FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 4
Atlantic Coast Pipeline, LLC
Atlantic Coast Pipeline
Dominion Transmission Inc.
Supply Header Project
Docket Nos. CP15-554-000
CP15-554-001
CP15-555-000

April 11, 2017

Matthew Bley
Director, Gas Transmission Certificates
707 E. Main Street
20th Floor
Richmond, VA 23219

Re: Environmental Information Request for the Atlantic Coast Pipeline and Supply Header Project

Mr. Bley:

Please provide the information described in enclosure A to assist in our analysis of Atlantic Coast Pipeline, LLC's (Atlantic) and Dominion Transmission, Inc.'s (DTI) Certificate application for the Atlantic Coast Pipeline (ACP) and Supply Header Project (SHP). File your response in accordance with the provisions of the Federal Energy Regulatory Commission's (FERC or Commission) Rules of Practice and Procedure. In particular, 18 Code of Federal Regulations (CFR) 385.2010 (Rule 2010) requires that you serve a copy of the response to each person whose name appears on the official service list for this proceeding.

Please file your response within 20 days of the date of this letter. The response must be filed with the Secretary of the Commission at:

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

File all responses under oath (18 CFR 385.2005) by an authorized representative of Atlantic and DTI and include the name, position, and telephone number of the respondent to each item. In addition to the official filing, please provide one hard copy of the response, including all oversize materials, and an electronic copy of the response, to our third-party contractor, Merjent, Inc., and to the federal cooperating agency contacts listed below, unless the cooperating agency contact has specifically requested otherwise.

When filing documents and maps, prepare separate volumes as outlined on the Commission's website at http://www.ferc.gov/resources/guides/filing-guide/file-ceii.asp. Any plot plans showing equipment or piping details or other Critical Energy Infrastructure Information should be filed as non-public and labeled **"Contains Critical Energy Infrastructure Information – Do Not Release"** (18 CFR 388.112). Cultural resources material containing location, character, or ownership information should be marked **"Contains Privileged Information – Do Not Release"** and should be filed separately from the remaining information, which should be marked **"Public."**

Thank you for your cooperation. If you have any questions, please contact me at 202-502-6287.

Sincerely,

Kevin Bowman
Environmental Project Manager
Office of Energy Projects

Enclosure

cc: Public File, Docket Nos. CP15-554-000, CP15-554-001, and CP15-555-000

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ENCLOSURE A

Federal Energy Regulatory Commission (FERC)
Environmental Information Request

Atlantic Coast Pipeline (ACP) - Docket Nos. CP15-554-000 and CP15-554-001
Supply Header Project (SHP) - Docket No. CP15-555-000

General

1. 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.

    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.

    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.

2. 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.

3. 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

4. The January 27, 2017 Applicant-Prepared Biological Assessment (BA) 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.

5. 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.

6. 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);

Geology

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

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

Soils

14. 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.

Water Resources

15. 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.

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

17. The George Washington National Forest (GWNF) Locally Rare Species Report filed February 24, 2017 notes that ACP would cross "27 waterbodies…Twenty-five 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.

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

Vegetation, Wildlife, and Fisheries

19. 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.

20. 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.

21. 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.

22. 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.

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.

23. 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.

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.

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.

24. 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.

25. 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.

26. 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.

27. 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.

Special Status Species

28. 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.

29. 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.

30. 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.

31. 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.

32. 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.

33. 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).

34. 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.

35. 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.

36. 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.

37. 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.

38. 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.

39. 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.

40. 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.

    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.

    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.

    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.

    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.

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.

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.

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.

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.

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.

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.

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.

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.

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

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.

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.

41. 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.

42. 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.

43. 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.

44. 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.

45. 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.

46. 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; and

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

47. 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.

48. 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 tree clearing 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.

49. 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.

50. 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.

51. 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.

52. 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.

53. 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.

54. 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.

55. 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.

56. 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.

57. 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.

58. 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.

59. 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.

60. 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.

61. 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.

62. 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.

63. 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.

64. 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: Nottoway River (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.

65. 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.

66. 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.

67. 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.

68. 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.

69. 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.

70. 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.

71. 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.

72. 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.

73. 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.

74. 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).

75. 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.

76. 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.

77. 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.

78. 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 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).

79. 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.

Land Use, Special Interest Areas, and Visual Resources

80. 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.

81. 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.

82. 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.

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

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

Socioeconomics

85. 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).

86. 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.

Cultural Resources

87. 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**."

88. 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.

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

90. 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.

91. File Virginia Cultural Resource Information System forms and any other State Historic Preservation Office (SHPO) site forms not previously filed or included in the survey reports.

92. 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*.

93. 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.).

94. 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.

95. 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.

96. 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.

97. 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).

98. 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.

99. 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.

100. 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.

101. 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.

102. 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.

103. 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;

b. The East Burial Mound;

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.

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.

104. 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.

105. 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.

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

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

Reliability and Safety

106. 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.

107. 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.

108. 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.

Alternatives

109. 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.

110. 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.

111. 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.

Document Content(s)