet the standards of historic, architectural, or archaeological significance under the NRHP and was recommended not eligible. The VDHR concurred with this finding (concurrence letter dated February 2, 2017; FERC Accession Number 20170224-5149).

Sources:

Lewes, David W., and Kitty Houston. 2003. *Claiming Rocky Ground: Documentation of Stone Walls in the Proposed Gooney Manor Loop Road Rural Historic District, Route 63 Widening Project, Warren County, Virginia.* William and Mary Center for Archaeological Research, Williamsburg, Virginia. Prepared for Virginia Department of Transportation, Richmond.

Virginia Department of Historic Resources, http://dhr.virginia.gov/.

Virginia Cultural Resource Information System, http://dhr.virginia.gov/vcris/vcrisHome.htm.

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Response Provided By:

Robert Bisha
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804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Dated April 11, 2017

Category: Cultural Resources

Question Number: 104 **Question Subpart:** N/A

Question:

Landowners, individuals, and organizations have filed comments about the cultural and historical significance of the Union Hill and Union Grove communities in Buckingham County, Virginia, and possible impacts from construction and operation of Compressor Station 2 (Buckingham Compressor Station). File a report of the historic architecture survey of Compressor Station 2. Provide background information, maps showing the APE for indirect effects, photographs and drawings of inventoried properties, background information, and an assessment of adverse effects to historic properties, or unevaluated resources.

Response:

Two above ground resources near Compressor Station 2 (Buckingham Compressor Station) were recorded and documented in *Addendum Architectural Reconnaissance Survey if the Atlantic Coast Pipeline Corridor Highland, Augusta, Rockbridge, Nelson, Buckingham, Cumberland, Prince Edward, Nottoway, Dinwiddie, Brunswick, Greensville, and Southampton Counties and the Cities of Franklin, Suffolk and Chesapeake, Virginia* (FERC Accession Number 20160324-5120). Both resources, 014-5068 and 014-5069, were recommended not eligible for listing in the NRHP. The VDHR concurred with these recommendations in a letter to Atlantic dated May 6, 2016 (FERC Accession Number 20160617-5151).

Additional field studies have been conducted in the vicinity of Compressor Station 2 to accommodate a revised calculation of the visual APE. Atlantic anticipates filing the results of the additional studies in an addendum report in May 2017.

Response Provided By:

Robert Bisha
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804-273-3010

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
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Dated April 11, 2017

Category: Cultural Resources

Question Number: 105 **Question Subpart:** a

Question:

In response to the Virginia SHPO's comments, provide an update on:

a. Surveys of and effects to the Warminster Historic District, the Sunray Agricultural Historic District and South Rockfish Valley Rural Historic District, including all contributing resources within the APE and effects to the districts themselves.

Response:

The reconnaissance architectural survey of the South Rockfish Valley Rural Historic District was conducted on August 3, 2016; survey of the Warminster Rural Historic District was conducted on August 4, 2016 and again on November 17, 2016; and survey of the Sunray Agricultural Rural Historic District was conducted on November 18, 2016. These surveys included driving the public roads throughout the area of the historic district that lies within the Project APE to assess the overall character, setting, and integrity of the district and distribution of contributing resources. Some of the public roads were also surveyed on foot. Because permission for direct access could not be obtained, photographs documenting the structures, landscapes, and viewsheds in each district were taken from public roads. At South Rockfish Valley, the architectural survey team was also invited by the Rockfish Valley Foundation's president to inspect foundations on private land on the east bank of Spruce Creek adjacent to the APE.

<u>South Rockfish Valley Rural Historic District (VDHR resource 062-5119, NRHP Listed 16000534)</u>

This Nelson County resource was originally surveyed by Dovetail Cultural Resource Group (Dovetail CRG), and included in their April 2016 report (FERC Accession Number 20160415-5015). Due to a revision to the Project route and APE, the resource was re-surveyed by Environmental Resources Management (ERM) and is included in the Virginia Phase I Historic Architectural Survey, Addendum 3 Report (FERC Accession Number 20161017-5046). The historic district was noted to be NRHP-listed and was recommended as retaining its eligibility; the VDHR concurred with this assessment in a letter dated March 24, 2017 (see Q88 Attachment 9).

The National Register-eligible district is noted under NRHP Criterion A for its well-preserved rural landscape with a continuous tradition of farming in a circumscribed geographic area since the first half of the eighteenth century. The agricultural history of this fertile valley chronicles the development of tobacco cultivation for international export from the eighteenth through late nineteenth century, the transition to an apple orchard industry from the 1880s through early 1940s, and the present mix of cattle farming and experimentation with viticulture and cider

orchards. The property is also eligible under NRHP Criterion C as a collection of eighteenth-, nineteenth-, and early twentieth-century century architecture representing a variety of vernacular and more formal styles. Of particular interest is the collection of late eighteenth- to early nineteenth-century farmhouses with high integrity and an individually listed general store that anchors the historic crossroads community of Wintergreen. The viewsheds and landscapes of the property are noted to have a high degree of integrity and are considered integral to the character of the rural historic district.

No individually-eligible structures are located within the APE. NRHP-listed and -eligible resources contributing to the historic district that are adjacent to the APE include:

- VDHR resource 062-0117 - Wintergreen Country Store (NRHP listed), which houses the headquarters of the Rockfish Valley Foundation and it is located 0.1 mile north of the Project corridor.
- VDHR resource 062-5119-0113 - A circa 1850 house/small farm at 2228 Rockfish Valley Highway (recommended NRHP-eligible under Criteria A and C), which is approximately 0.1 mile east of the corridor.

Resources determined to not be individually NRHP-eligible but that are associated with the South Rockfish Valley Rural Historic District and are adjacent to the APE include:

- VDHR resource 062-5090, 062-5119-0017 – Spruce Creek Bridge, built in 1936 (Bridge #1030).
- Route 151 Virginia Scenic Byway/Rockfish Valley Highway - The scenic highway category is a state designation; SR 151 was so designated in 1976.
- VDHR resource 062-5119-0032 – A farm at 1694 Rockfish Valley Highway whose construction may be too recent to be NRHP eligible.
- VDHR resource 062-5020, 062-5119-0014 - The Elk Hill Baptist Church, which was built to serve an African-American congregation, is located approximately 0.2 mile south of the proposed Project.
- Bold Rock Hard Cider's production facility and tasting room/restaurant, built in the 2010s and not of sufficient age to be NRHP-eligible, is approximately 200 feet southwest of the Project corridor, on the south side of the Spruce Creek Bridge.

The linear, 1,633-acre South Rockfish Valley Rural Historic District is centered on Rockfish Valley Highway/Route 151 in Nelson County. The Project corridor descends a ridge northwest of the district and crosses Rockfish Valley Highway at Spruce Creek, 0.125 mile west of Glenthorpe Loop/Route 627. South of the creek, the corridor passes through pastureland bordered by woods, crosses under Glenthorpe Loop, and continues southeast through pastures and agricultural fields separated by woods. South of Reid's Creek, the Project corridor parallels Edgewood Drive, a private road which was posted as denied access to ACP personnel; the circa 1990-2000s developments of large homes with spacious yards on Flying Eagle Court and

Graywinds Lane could not be surveyed and Project effects on them could not be evaluated. The tree cut for the permanent pipeline right-of-way will be visible on both sides of Rockfish Valley Highway and bridge at the drill entry and exit points, as will the corridor's cut through the treelines between fields as the Project crosses the historic district.

The Project's potential impact on adjacent NRHP-eligible and listed resources in the South Rockfish Valley Rural Historic District are as follows:

- VDHR resource 062-0117 – Wintergreen Country Store, from which the view of the pipeline corridor is screened by trees and vegetation in the Spruce Creek Park on its south side.
- VDHR resource 062-5119-0113 – Circa 1850s house/farm to the east of the corridor: the extent of the view of the Project could not be evaluated due to the denied access to Edgewood Drive; from aerial photographs, the corridor's cuts in the two treelines separating the agricultural fields to the northwest are likely to be visible from the resource, but do not constitute a significant change to its overall viewshed or landscape context.

Nelson County's economic development promotes the diversity and growth of the county's economic base, while supporting its rural heritage and natural resources that feature mountainous terrain, orchards and historic farms, small-scale commercial, and low density residential development. During the past 10 to 20 years, efforts to advance Nelson County's rural potential have included the promotion of rural tourism, outdoor recreation options, and flourishing vineyards, breweries, and cider production facilities, many of which include tasting rooms, restaurants, and special events venues, as appropriate directions for economic development. In South Rockfish Valley, this has included the establishment of the Bold Rock Hard Cider location adjacent to the west side of the Project corridor, and the development of a number of nature trails, wetlands, and habitats adjacent to the east side of the corridor near its intersection with Glenthorpe Loop. While the construction of the Project may temporarily disrupt some of the cider facilities operations and may temporarily obstruct some of the trails along Glenthorpe Loop, upon its completion, the ACP is expected to have no adverse impact on the historic district's economic potential.

The Project will be visible from a limited number of vantage points in the district. In the context of the extensive area encompassed by the South Rockfish Valley Rural Historic District, the Project is not expected to have a significant impact on the overall visual character and NRHP integrity of the district.

<u>Warminster Rural Historic District (VDHR resource 062-5160, NRHP eligible)</u>

This resource, also in Nelson County, was originally surveyed by Dovetail CRG, and included in their subsequent Addendum 1 report (FERC Accession Number 20160324-5120). Due to a revision to the Project route and APE, the resource was re-surveyed by ERM and included in the Virginia Phase I Historic Architectural Survey, Addendum 3 Report (FERC Accession Number

20161017-5046). Another survey was conducted due to the expansion of the Warminster Rural Historic District and the identification of additional resources related to its African-American heritage (determined at the VDHR Evaluation Committee's July 2016 meeting), and information from this survey was included in the Virginia Phase I Historic Architectural Survey, Addendum 4 Report (FERC Accession Number 20170110-5143). ERM recommended that the Warminster Rural Historic District retains its overall NRHP eligibility under Criterion A for its settlement and development patterns and under Criterion C for the NRHP-listed estates Bon Aire and Edgewood; the VDHR concurred with this assessment in a letter dated April 6, 2017 (FERC Accession Number 20170412-5098).

Initially designated as 3,665 acres, the Warminster Rural Historic District encompassed 1730s land grants to Dr. William Cabell. In addition to his sons' late 18th/ early 19th century estates Bon Aire and Edgewood, the district includes the lost town and lost village of Warminster, which served as a regional center of transportation, commerce, and industry, during the bateau and canal eras and the railroad era of Virginia history; the late 18th century Midway Mill site along the canal and rail-line upstream from Liberty Hall and Warminster; a cluster of buildings, sites, and cemeteries associated with African American families who lived on the Old Warminster Road on the northwestern boundary of the District; and prehistoric archaeological sites. The structures and development are associated with the prominent Cabell family, and the district represents their mid-eighteenth century land patent and the subsequent plantations and communities that developed there. The district is characterized by a gently rolling upland surface, dissected by numerous streams and having linear ridges that rise as much as several hundred feet above the general elevation of the upland. The upper woodland area is hilly with forests of hardwood and pine. On the district's east side, the James River bottomland environment was used for millennia as the site of domestic camps by Native Americans, and is used today as agricultural fields.

No individually-eligible structures are located within the APE. NRHP-listed and -eligible resources contributing to the historic district that are adjacent to the APE include:

- VDHR resource 062-5180 – Chesapeake & Ohio Railroad (now operated by CSX) – The river's west/southwest bank was formerly the location of the James River & Kanawha Canal; a rail line was built there in the 1880s and acquired by C&O in 1889. This potentially NRHP-eligible rail line will not be directly affected by the Project, as the drill entry and exit points will be outside of its right-of-way; however, the pipeline corridor's tree cut will be visible on either side of the rail line.

Resources determined to not be individually NRHP-eligible but are associated with the Warminster Rural Historic District and located in the proposed project APE include:

- VDHR resource 062-0092 - The Simpson House, which belonged to the Simpson family who operated the nearby Midway Mill in the late nineteenth century, is approximately 0.1 mile north of the Project. It is screened from the corridor by its heavily-wooded terrain.

- VDHR archaeological site 44NE0197 – The Midway Mills Cemetery is located on a knoll, approximately 150 feet from the Project centerline, from which the pipeline corridor will be visible; however, since the cemetery is not individually NRHP-eligible, the visual effects are considered in the broader context of the historic district to which it contributes.

An expansion of the Warminster Rural Historic District boundary was approved by the VDHR Evaluation Committee in July 2016, to include newly-identified resources of the district's African-American community such as family cemeteries, additional dwellings, stores, a mill site, and the former Odd Fellows Hall, and properties owned by freedmen after the Civil War. ERM visited 14 resources associated with the boundary expansion, and determined that five of these may fall within the viewshed of the proposed Project. These resources were documented from the public right-of-way, due to property access restrictions; however, three of the resources which may fall within the Project's APE - Scott Cemetery, Scott Cabin, and the Dillard House - were not visible at the time of survey, and could not be documented. One additional resource that potentially falls within the APE and was visible from the public right-of-way, the Pauline White House, was recommended as not individually eligible for the NRHP.

The Warminster Rural Historic District is predominantly rural, with low density residential development and very few businesses and community/religious entities. Overall, the Project's area of direct effects consists of three segments at which the pipeline corridor crosses the district. Most of these segments are thickly covered with woods and other vegetation, with some open pasture land in which the changes to the vegetative cover will be minimal, post-construction. The wooded areas will mostly be hidden from vantage points at dwellings, along roadways, and at other locations frequented by people. Because of the small area affected in relation to the overall size of the district, the proposed Project is expected to have no significant impact on the overall visual character and integrity of the Warminster Rural Historic District, or its economic or community development.

<u>Sunray Agricultural Rural Historic District (VDHR resource 131-5235, NRHP Listed 03000564)</u>

This City of Chesapeake resource was originally surveyed by Dovetail CRG, and included in their February 2016 original report (FERC Accession Number 20160415-5015). Due to a re-route of the Project corridor near the district's southern boundary, the resource was re-surveyed by ERM and included in the Virginia Phase I Historic Architectural Survey, Addendum 4 Report (FERC Accession Number 20170110-5143). ERM recommended that this resource retains its eligibility for listing in the NRHP under Criteria A and C, and the VDHR agreed in a letter dated April 6, 2017 (FERC Accession Number 20170412-5098).

The Sunray Agricultural Historic District encompasses 1,264 acres in Chesapeake, and includes 281 contributing resources, consisting of dwelling houses, community buildings, agricultural landscape features, and an abandoned railroad track. The district represents an early twentieth century planned ethnic community settled by Polish immigrants brought to the site through the efforts of a real estate developer and New York shipping agents who assisted in settling recent arrivals in U.S. communities. The property on which the Sunray community was laid out was a

tidal marsh that had been utilized by a timber company during the nineteenth century. It was acquired by the Southern Homestead Corporation in 1907 and platted into lots. Elevated roads lined by ditches were constructed to access the lots and drain the land for farming. This grid system was continued by the Polish immigrants, who began relocating to the settlement in the 1910s. By 1920, there were 200 people living in Sunray, and a church, school, and cemetery were established. The residents were primarily farmers who grew food crops for their families, as well as flowers, strawberries, potatoes, and other crops for market.

No individually-eligible structures associated with Sunray are located within the Project corridor APE. Three extant properties abut or are intersected by proposed access roads and are within the Project APE, but their construction dates are too recent to be eligible for the NRHP. On another property within the APE, VDHR resource 133-5325-0063, a circa 1950 dwelling, was previously recorded, however, it was noted to have been demolished; the property appears to now be used as agricultural fields.

The Sunray Agricultural Historic District has maintained its agricultural setting at the northern end of the Great Dismal Swamp. The surrounding area is rural with expanses of open land that is either forested or being used for agricultural purposes. The community still retains much of its early Polish heritage, although many of the farms have been consolidated and descendants of the original settlers are more likely to work outside of the community. The Sunray Farmers' Association, many of whose members are farmers and descendants of the community's first residents, works to retain the community's stability and its agricultural heritage, and to manage the impact of modern intrusions and limit changes to their district. The community has lobbied to retain its wells, septic systems, and deep roadside ditches over the installation of city water and sewer lines.

The Project corridor passes approximately 0.3 mile to the west of the historic district, before turning east to follow the Norfolk Southern rail line, approximately 0.15 mile south of the district. Two proposed access roads for the Project border or cross a portion of the NRHP boundary of the historic district. The proposed roads utilize existing dirt-paved rights-of-way that are bordered by ditches and located in a sparsely settled portion of the district. No modifications of the roads are anticipated. For these reasons, use of these existing roads will have no effect on the Sunray Agricultural Historic District.

Response Provided By:

Robert Bisha
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Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 105 **Question Subpart:** b

Question:

In response to the Virginia SHPO's comments, provide an update on:

b. The status of the metal detection surveys of the five Civil War battlefields crossed by the project.

Response:

Systematic metal detecting surveys have been conducted across all or part of seven of the eight project corridor segments crossing American Battlefield Protection Program battlefield study areas (see the table below). All of Metal Detector Area 5 and a substantial portion of Metal Detector Area 7 await survey, which will be completed when permission to access these properties is granted. The results of the investigations completed to date are provided in *Phase I Archaeological Survey for the Atlantic Coast Pipeline Project: Virginia Addendum Report 5*, which Atlantic anticipates filing on May 5, 2017. The results achieved on properties where access is denied will be provided in a subsequent addendum report once permission has been obtained.

Response Provided By:

Robert Bisha
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Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Cultural Resources

Question Number: 105 **Question Subpart:** c

Question:

In response to the Virginia SHPO's comments, provide an update on:

c. Efforts to assess and mitigate effects to the NRHP-eligible farmstead, The Wilderness.

Response:

A re-routing of the Project corridor in Bath County resulted in VDHR resource 008-0011, a 730 acre farm property known as The Wilderness, as being within the APE for the Project. Due to difficulty in obtaining permission from the landowner, this property was not surveyed until November 2016. The site is discussed in *Phase I Historic Architectural Survey of the Atlantic Coast Pipeline: Virginia Addendum 4 Report* (FERC Accession Number 20170110-5143). The Wilderness was recommended as potentially eligible for listing on the NRHP. The VDHR concurred with this recommendation in a letter to Atlantic dated April 6, 2017 (FERC Accession Number 20170406-5362).

The Wilderness property lies on both the northwest and southeast sides of Deerfield Valley Road/Route 629, approximately 4 miles southwest from the Deerfield town center. On its east side it extends to the crest of Brushy Ridge and continues onto the ridge's east slope. At its north side, the property fronts a section of Bright Hollow Road located at the ridge's gap between Deerfield Valley Road and Back Draft valley to the east. The resource includes a circa 1798 Georgian brick main house and ancillary agricultural buildings on the southwest portion of the property and a second dwelling and outbuilding to the northeast of the main house. The main house is set back approximately 750 feet from the street, while the secondary dwelling is located approximately 2,300 feet northeast of the main house. The rising slope immediately to the east and southeast of the main house has been cleared and may be used for hay production.

The surrounding area largely retains its pastoral setting, with views to the mountains in the distance predominantly to the north and south. The farm is reported to have been in continual cultivation since the 1740s. The land was granted by King George II to brothers Sampson and George Mathews, who both served as officers in the Revolutionary War. George's daughter Ann married Samuel Blackburn, who served as a general in the Revolutionary War and as a member of the Virginia Legislature for Bath County. Purchasing land from her father, Ann and Samuel built a brick home known as "The Mansion," which was completed circa 1797-1798. The home became the couple's primary residence and was prominent in the community and in the region. After passing through a number of owners, the house was renovated in the 1960s and updated and restored in the 2010s. In 2016, the Wilderness Farm was reviewed by the Virginia SHPO's DHR Evaluation Committee at the local level of significance under Criterion A (Agriculture) and

Criterion C (Architecture), with a period of significance of 1797-1966, and it was determined to be NRHP-eligible.

The proposed Project corridor crosses the property near the crest of Brushy Ridge to the east of the main house. Views from this area towards the majority of the proposed pipeline corridor are screened by trees and vegetation on the lower slopes. Approximately 0.2 mile east-northeast of the main house, the Project corridor enters a cleared/mowed area near the top of the ridge, continuing southwest for approximately 400 feet, before bending to the south to cross to the east side of the ridge. Approximately 350 feet to the south of this point, the corridor reaches the tree line at the edge of the mowed/cleared area, which is 0.15 mile east-southeast of the main house. Depending on the height of the trees at this point, the tree cut for the pipeline corridor may be partially visible from the main house. The corridor continues to the south and passes through woods and another agricultural field on the east side of the ridge which is not visible from the historic structures on the property.

An earlier routing of the Project corridor included a Project access road over Brushy Ridge, which utilized the farm's existing drive, passing between the historic main house and one of its barns, approximately 250 feet to the southwest. Subsequent routing of the corridor has eliminated this Project access road.

There will be no direct effect to the Wilderness Farm's historic structures. While the tree-cut for the Project corridor's entrance to woods on the east side of the ridge opposite the main house may be partially visible, it is Atlantic's opinion that the Project will have no adverse effect on the overall visual character and NRHP integrity of the resource. An assessment of affect for the property will be provided in a forthcoming report.

Response Provided By:

Robert Bisha
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804-273-3010

RELIABILITY AND SAFETY

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Reliability and Safety

Question Number: 106 **Question Subpart:** N/A

Question:

In response to numerous comments received on the draft EIS, describe in more detail how Atlantic would work with local law enforcement and emergency response to promote the safe evacuation of landowners in remote areas should a pipeline incident occur. Consult with each landowner where the proposed pipeline crosses a private egress that is the sole access to/from the property to determine if a site-specific evacuation procedure is requested.

Response:

Atlantic and DTI are currently working with Local Emergency Planning Committees (LEPCs) to develop Emergency Response Plans for construction. In circumstances where ingress and egress may be impaired during construction, Atlantic and DTI stipulate to landowners that temporary measures will be taken to ensure continued ingress and egress. As the project approaches completion, Dominion Operations will provide relevant information, including the pipeline location, to the same LEPCs to support the development of Operational Emergency Response Plans. The Operational Emergency Response Plans would address incident evacuation requirements. In the unlikely case of an operational incident, Atlantic and DTI would coordinate with landowners and local emergency response services to implement the LEPC Emergency Response Plan to address the specific situation.

Response Provided By:

Leighton McCoy
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Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Reliability and Safety

Question Number: 107 **Question Subpart:** N/A

Question:

We have received several comments regarding the ability to cross the buried pipeline using heavy farm equipment, timber harvesting and removal equipment, or emergency response equipment such as fire, rescue, and water trucks. Identify any weight restrictions or load limitations for crossing the buried pipeline once placed into operation. Specify weight difference by pipeline diameter and class, if applicable.

Response:

Atlantic and DTI have advised landowners that normal farm equipment may cross the pipeline without prior notification. Atlantic and DTI currently have meetings planned with Local Emergency Planning Committees to discuss various situations that may arise during and post construction. This item will be addressed during these meetings. Provisions will be discussed to ensure emergency responders have access.

Atlantic and DTI are unable to provide weight restrictions and load limitations. Site specific information is necessary to perform these calculations. Required data entries include pipe diameter, pipe wall thickness, internal pressure, depth of pipe, type of soil, width of trench, wheel configuration, number of axles, maximum weight, etc. In negotiations with landowners, Atlantic and DTI are providing stabilized crossings for existing driveways and access roads where heavy loads are anticipated. If a heavy load is proposed after construction, the landowner will need to contact DTI Field Engineering. An Engineer will perform the calculation to determine if it is safe to cross the pipeline. If it is determined that it is not safe to cross, the Engineer may then provide a list of temporary or permanent mitigation measures to utilize and make it safe to cross (e.g., a timber mat or a layer of stone or dirt).

Response Provided By:

Carole McCoy
Director Engineering Services
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Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Reliability and Safety

Question Number: 108 **Question Subpart:** N/A

Question:

Identify/confirm both the proposed operating pressure and maximum allowable operating pressure for each of the pipelines for the Atlantic Coast Pipeline Project and Supply Header Project.

Response:

A response to this Question is being filed under a separate cover. The response is marked "CONTAINS CRITICAL ENERGY INFRSTRUCTURE INFORMATION – DO NOT RELEASE."

Response Provided By:

Carole McCoy
Director Engineering Services
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ALTERNATIVES

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Alternatives

Question Number: 109 **Question Subpart:** N/A

Question:

Identify any route or workspace changes that have occurred in the Wintergreen and/or Rockfish Valley project area based on landowner discussion or survey results, or identify if or when changes may be filed the Secretary.

Response:

Atlantic recently acquired survey access in this area. Survey results are being compiled, and Atlantic will submit updates, including a potential route or workspace changes, to FERC by July 2017.

Response Provided By:

Carole McCoy
Director Engineering Services
804-775-5234

Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Alternatives

Question Number: 110 **Question Subpart:** N/A

Question:

Regarding a comment from Frank Perry Hill (Accession Number 20170110-0023), clarify whether the pipeline route can be routed along the edge of the property line as identified in the letter.

Response:

Atlantic has had various communications with this property owner who is asking ACP to consider a variation to the route and relocate it to the western edge of the property line to accommodate a possible future subdivision (no plan has been filed with the local jurisdiction). Atlantic reviewed several potential route variations; however, the variations would have greater impacts on adjoining landowners. Atlantic believes that the filed route is the least impactful.

Response Provided By:

Carole McCoy
Director Engineering Services
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Atlantic Coast Pipeline, LLC & Dominion Transmission, Inc.
Docket Nos. CP15-554-000, CP15-554-001, & CP15-555-000
Response to Data Request
Dated April 11, 2017

Category: Alternatives

Question Number: 111 **Question Subpart:** N/A

Question:

Based on information received during comments on the draft EIS, a spring may be present on the south side of Tinkling Spring Road (MP 144.1). Identify whether the route or project workspace can be adjusted to avoid impacts on the spring.

Response:

Atlantic continues to evaluate this area. Atlantic will communicate with the affected landowner to better define the location of the spring in question. Once Atlantic locates the spring source, a possible route adjustment could be considered.

Response Provided By:

Carole McCoy
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