

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

**In Reply Refer To:**

OEP/DG2E/Gas Branch 3  
Tennessee Gas Pipeline Company, LLC  
Northeast Energy Direct Project  
Docket Nos. CP16-21-000, PF14-22-000  
§ 375.308(z)

February 26, 2015

Mr. J. Curtis Moffat  
Deputy General Counsel and Vice President  
Gas Group Legal  
Tennessee Gas Pipeline Company, LLC  
1001 Louisiana Street, Suite 1000  
Houston, TX 77009

**Re: Environmental Information Request**

Mr. Moffat:

Provide the information described in the enclosure to assist in our analysis of the above-referenced certificate application. File your response in accordance with the provisions of the Commission's Rules of Practice and Procedure. In particular, 18 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.

**You should file a complete 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

In addition to the information specifically required in the regulations, staff needs the following information to begin preparation of the environmental impact statement (EIS) for the Northeast Energy Direct Project. If the information cannot be provided in the time frame indicated, explain which items will be delayed and why, and provide a projected

filing date. Also, we expect to be requesting other clarifications or information in the future.

**Once we have received your responses to this and any necessary future data requests, and reviewed them for completeness, we will be able to establish a schedule for completing the EIS.**

When filing documents and maps, be sure to prepare separate volumes, as outlined on the Commission's website at <http://www.ferc.gov/resources/guides/filing-guide/file-ceii.asp>. Any 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."

File all responses under oath (18 CFR 385.2005) by an authorized Tennessee Gas Pipeline Company, LLC representative and include the name, position, and telephone number of the respondent to each item.

If you have any questions, please contact me at (202) 502-8097. Thank you for your cooperation.

Eric J. Tomasi

Environmental Project Manager  
Office of Energy Projects

cc: Public File, Docket Nos. CP16-21-000, PF14-22-000

All Parties

**Northeast Energy Direct Project (Project)  
Docket No. CP16-21-000  
Environmental Information Request**

**Resource Report 1 – Project Description**

1. General – Provide all information listed in Resource Report (RR) 1 (or in the Responses to Comments on Draft Resource Reports matrix) that Tennessee Gas Pipeline Company, LLC (Tennessee Gas) has identified would be provided to the Federal Energy Regulatory Commission (FERC), or include a schedule for submittal, which includes, but is not necessarily limited to:
  - a. all updated text, tables, graphics and appendices to depict and characterize any changes to the Project routing, aboveground facilities, and construction and operational workspaces that Tennessee Gas has adopted that are not comprehensively reflected in the November 20, 2015 certificate application (e.g., Amherst re-route, powerline collocation);
  - b. updated landowner list that reflects the Amherst re-route and any other changes adopted by Tennessee Gas subsequent to its November 20, 2015 submittal including directly affected landowners and abutting landowners as well as those landowners that would no longer be affected due to changes in the route and facility locations;
  - c. provide updated maps and parcel data that include parcel boundary, parcel ID, and landowner names and addresses for the draft March 2015 submittal, the November 2015 submittal, and any subsequent updates since November 2015;
  - d. updated information on the existing conditions, Project routing, construction, or operation based on aerial photography and Light Detection and Ranging (LiDAR) surveys conducted after March 2015, including associated updates to the Project methods, impacts, or mitigation after the November 20, 2015 application. This information should include updated data, and associated text, tables, and maps. For all existing and pending aerial photography and LiDAR surveys, provide the following:
    - i. detailed survey methods and dates;
    - ii. aerial photographs;
    - iii. LiDAR data and maps;
    - iv. contour elevation intervals;
    - v. detailed interpretation methods, including assumptions;

- vi. Quality Assurance/Quality Control methodologies; and
- vii. site-by-site results;
- e. all agency consultation after October 1, 2015 (or otherwise not previously filed with the FERC);
- f. updated 2015 survey results and schedule for 2016 field surveys and survey report submittal;
- g. updated land use-land cover mapping;
- h. updated detailed construction schedule showing Project components by year (e.g., 2017, 2018) or confirm that it has not changed;
- i. updated discussions between Tennessee Gas and the other utility entities regarding collocation. State specifically what portions of their existing rights-of-way would be allowed for construction, operation, or both and define any potential physical constraints (e.g., guy wires). Where existing rights-of-way would not be shared, specifically indicate whether the Northeast Energy Direct (NED) Project would directly abut the existing corridor. Include a fully descriptive table, with explanations and details included that lists each area where a collocated Project segment would deviate from other collocated utilities. Based on the results of these discussions, both for other utilities unwilling to share their right-of-way as well as for physical obstacles, indicate whether the proposed Project centerline and associated workspaces would have to be modified including distance from the existing rights-of-way and length of the deviation. Provide all areas where Project construction along collocated rights-of-way would require clearing mature trees within the existing easement (including locations, acreage of tree clearing, and proximity to residences for each location). Provide updated tables that summarize these results (e.g., table 1.1-2);
- j. updated information on the proposed locations that trenchless crossing methods (including horizontal directional drill [HDD], Direct Pipe, and conventional bore) would be conducted to minimize impacts to sensitive resources, such as waterbodies, wetlands, critical habitat, and major infrastructure based on:
  - i. geotechnical investigations of currently proposed locations;
  - ii. additional field surveys and assessment;
  - iii. additional crossings under evaluation but not currently formally proposed; and
  - iv. agency and stakeholder consultation;

- k. cathodic protection facility information including identification number, and associated access roads (including length, width, orientation, land use, and acreage impacted);
- l. updated alignment sheets depicting:
  - i. survey status;
  - ii. construction and operational right-of-way;
  - iii. additional temporary workspace including updated locations and configurations;
  - iv. access roads including locations, configuration, and identification of whether they would be used during construction and operation, and whether they would be maintained in their current condition or modified;
  - v. updated contractor yards showing any sensitive resources; and
  - vi. updated crossing method locations (e.g., HDD, Direct Pipe, conventional bore);
- m. updated status of landowner access and associated survey status (including updated tables 1.2-6 and 1.2-7);
- n. update of table 1.6-1 on agency permits and consultation status, including status of permit applications submitted since mid-November 2015;
- o. updates to any of the state-specific Environmental Construction Plans (ECPs) and appendices associated with federal and state agency consultation and refinements in avoidance and minimization measures proposed by Tennessee Gas (denote all modifications to these plans since the November 20, 2015 submittal in the text of the plan). Provide an updated table that identifies how the individual ECPs differ from one another and from the FERC Plan and Procedures;
- p. scour analysis detailing methods, data, and results;
- q. any updated information on the identification and full description of non-jurisdictional facilities associated with the Project including potential service for water, sewer, telephone, internet/data, or other utilities at aboveground facilities. If there are any additional non-jurisdictional facilities that would be built as a result of the new gas volumes associated with this Project, include the following detailed information for each facility:
  - i. company/owner;
  - ii. type of facility;

- iii. dimensions (pipe diameter, length, horsepower, etc. as appropriate for pipeline and land area for other facilities);
  - iv. maps showing locations;
  - v. federal permits required and their status;
  - vi. status of local and state permits required; and
  - vii. any environmental reviews required for federal, state, or local, permitting authorities; and
- r. provide all major tabular summaries in a Word, Excel, or comparable format (e.g., more than 10 rows or 10 columns).
2. Provide a comprehensive inventory of the information that Tennessee Gas intends to file with the FERC in its anticipated April 2016 submittal.
  3. Confirm whether Tennessee Gas is proposing 29 meter stations as identified throughout the November 20, 2015 RRs or 27 meter stations as identified in some portions of its November 20, 2015 Application. As warranted, provide updated descriptions and tables that reflect the correct number, location, descriptions, configurations, and associated impacts and mitigation measures.
  4. Provide an explanation why the interconnect between the NED mainline and the Maritimes & Northeast pipeline system is not directly from the NED Mainline Segment L, milepost (MP) 1.7 where the two pipelines would cross instead of constructing the Maritimes Delivery Line from the Market Path Tail Station immediately adjacent to the proposed NED mainline back to the Maritimes & Northeast pipeline (thus installing two 30-inch pipelines within the same right-of-way for 0.75 miles, which would require both wider construction and permanent rights-of-way).
  5. Section 1.0 (page 1-2) – Clarify the meaning of the text on the Amherst re-route(s) as it relates to:
    - a. whether there are one or two Amherst re-routes;
    - b. if there is only one Amherst re-route, explicitly identify what specific portions of the November 20, 2015 submittal (text, tables, and maps) reflect it;
    - c. if there is an additional Amherst re-route as stated in the text, explicitly identify what portions of the November 20, 2015 submittal (text, tables, and maps) reflect no Amherst re-routes, one Amherst re-route, or two Amherst re-routes; and
    - d. if there is a delay in providing comprehensive text, tables and maps that incorporate the appropriate Amherst re-route(s), provide U.S. Geological

Survey (USGS) 7.5 minute topographic maps, aerial alignment sheets, and National Wetlands Inventory (NWI) maps that correspond to the proposed Project described in the text and tables of the November 20, 2015 submittal.

6. Section 1.1.1 (page 1-11) – Provide any updates since the November 20, 2015 submittal on the possible uses of the Project’s end-users/customers for the gas capacity created in the mainline and each lateral. If possible, break down (by delivery point) the current known customer and/or use (e.g., electric generation, residential use/consumption, local distribution, industrial/manufacturing, manufacturing precursors).
7. Section 1.3.1.1 (page 1-83) – Provide additional detail on the special measures that would be employed to prevent post-restoration slips and landslides in steep terrain, and how Tennessee Gas would ensure their success.
8. Section 1.3.1.2 (page 1-96) – Regarding temporary erosion control measures occurring within 24 hours of each 0.5 inch of rainfall, identify how and where rainfall would be measured and monitored in relation to the Project work areas, and what would be the maximum distance between the proposed route and the closest rainfall monitoring station.
9. Section 1.3.1.3 (page 1-96) – Confirm landowners’ roles in determining how trees would be removed including if/how timber would be sold, provided for personal use (e.g., firewood), and/or disposed (e.g., chipped, onsite, offsite).
10. Section 1.3.1.4 (page 1-97) – Clarify whether Tennessee Gas is proposing that the minimum depth of cover be 36 inches in actively cultivated agricultural lands as stated in the text, or 48 inches in all agricultural lands as stated in the corresponding table (table 1.3-1). Confirm whether or not Tennessee Gas has different definitions and construction methods for ‘land in agriculture’ and ‘actively cultivated agricultural lands.’
11. Section 1.3.1.13 (page 1-100) – As requested in our May 15, 2015 and October 8, 2015 Environmental Information Requests (EIRs), describe the source or type of source of imported soils during restoration, and measures that would be implemented to address the spread of invasive plant species, soil type compatibility, and rock content.
12. Section 1.3.1.14 (page 1-101) – Provide methods for discharging hydrostatic test waters into waterbodies in the event it may be allowed by regulatory agencies and may be pursued by Tennessee Gas. Update the information on whether the hydrostatic discharges in each state would be covered under a General Permit of individual permits.

13. Section 1.3.2.2 (page 1-103) – For pipeline installation near residences:
  - a. where residential access would be temporarily blocked, provide the typical and maximum duration that would be anticipated that local residents would not have access to/from their homes during active pipeline installation;
  - b. clarify whether trenches immediately adjacent to residences would be backfilled or covered daily, or left open for up to 10 days;
  - c. provide the source of imported topsoil for lawns (or identify the process for determining the source);
  - d. clarify whether Tennessee Gas would test all water wells and springs used as a drinking water supply (humans or livestock) within 200 feet of construction workspace;
  - e. clarify whether Tennessee Gas would conduct pre-construction water testing for all drinking water wells and springs within 200 feet of the construction workspace prior to construction even if the landowners have not offered survey access to Tennessee Gas prior to any FERC Certificate; and
  - f. clarify how Tennessee Gas would ensure that all conditions of landowner agreements have been met and the landowner has been appropriately compensated for damage to the satisfaction of the landowner.
14. Section 1.3.2.2 (page 1-104) – In regard to assessing potential damage of Project-related traffic on roads, confirm whether Tennessee Gas would video document all pre- and post-construction road conditions (public and private). Provide further detail on how Project-related responsibility would be determined for potential road damage to public and private roads, and how it would be corrected.
15. Section 1.3.2.5.2 (page 1-106) – As requested in our May 15, 2015 and October 8, 2015 EIRs, discuss whether Tennessee Gas, in certain circumstances, may be able to pull back an HDD section in sub-sections, thereby increasing flexibility, minimizing the false right-of-way, and precluding the requirement of pulling one continuous section. If feasible, identify the specific crossings where this method would be employed.
16. Section 1.3.2.5.2 (page 1-107) – Provide results of geotechnical investigations at all locations where HDD is proposed including detailed methods, data, and evaluation of feasibility of successful HDD or Direct Pipe crossing methods.
17. Section 1.8 (table 1.8-1) – Confirm the actual libraries and/or other locations where the public can access hard copies of the November 2015 application, supplemental filings, and responses to data requests. Provide hours of public access, and ensure that you have at least one location per county. In addition

provide details where and how affected landowners (those with Project components on their land, those that abut properties with Project components, and those landowners within ½ mile of the compressor stations ) can access detailed maps of where the pipeline, or other project components would cross on or near their property,

18. Section 1.8.1 (page 1-143) – Clarify the statement that survey permission is pending for aboveground facility sites, access roads, and contractor yards as to whether this statement applies to all of those areas, whether Tennessee Gas has requested access to each location, and whether Tennessee Gas has been denied access to each location. If survey access has not been requested, provide the schedule for requesting access, conducting surveys for accessible parcels, and providing those results to the FERC.
19. Section 1.9 (page 1-153) – As requested in our October 8, 2015 EIR, consult with land managing agencies, state and local planning agencies, and other appropriate entities to identify past, present, and reasonably foreseeable future in the potential resource Region of Influence that could be affected by the NED Project. Provide the agency correspondence to support the consultation.
20. Section 1.9 (page 1-153) – Revise the cumulative impact analysis to report the various projects and their project footprints on a spatial scale of hydrologic unit code (HUC) 10 watersheds instead of HUC 8 where the HUC delineation is used. Provide updated versions of figure 1.9-1, table 1.9-2, and attachment 1B that reflect HUC 10 watersheds.
21. Provide an updated table listing any additional deviations that Tennessee Gas is requesting from the FERC *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) including the section number of the Plan or Procedures for the requested deviation, a description of the deviation itself, justification for the deviation, and a description of how the deviation would provide equal or greater mitigation. Additionally, provide an updated summary table stating how each state-specific ECP differs from one another and from the FERC Plan and Procedures.

## **Resource Report 2 – Water Use and Quality**

1. General – Provide all information listed in RR2 (or in the Responses to Comments on Draft Resource Reports matrix; or the Responses to the October 2015 Scoping Comments matrix that Tennessee Gas has identified would be provided to the FERC (or include a schedule for submittal), which includes, but is not necessarily limited to:
  - a. status of consultation with the New York Department of Health to identify regulatory agency requirements regarding water resources;
  - b. status of consultations with each state regarding special impact avoidance, minimization, or mitigation measures recommended near Sole Source Aquifers (SSAs) and Wellhead Protection Areas (WHPAs);
  - c. status of class studies on proposed pipeline segments to assist in mainline valve (MLV) placement;
  - d. status of consultation with the Pennsylvania Department of Environmental Protection (PADEP) Northcentral Region Water Supply Program regarding public water supply (PWS) wells in the Project area;
  - e. status of identifying all known public and private water supply wells and springs;
  - f. status of consultation with the Town of Wilmington, Massachusetts to determine avoidance and minimization measures near the Massachusetts Department of Environmental Protection (MADEP) designated Zone I and II areas;
  - g. a Hydrostatic Test Plan that provides source and discharge locations, the rate and volume of water that would be required, and month(s) of withdrawal and discharge. Clarify the apparent discrepancy between RR2 and the state-specific ECPs regarding whether or not hydrostatic test water could be discharged into waterbodies. If water would be discharged into waterbodies, describe the methods and clarify whether or not discharge would occur within the same hydrologic basin as the source water. Identify any measures Tennessee Gas would take to minimize the discharge of any compounds in the pipe via the test water (e.g., soil, rust) as well as the spread of invasive species through dispersal of test water into waterbodies and wetlands;
  - h. status of agency consultations regarding timing restrictions of waterbody crossings;
  - i. status of consultations with the Pennsylvania Fish and Boat Commission (PAFBC), New York State Department of Environmental Conservation (NYSDEC) Bureau of Fisheries, Massachusetts Division of Fisheries and

Wildlife (MADFW), New Hampshire Department of Environmental Services (NHDES), and the Connecticut Department of Energy and Environmental Protection (CTDEEP) regarding waterbodies containing fisheries resources;

- j. status of agency consultations regarding the proposed use of a dry-crossing method at the Westfield River (a National Wild and Scenic River) along with the results of Tennessee Gas' crossing-method analysis and resulting proposed crossing method for this waterbody;
- k. status of consultations with state agencies regarding hazardous spill sites and areas subject to on-going environmental remediation activities;
- l. status of consultations with NHDES regarding waterbody crossings on impaired streams/waterbodies containing contaminated sediments;
- m. status of consultations with federal, state, and local agencies to identify areas where flooding is a concern that may not be mapped by the Federal Emergency Management Agency (FEMA);
- n. status of consultation regarding special wetland impact avoidance, minimization, or mitigation measures recommended for erosion and sediment control;
- o. status of consultations with federal and state regulatory agencies (e.g., PADEP, NYSDEC, MADEP, NHDES, CTDEEP, and U.S. Army Corps of Engineers [COE]) on whether Tennessee Gas is developing Project-specific wetland plans (per state) and the specific guidance that is proposed. Provide draft wetland mitigation plans including any compensatory mitigation plans, if available. If draft plans are not available, identify the schedule for when these plans will be provided and provide a discussion regarding the types of mitigation methods that may be appropriate to restore wetlands;
- p. status of consultations with New Hampshire Department of Transportation, the Town of Salem, and appropriate regulatory agencies in regard to the wetland floodplain mitigation site associated with the I-93 project in Salem, New Hampshire;
- q. updated status of landowner access for surveys, survey status, data, and conclusions regarding the occurrence and avoidance of waterbody and wetland habitat associated with proposed contractor yards and access roads;
- r. status of consultations with applicable agencies on wetland construction measures and associated crossing techniques/conditions which would be required and incorporated for the state-specific ECPs;
- s. status of consultation with Connecticut's Metropolitan District Commission (CTMDC) to determine the correct minimization and mitigation techniques

best suitable for the CTMDC public drinking watershed and the permit application to be filed with the Connecticut Department of Public Health (CTDPH); and

- t. updated status of 2015 wetland and waterbody field surveys, previously unfiled 2015 field data, and the anticipated schedule for conducting 2016 field surveys and providing 2016 field results.
2. General – Clarify whether the ‘photo-interpretation’ of waterbodies and wetlands conducted by Tennessee Gas is specific to review of only aerial photographs, only LiDAR imagery, or a combination of the two data types. If it varies across specific waterbodies and wetlands, identify which method(s) was used for each waterbody and wetland characterization that was based on photo-interpretation. Confirm whether or not aerial imagery was used to characterize specific habitat conditions besides general land use, wetland features, and waterbodies with no access. Provide the following information for waterbody and wetland interpretations:
- a. a discussion of the adequacy of aerial photographs and LiDAR for identifying perennial and ephemeral streams/drainages;
  - b. a discussion regarding the ability to locate and characterize waterbody or wetland resources (including vernal pools) that may be obscured by forest cover and therefore may not be readily identified by interpretation of aerial photographs or LiDAR; identify whether waterbody or wetland feature IDs will change based on aerial surveys conducted after March 2015. If the IDs are updated, provide both the original and new IDs throughout associated tables in attachment 2B (e.g., tables 2.3-1, 2.3-3, 2.3-5, 2.3-7, 2.3-9);
  - c. update the tables in attachment 2B (e.g., tables 2.3-1, 2.3-3, 2.3-5, 2.3-7, 2.3-9) and all future wetland delineation reports with identification of survey methods and survey dates, including aerial photography and/or LiDAR surveys conducted after March 2015;
  - d. update tables in attachment 2B (e.g., tables 2.2-4, 2.2-5, 2.2-6, 2.2-7, 2.2-8, 2.3-1, 2.3-3, 2.3-5, 2.3-7, 2.3-9, 2.3-11) to identify wetlands or other waterbodies that would be subject to the permit requirements of Section 404 of the Clean Water Act due to discharge of dredge and fill material during project construction;
  - e. update the state wetland classification column in the appropriate attachment 2B tables (e.g., 2.3-1, 2.3-3, 2.3-5, 2.3-7, 2.3-9) to include the relevant state classification (e.g., “Prime Wetlands” in New Hampshire) and the most recent source and date of this information for each state; and
  - f. update tables in attachment 2B (e.g., 2.3-1, 2.3-3, 2.3-5, 2.3-7, 2.3-9) to represent types of impact (e.g., permanent loss of waters, temporary

impacts, or permanent/temporary impacts resulting from conversion of one wetland types [e.g., forested to emergent wetlands]).

3. As previously requested in our May 15, 2015 EIR, provide the following information:
  - a. a detailed description of the aquifers in each state including the names of each aquifer crossed by the Project;
  - b. a discussion of potential surface water impacts resulting from the operation of the Project (e.g., increased runoff resulting from increased impervious surface);
  - c. clarification of whether or not Massachusetts, New Hampshire and Connecticut have a Wellhead Protection Program and identify WHPAs accordingly; and
  - d. clarification as to why some waterbodies have “unknown” listed under type of waterbody and clarify what the term “unknown” indicates in tables 2.2-4, 2.2-5, 2.2-6, 2.2-7, and 2.2-8 (attachment 2B).
4. As previously requested in our October 8, 2015 EIR, provide the site-specific plans for crossing major waterbodies, any other HDD waterbody crossings, other sensitive waterbody crossings (e.g., coldwater, contaminated sediments), and wetlands, including proposed mitigation alternatives and site-specific construction techniques. Provide discussion regarding restoration measures and monitoring of pre- and post-construction conditions for each type of waterbody crossing method.
5. General - For open-cut crossings of major waterbodies, wetlands, or those that support sensitive aquatic species, provide quantitative modeling results of the turbidity and sedimentation associated with construction. Results should provide a text description as well as a graphical depiction of the duration, extent, and magnitude of turbidity levels. Assess the potential impacts to resident biota. Also, include a discussion on the physical and chemical characteristics of the sediments, the estimated area affected by the transport and redistribution of the sediments, and the effect of the suspension and resettlement on water quality, and aquatic and benthic organisms.
6. General – Confirm whether or not all wetlands are consistently represented by each unique wetland identification code in the text, wetland tables in attachment 2B, wetland delineation reports, wetland data sheets, and associated alignment sheets. Correct all discrepancies and provide all updated text, tables, reports, and alignment sheets (e.g., not all listed wetlands are depicted on the alignment sheets, and some wetlands depicted on the alignment sheets are not listed on the wetland tables and associated wetland delineation reports are missing [e.g., NWI-1313/1314]).

7. Section 2.0 (page 2-1) – In regard to the requested modification to FERC’s Wetland and Waterbody Construction and Mitigation Procedures:
  - a. clarify how the requested modification to allow Tennessee Gas to “cross streams with discernible flow at the time of construction via fluming or dam and pump, regardless of fisheries or critical habitat designation” is a modification to the FERC Procedures as the FERC Procedures allow these dry crossing methods under these conditions (recognizing that the FERC Procedures may also allow other crossing methods under these conditions). In addition, clarify what Tennessee Gas means by proposing dry crossing “unless otherwise approved by applicable federal and/or state regulatory agencies.” Is Tennessee Gas proposing dry crossings methods to FERC while pursuing approvals from other agencies to use less protective crossing methods? If so, state each crossing location by alternative crossing method and the status of those approvals (e.g., consultation, agency);
  - b. provide the location and justification for each site where Tennessee Gas is proposing additional temporary workspace within 50 feet of waterbodies and wetlands, as these locations and adequate justifications are not provided in the locations referenced in RR1 or RR2;
  - c. provide the locations and justification for each wetland where Tennessee Gas is proposing to expand the workspace beyond 75-feet wide, as these locations and adequate justifications are not apparent based on the references in RR1 or RR2;
  - d. clarify the requested modification associated with permanent slope breakers at wetland boundaries including whether permanent slope breakers would be installed at the base of slopes greater than 5 percent; how permanent overland flow characteristics would be measured, assessed, and otherwise addressed; and confirm that Tennessee Gas is proposing that a qualified Environmental Inspector would make the determination of the need for a permanent slope breaker, in coordination with the FERC Compliance Monitor; and
  - e. clarify why Tennessee Gas is proposing the use of hay/straw bales as temporary slope breakers at wetland boundaries, which is not consistent with Tennessee Gas’ statement in Section IV.F.1.a of FERC’s Plan (i.e., it states that “silt fence, staked hay, straw bales, and sandbags will not be used to construct temporary slope breakers in upland areas”).
8. Section 2.1.1 (pages 2-2 through 2-15) – Figure 2.1-1a depicts the Project crossing an aquifer identified as “other rocks.” Provide a description of this aquifer.

9. Section 2.1 (pages 2-2 to 2-17) – Clarify whether Tennessee Gas would conduct testing of well flow, recovery, and head during pre-construction and post-construction well testing. Provide a detailed well testing plan that includes a description of all measurements that would be tested, specific testing procedures, landowner notification and reporting procedures, schedules for testing, and mitigation measures in the event that the water supply quantity or quality is affected.
10. Section 2.1 (pages 2-2 to 2-17) – Provide a discussion on the potential impacts on water resources as a result of construction and operation of the Project in karst areas:
  - a. provide both Project-wide and site-specific construction and mitigation plans for karst areas that would cover currently identified resources as well as those karst resources that might be discovered during construction;
  - b. assess the potential need to expand the geographic extent of testing of wells, springs, and possibly groundwater beyond 200 feet in karst zones; and
  - c. discuss whether Tennessee Gas would offer an expanded zone (beyond 200 feet) of pre- and post-construction monitoring for water wells and springs located in karst areas.
11. Section 2.1.1.1.1 (page 2-2) – Provide a discussion regarding locally zoned aquifers crossed by the Pennsylvania portion of the Project.
12. Section 2.1.1.2.1 (pages 2-3 to 2-4) – In regards to SSAs, identify the agency(ies) in which consultation has been initiated on this topic. Provide the anticipated timeline for completion of the consultation.
13. Section 2.1.1.2.1 (pages 2-3 through 2-6) – Clarify whether the Project would cross the New York Sandstone Aquifer as depicted in figure 2.1-1a. If the Project would cross the New York Sandstone Aquifer, provide a description of this aquifer in section 2.1.1.2.1.
14. Section 2.1.5 (pages 2-17) – Clarify whether the Project is within 3 miles of the Methuen, Massachusetts and Lawrence, Massachusetts drinking water intakes on the Merrimack River.
15. Section 2.1.5.1 (pages 2-19 to 2-24) – Provide a table of known drinking water springs located within 200 feet of the Project area.
16. Section 2.1.5.1.2 (pages 2-19 to 2-20) – The text discusses several public water supplies located within 0.25 mile of the proposed Project in New York; table 2.1-2 identifies one public water supply well within 200 feet of the proposed Project.

Provide the distance of each of the public water supplies within 0.25 mile to the proposed Project in New York.

17. Section 2.1.5.1.3 (pages 2-20 to 2-23) – The text identifies the Zone I area for the Browns Crossing and Salem Street wellfield at MP 9.4 and 10.2; table 2.1-2 identifies the Zone I area at MP 8.67 and MP 10.16. Clarify the location of the Zone I area.
18. Section 2.1.6 (pages 2-25 to 2-27) – Provide a discussion of the potential impacts to French drains and the potential for home flooding, resulting from damage to French drains.
19. Section 2.1.6 (pages 2-25 to 2-27) – Provide a detailed discussion regarding potential impacts of blasting on aquifers, springs, wells, and drinking water supplies.
20. Section 2.1.6 (pages 2-25 to 2-27) – Provide a discussion of potential long-term groundwater impacts resulting from construction and operation of the Project. The discussion should describe how the Project (in operation) would permanently affect groundwater flow.
21. Section 2.2 (pages 2-27 to 2-70) – Provide a discussion regarding mitigation measures that may be required for state/municipal designated aquifers and watershed protection areas crossed by the Project (e.g., Rindge Aquifer Protection District, Town of Nassau New York Aquifer Protection Area, Brooks/Haggetts Pond Watershed Protection Overlay District).
22. Section 2.1.6 (pages 2-25 to 2-27) and Section 2.2.10 (pages 2-62 to 2-63) – Assess the potential impacts and describe how Tennessee Gas would mitigate a lateral movement of drilling fluid during trenchless crossings that could affect both groundwater (e.g., wells, seeps, and springs) and surface water resources. Provide a discussion regarding construction and mitigation measures that would be implemented in the event of an unsuccessful HDD.
23. Section 2.2 (pages 2-27 to 2-70) – Provide a Project-specific Dust Suppression Plan that includes the following:
  - a. sources of water for dust suppression;
  - b. water volumes taken from each individual source;
  - c. permits or authorizations required for water withdrawals;
  - d. any chemicals to be added to dust suppression water;
  - e. number of water trucks per spread, and anticipated volume of water placed on the right-of-way for each truck per day; and

- f. involvement of the environmental inspector directing dust suppression activities.
24. Section 2.2 (pages 2-27 to 2-70) – Provide a discussion regarding the Project’s proximity to quarry ponds. The discussion should address:
    - a. potential impacts on quarry ponds from construction activities (e.g., blasting);
    - b. mitigation measures for construction and operation impacts on quarry ponds crossed by the Project; and
    - c. whether pre- and post-construction sampling of quarry ponds would be offered to quarry pond owners. If pre- and post- construction sampling would be offered, provide a list of water quality parameters that would be tested.
  25. Section 2.2 (pages 2-27 to 2-70) – Provide evaluations (including details of ongoing discussions with regulatory agencies) regarding the potential for using HDDs or Direct Pipe at all waterbodies and sites where waterbody crossings would be greater than 30-feet-wide, as well as at all waterbodies listed as sensitive or high quality. Provide updated tables of proposed crossing methods for each waterbody based on updated agency consultation and evaluation (e.g., table 1.3-2, attachment 2B tables).
  26. Section 2.2 (pages 2-27 to 2-70) – Provide a discussion regarding the potential for air emissions to impact water quality.
  27. Section 2.2 (pages 2-27 to 2-70) – Provide a discussion of flash flooding hazards along the proposed Project. Provide the amount of rain required to generate flash flood conditions, the potential for scour at waterbody crossings, and proposed mitigation measures.
  28. Section 2.2 (pages 2-52 to 2-61) – As requested by COE, provide justification for assigning a 3-foot-crossing length to waterbodies where no field survey has been conducted; clarify or revise the protocol for assigning a width to more accurately represent actual crossing lengths.
  29. Section 2.2 (pages 2-27 to 2-70) – Provide a table of reservoirs within 0.25 mile of the Project.
  30. Section 2.2.1 (pages 2-27 to 2-39) – Provide a table of sensitive waterbodies including surface water protection areas crossed by the Project.
  31. Section 2.2.2 (page 2-39) – Include the impacts of the construction and operation of aboveground facilities to surface water resources in tables 2.2-4 through 2.2-8.

32. Section 2.2.9 (pages 2-52 to 2-61) – Provide a discussion on designated flood zones crossed by the Project (e.g., Zone A, Zone AE)
33. Section 2.2.9 (pages 2-52 to 2-61) – Provide a discussion regarding the potential cumulative impacts resulting from multiple crossings of the Deerfield River within a relatively short distance (<5 miles between crossings).
34. Section 2.2.9.2 (pages 2-55 to 2-56) – Provide a discussion regarding agency consultation, and any additional impacts or proposed mitigation associated with waterbody crossing techniques for Class AA waters.
35. Section 2.2.9.3 (pages 2-57) – Provide clarification regarding how vernal pools and their conditions will be identified and characterized in areas not available for survey by Tennessee Gas.
36. Section 2.2.10 (pages 2-62 to 2-63) – Provide a discussion regarding potential impacts on water resources from potential perchlorate residue resulting from blasting activities.
37. Section 2.2.10 (pages 2-62 to 2-63) – Address public concerns regarding the potential for herbicides to become incorporated into stormwater runoff, groundwater, and surface waters. Provide a discussion on how impacts on water resources resulting from herbicide use would be minimized or avoided. Provide a detailed plan on how and when herbicides would be used and confirm that all herbicide use would be approved by U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), and applicable state agencies.
38. Section 2.2.11 (pages 2-63 to 2-70) – Provide a discussion regarding blasting impacts on surface waters.
39. Section 2.2.11 (page 2-63) – Clarify whether or not Tennessee Gas is currently proposing to cross all waterbodies with discernible flow via dry crossing methods. For example, the identified crossing methods for Towanda Creek (147-foot wide), Wyalusing Creek (81-foot wide), and Starrucca Creek (59-foot-wide trout stream) are wet open-cut methods. Correct these crossing methods or provide detailed rationale for why a dry crossing of each of these waterbodies is not feasible.
40. Section 2.2.11 (pages 2-63 to 2-70) – Provide a discussion regarding mitigation measures for construction and operation impacts on waterbodies or waterbody segments slated for study for potential addition to the National Wild and Scenic Rivers System (e.g., the Nashua River). Provide a discussion on the Nashua River Wild and Scenic River Study Act.
41. Section 2.2.11 (pages 2-63 to 2-70) – Provide a discussion of mitigation measures for construction and operation impacts on reservoirs crossed by the Project.

42. Section 2.2.11 (pages 2-63 to 2-70) – Provide a discussion regarding mitigation measures and permits that may be required for crossing Outstanding Resource Waters.
43. Section 2.3.1 (pages 2-71 through 2-86) – Clarify the following discrepancies between tables 2.3-1 through 2.3-11 and table 8.1-2 in RR8. Provide updated tables where necessary:
  - a. tables 2.3-1, 2.3-2, and 2.3-11 report the total acreage of wetlands impacted by operation of the Project in Pennsylvania as approximately 4.4 acres, while table 8.1-2 reports the acreage of wetlands impacted by operation of the Project in Pennsylvania as 13.2 acres;
  - b. tables 2.3-3, 2.3-4, and 2.3-11 report the total acreage of wetlands impacted by construction and operation of the Project in New York as approximately 109.0 acres and 13.8 acres respectively, while table 8.1-2 reports the acreage of wetlands impacted by construction and operation of the Project in New York as 122.1 acres and 48.0 acres respectively;
  - c. tables 2.3-5, 2.3-6, and 2.3-11 report the total acreage of wetlands impacted by construction and operation of the Project in Massachusetts as approximately 138.2 acres and 23.8 acres respectively, while table 8.1-2 reports the acreage of wetlands impacted by construction and operation of the Project in Massachusetts as 142.4 acres and 61.2 acres respectively;
  - d. tables 2.3-7, 2.3-8, and 2.3-11 report the total acreage of wetlands impacted by construction and operation of the Project in New Hampshire as approximately 154.3 acres and 24.8 acres respectively, while table 8.1-2 reports the acreage of wetlands impacted by construction and operation of the Project in New Hampshire as 161.3 acres and 69.4 acres respectively;
  - e. tables 2.3-9, 2.3-10, and 2.3-11 report the total acreage of wetlands impacted by operation of the Project in Connecticut as approximately 5.9 acres, while table 8.1-2 reports the acreage of wetlands impacted by operation of the Project in Connecticut as 14.5 acres; and
  - f. table 2.3-11 reports the total acreage of wetlands impacted by construction and operation of the Project as approximately 486.1 acres and 72.7 acres respectively, while table 8.1-2 reports the acreage of wetlands impacted by construction and operation of the Project as 510.0 acres and 206.3 acres respectively.
44. Section 2.3.5.1 (page 2-88) – Provide discussion regarding the potential impacts of pipeline construction on wetland functions including, but not limited to, impact of hydraulic alteration during construction in forested wetlands, higher bulk density, lower depth of refusal, variations in soil moisture post-construction, and wetland drainage due to tree removal.

45. Section 2.3.5.2 (page 2-89) – Provide discussion regarding the impacts to wetland resources from construction and operation of aboveground facilities.
46. Section 2.3.6.4 (page 2-90) – Provide updated information (including details of ongoing discussions with regulatory agencies) regarding the feasibility of conducting additional HDD or Direct Pipe methods to cross forested wetlands with an impact of more than 0.5-acre per crossing, sites containing any high quality or specially designated forested wetland; or any other wetland sites where resource agencies have requested that HDD crossing methods be considered/used. Provide updated tables summarizing this information (e.g., table 1.3-2, attachment 2B tables). Clarify the statement indicating that HDDs for wetlands would not be determined until Tennessee Gas has full access to all sites.
47. Section 2.3.6.4 (page 2-90) – Provide a discussion regarding how bentonite waste would be handled during and after the drilling process, in and around waterbodies and wetlands. Discuss management plans and mitigation processes in the event of a spill.
48. Section 2.4.2.4.3 (page 2-152) – Discuss the potential effects to stratified drift aquifers and wetlands from withdrawal and discharge of hydrostatic test water. Provide discussion regarding issues with obtaining water from one watershed and discharging into another, including the potential release of contaminants into waterbodies or wetlands.
49. Attachment 2A – Provide mapping of the stratified drift aquifers discussed in section 2.1.
50. Attachment 2A (table 2.1-2) – Expand the table to include public and private water supply wells within 200 feet of aboveground facilities.
51. Attachment 2B (tables 2.2.4 to 2.2.8) – Provide footnotes to all applicable waterbody tables to define Water Quality Designations and Fishery Classification abbreviations/acronyms.
52. Attachment 2B (tables 2.2.4 to 2.2.8) – Clarify the difference between “ephemeral” and “no flow.”
53. Attachment 2B (table 2.1-2) – Provide the level of protection (e.g., Zone I, Zone II, etc.) for each water supply protection area. Identify all locally zoned aquifer protection areas.
54. Attachment 2B (tables 2.2.4 to 2.2.8) – Clarify why there are multiple/duplicate listings for specific waterbodies that potentially indicate more than one crossing of the same waterbody within 1.0 mile of each other (e.g. Deerfield River crossings

at MP 8.33 and MP 8.37; Millers River crossings are MP 16.08 and MP 16.10). Correct the tables as appropriate.

55. Attachment 2B (tables 2.2-5 and 2.2-8) – Clarify whether the presence or absence of the (T) and (TS) fishery classifications for New York waterbodies indicates the presence or absence, respectively, of coldwater fisheries in those waters. Provide fisheries classifications for the waterbody crossings in Connecticut.
56. Attachment 2H – Confirm whether or not the operational wetland acreages provided in these tables include the areas of operational right-of-way overlapping with an existing Tennessee Gas right-of-way. If they do not, update the tables to incorporate those acreages.
57. Attachment 2H – Provide the federal and state criteria used for vernal pool classification and clarify how Tennessee Gas determined whether the habitat satisfied the majority of criteria, specifically whether they satisfied the majority of just the federal criteria or just the state criteria or both the federal and the state criteria. Clarify why vernal pool surveys were not conducted in Pennsylvania or New York, and provide the schedule to conduct these surveys.
58. Spill Prevention and Response Plans (SPRP) – Clarify the following information in the state-specific SPRPs:
  - a. section 2.1 of each SPRP states: “spill prevention briefings with the construction crew will be scheduled and conducted by the Contractor to ensure adequate understanding of spill prevention measures.” Clarify how frequently briefings on spill prevention measures with the construction crew will occur; and
  - b. section 3.0 of each SPRP states: “if a spill enters a body of water, the Contractor will immediately take samples upstream and downstream from point of entry and refrigerate samples. If advised, additional analysis will be completed and/or additional samples will be gathered.” Clarify:
    - i. the types of samples to be collected (e.g., water, streambank vegetation) in the event a spill enters a body of water;
    - ii. what analyses would be conducted; and
    - iii. which federal/state entity would advise whether additional analysis is required.
59. State-Specific Horizontal Directional Drilling Contingency Plans (section 4.5) – Provide additional details, justification, and consultations with applicable federal and state agencies related to the Tennessee Gas’ intention to not attempt to recover inadvertent releases in flowing waterbodies.

60. Responses to October Scoping Comments matrix (attachment A) – Explain why the potential risk of an inadvertent release of drilling muds justifies not using an HDD. Why is the potential risk at the Westfield River and Scott Pond greater than other proposed HDD crossings?
61. Responses to October Scoping Comments matrix – Address concerns from the Millers River Watershed Council regarding potential Project impacts from brownfield sites and similar hazardous waste sites to water resources. The discussion should include:
  - a. blasting impacts to the facility subsurface liners;
  - b. stability of the dump’s contents;
  - c. potential for leachate into nearby water resources; and
  - d. mitigation measures Tennessee Gas would install/implement to ensure entrained/buried contaminants do not migrate offsite through water or airborne pathways.

### **Resource Report 3 – Fisheries, Wildlife, and Vegetation**

1. General – Provide all information listed in RR3 (or in the Responses to Comments on Draft Resource Reports matrix; or the Responses to October Scoping Comments matrix) that Tennessee Gas has identified would be provided to the FERC (or include a schedule for submittal [unless already provided]), which includes, but is not necessarily limited to:
  - a. the biological assessment (BA) for shortnosed sturgeon in the Hudson and Connecticut Rivers, as requested by the National Marine Fisheries Service (NMFS), and the results of the associated consultations;
  - b. outstanding survey data, including:
    - i. the results of ongoing and future surveys and habitat assessments, including those for:
      1. rare plants and vegetative communities of special concern;
      2. proposed work within and adjacent to vernal pools, as required by state agencies and the COE. Clarify whether or not the eight vernal pools located on ‘disturbed areas’ of existing rights-of-way would be assessed;
      3. delineation and characterization of the moderate-gradient sandy-cobbly riverbank system natural community system that would be crossed in New Hampshire;
      4. federal and state threatened and endangered species;
      5. invasive plant species;

6. bald eagle winter roosting sites;
  7. bald eagle nests; and
  8. natural landscape characterization at the proposed Appalachian Trail and the New England National Scenic Trail crossing;
- ii. species-or taxonomic-specific survey protocols, including those for:
1. grassland birds in New York;
  2. state-listed salamanders, mollusks, turtles, and bird species in Massachusetts;
  3. state-listed plants in Connecticut; and
  4. state-listed turtles in New Hampshire.

Provide the status of survey protocols that have not been approved by the appropriate agency(s), if applicable.

- c. a discussion of alternatives and/or conservation measures that are being considered to avoid or minimize impacts associated with the construction and use of all access roads proposed to pass through significant or sensitive wildlife habitats. Update table 8.1-6 with a unique qualifier (e.g., an asterisk) to identify these roads;
- d. the results of ongoing consultations with the Massachusetts Department of Conservation and Recreation (MADCR) and other interested parties regarding potential Project impacts on the Northfield State Forest and any associated mitigation efforts;
- e. the results of ongoing consultations with the New Hampshire Fish and Game Department (NHFG) and other interested parties regarding potential Project impacts on New Hampshire deer wintering areas (DWAs) and any associated mitigation efforts;
- f. a list of common or representative plant species within the Project area;
- g. acreages of vegetative community types that would be crossed by the Project;
- h. an evaluation of potential impacts on the black gum swamp natural community that would be crossed in Massachusetts;
- i. a plan (or plans if measures would vary geographically) for the stabilization and revegetation of construction work areas and riparian buffers including seed mixes, fertilizers, and application methods (if applicable);

- j. a discussion of the measures that Tennessee Gas would implement to avoid, minimize, or mitigate impacts on eagle nests;
  - k. a discussion of measures that Tennessee Gas would take to avoid and minimize impacts on rare, sensitive, and federally and state-listed plants within the construction footprint; and
  - l. an evaluation of the potential construction and operation impacts (direct, indirect, and cumulative) on migratory bird species, including those of special concern, and their habitats along with the expected duration of habitat impact (short-term, long-term, or permanent).
2. General – Describe how Tennessee Gas will survey/characterize specific fish, wildlife, and vegetation resources on parcels of land for which Tennessee Gas is not permitted survey permission by the landowner(s).
  3. General – Discuss potential adverse cumulative impacts on fish, wildlife, and vegetation resources associated with the construction and operation of the proposed NED pipeline in areas that would be collocated with existing right-of-way corridors, including the Constitution pipeline. This discussion should include, but not necessarily be limited to, the following:
    - a. Impacts on vegetation associated with installing a pipeline adjacent to an existing right-of-way that is in its restoration phase (e.g., planting, monitoring, and invasive species management);
    - b. Behavioral barriers for aquatic species created by the potential temperature increases related to a doubling in the loss of canopy, and how this might affect the suite of species common to these waters.

In addition, discuss the vegetation management practices that are (or could be) used within the right-of-way corridors with which the Project would be collocated. Specifically, state whether or not herbicides are (or could be) used to control vegetation within these existing corridors. In areas where herbicides are (or could be) used, provide a discussion of potential cumulative impacts associated with the additional use of herbicides in the proposed adjacent Project right-of-way.

4. General – Expand the discussion of fisheries resources, as appropriate, to address the regulatory roles of the COE and applicable state agencies.
5. General – For portions of the Project that are proposed to be collocated with existing utility corridors, identify any areas in which the proposed right-of-way would not overlap or abut the existing corridor potentially creating a segmented ‘island’ of habitat.

6. General – Discuss potential Project impacts on Massachusetts BioMap2 Species of Conservation Concern that do not meet the criteria for listing under the Massachusetts Endangered Species Act (MESA).
7. General – Provide a discussion of the potential Project impacts on old-growth (i.e., virgin) forests that includes locations of old-growth forests that would be crossed, the acreage of crossing at each location, proposed avoidance and/or minimization measures that would be implemented to reduce impacts to these forests by Tennessee Gas, and copies of any related correspondence with applicable federal, state, and local agencies and/or land management organizations.
8. General – Discuss any implications of the Massachusetts Shade Tree Law (Massachusetts General Laws, Chapter 87, Section 1 through 6) relative to Project construction and operations.
9. General – Provide descriptions of how each federally and state-listed species would be affected by the proposed Project. Also, identify the measures Tennessee Gas would implement to avoid, minimize, and mitigate impacts on federally and state-listed threatened and endangered species.
10. Section 3.1.2.1 (page 3-11) – Provide copies of all correspondence and telephone communications with the NMFS regarding essential fish habitat (EFH) in the vicinity of the proposed Project. Describe potentially affected EFH, the impacts on EFH resulting from Project construction and operation, and any measures Tennessee Gas would implement to avoid, minimize, and mitigate impacts on EFH. Lastly, provide an EFH assessment.
11. Section 3.1.2.1 (page 3-11) – Discuss potential Project-related impacts on the North Atlantic Salmon Restoration Program in the Connecticut River basin, including impacts on existing and future habitat improvement, monitoring, and assessment efforts as well as the Salmon in the Classroom project.
12. Section 3.1.3 (page 3-16) – As previously requested in our October 8, 2015 EIR, provide a discussion about the potential effects of HDD crossing methods on riparian habitat at waterbody crossings. Potential effects include, but are not necessarily limited to, loss of habitat, increased erosion and sedimentation, and changes to water quality.
13. Section 3.1.3 (page 3-16) – Expand the discussion of potential sedimentation and turbidity impacts to address the following:
  - a. the relative amount of sedimentation and/or turbidity that could result from each of the proposed waterbody crossing methods (including the different types of dry open-cut crossing methods);

- b. the levels at which effects could occur to fish and invertebrate species; and
  - c. how Tennessee Gas has or will account for these potential impacts when determining the specific type of crossing method to be used.
14. Section 3.1.3 (page 3-16) – Provide a discussion of potential construction impacts on fishery resources associated with blasting that includes:
- a. a description of the expected timing of blasting relative to pipeline installation within and adjacent to the waterbody;
  - b. a discussion of the effects of streambed blasting on fish and wildlife species, including sensitive fisheries and state-listed threatened or endangered wildlife species; and
  - c. a description of the applicable requirements and permit conditions for in-water blasting operations. Explain how Tennessee Gas would abide by these conditions.
15. Section 3.1.3 (page 3-17) – Tennessee Gas states that they would limit vegetation maintenance of the permanent right-of-way to within a 25-foot riparian strip adjacent to the waterbody, as measured from the waterbody’s mean high water mark. Clarify whether this measurement would be made laterally or topographically.
16. Section 3.1.4 (page 3-18) – Provide any updated information (including details of ongoing discussions with regulatory agencies) regarding the potential for using HDD or Direct Pipe methods to avoid or minimize impacts on sensitive biological resources, including not only threatened and endangered species (e.g., the federally listed bog turtle and northeastern bulrush, and various state-listed species) and sensitive wildlife habitat, but also human resources (e.g., cultural resources, recreational/scenic areas, contaminated sites). Provide updated tables summarizing this information relative to HDD crossing locations (e.g., table 1.3-2).
17. Section 3.1.4 (page 3-18) – With regard to proposed hydrostatic testing activities, provide the following:
- a. an explanation of how Tennessee Gas would determine and monitor adequate flow rates to provide for all waterbody uses, provide for downstream withdrawals of water by existing users, and protect aquatic life (including the federally listed dwarf wedgemussel) when drawing water from waterbodies for hydrostatic testing; and
  - b. clarification on an apparent discrepancy between RR2 and the state-specific ECPs regarding whether or not hydrostatic test water could be discharged into waterbodies. If water would be discharged into waterbodies, describe

the methods and clarify whether or not discharge would occur within the same hydrologic basin as the source water. Identify any measures Tennessee Gas would take to protect aquatic life and minimize the spread of invasive species through dispersal of test water.

18. Section 3.1.4 (page 3-19) – Tennessee Gas states that they would photograph all waterbody crossings before and after construction. Provide more details regarding this documentation, including:
  - a. pre- and post-construction characteristics of the crossings that would be evaluated using this method (e.g., vegetative structure, botanical composition, percent cover);
  - b. pre- and post-construction seasonal timing, frequency, and duration of the effort; and
  - c. how and when Tennessee Gas would file these results with the FERC.
19. Section 3.1.4 (page 3-20) – Clarify whether or not Tennessee Gas would implement the NHFG’s recommendations intended to minimize potential impacts on streams containing populations of wild brook trout in New Hampshire.
20. Section 3.2 (page 3-20) – Define the criteria used to classify an area as ‘sensitive wildlife habitat.’
21. Section 3.2.1 (page 3-20) - Describe the commercial, recreational, and/or aesthetic value of terrestrial wildlife species (e.g., hunting, trapping, bird-watching) that would typically occur in the various habitat types affected by the proposed Project.
22. Section 3.2.1 (page 3-20) – Describe any known game corridors, herding or feeding areas, or game farms within or near the Project area. Outline measures Tennessee Gas would implement to avoid, minimize, or mitigate impacts on game species during construction and operation of the Project.
23. Section 3.2.1.8 (page 3-25) – Provide a discussion of aquatic habitat in waterbodies less than 10-feet wide that specifically addresses COE requests that the evaluation of potential impacts on waterbodies include all streams regardless of width or flow regime.
24. Section 3.2.2.2 (page 3-37) – Clarify whether or not any tracts of land within the Rensselaer Plateau that would be crossed by the Project are registered with the U.S. Department of Agriculture (USDA) Forest Legacy Program. If Forestry Legacy Program land would be crossed within the Rensselaer Plateau (or elsewhere in the Project area), identify the acreage that would be impacted by location and provide a discussion of the measures Tennessee Gas would take to minimize or mitigate for adverse environmental impacts on these areas.

25. Section 3.2.2.2 (page 3-37) – Provide a discussion of avoidance and minimization measures associated with ‘important biodiversity sites’ in the vicinity of Nassau, New York as identified by Hunt 2015 (<http://townofnassau.org/content/Boards/View/6:field=documents;/content/Documents/File/1909.pdf>).
26. Section 3.2.2.2 (page 3-38) – Clarify whether or not the Rensselaer Plateau Alliance has requested consultations with Tennessee Gas regarding potential Project impacts on the Rensselaer Plateau. Provide documentation of this consultation if it has occurred.
27. Section 3.2.2.3 (page 3-44) – A portion of the proposed pipeline right-of-way near Segment H, MP 12.7 is located adjacent to, and abutting, the Bitzer Area of the Montague Plains Wildlife Management Area (WMA). The Bitzer Area is a scrub-oak vegetative community that is actively treated with prescribed fire for both conservation and research purposes. In its response to the October 8, 2015 EIR, Tennessee Gas states that, “pipeline operation will not impact or be impacted by the use of prescribed fires for habitat management.” Provide a discussion along with supporting documentation (if applicable) to support this statement. In addition, discuss potential impacts that prescribed burning in the vicinity of the Project could have on Project construction, as well as any impacts the Project construction could have on prescribed burning practices as previously requested in our October 8, 2015 EIR.
28. Section 3.2.2.3 (page 3-48) – Clarify whether or not potential Project impacts on the 14 non-listed BioMap2 Species of Special Concern and the Critical Natural Landscapes were incorporated into Tennessee Gas’ environmental analysis (e.g., wetland mapping, forest interior mapping, vernal pool impact assessments). For any species not otherwise addressed, provide a discussion of potential impacts and mitigation to minimize potential impacts on these species.
29. Section 3.2.2.4 (page 3-49) – The September 2015 *Rindge Pipeline Taskforce Report* suggests Tennessee Gas purchase land targeted for conservation in New Hampshire as a means of mitigation for Project impacts. Discuss the feasibility of implementing this suggestion.
30. Section 3.2.2.4.6 (page 3-51) – Clarify whether or not Tennessee Gas has or will use publicly available online vernal pool location data provided by the Harris Center for Conservation Education as part of its impact assessment on vernal pools in New Hampshire.
31. Section 3.2.2.4.6 (pages 3-51 and 3-52) – Provide updated data from the Granit GIS site as the 2015 data are available on the website. Based on the most recent data, provide:

- a. the miles of Tier 1, 2, and 3 habitats crossed by the proposed Project centerline, aboveground facilities, and access roads; and
  - b. a discussion of potential Project construction and operations impacts on these areas along with any impact minimization or avoidance measures that would be implemented.
32. Section 3.2.2.4.7 (page 3-53) – Provide the following information for New Hampshire DWAs within the proposed Project area:
- a. the portion, if any, of the 5.4 linear miles of DWAs that would be crossed by the Project that would be collocated with existing utility corridors;
  - b. whether or not Tennessee Gas would conduct surveys for DWAs in towns within the Project limits that do not have DWA mapping. If surveys would be conducted, identify the protocols and reporting measures that would be used;
  - c. whether or not non-GIS data collected after 2011 during the NHFG’s annual DWA surveys (i.e., datasheets) can be obtained and used for this assessment; and
  - d. any updated information on DWAs within the Project area based on the ongoing cooperative study between the University of New Hampshire and the NHFG that is being conducted to update DWA maps; create a comprehensive DWA database, and develop a model to identify potential DWAs, should the data become available.
33. Section 3.2.2.6 (pages 3-54 and 3-55) – Provide a rationale for only considering contiguous forests greater than 100 acres in the analysis of interior forest impacts (including impacts on important bird areas). Identify any areas where existing contiguous forest patches measuring over 100 acres would be reduced to an area less than 100 acres due to Project activities
34. Section 3.2.2.7 (page 3-57) –Clarify whether or not mitigation measures would be used to minimize the impacts of 24-hour operational lighting in environmentally sensitive areas. If so, identify what measures would be used at each type of Project facility. Identify all sites classified as environmentally sensitive, and provide a justification for this classification.
35. Section 3.2.2.7 (page 3-57) – Provide a discussion of the potential impacts on wildlife during Project operations due to the loss of native vegetation and plant diversity.
36. Section 3.2.2.7 (page 3-57) – Provide a more detailed discussion of potential construction and operation impacts on pollinators to address the major health stressors identified in the National Strategy to *Promote the Health of Honey Bees*

*and Other Pollinators.* This should include, but not necessarily be limited to, a discussion of habitat loss, air pollution, and lack of nutritional resources. The discussion should also include an assessment of species-specific potential impacts on honey bees and monarch butterflies along with any mitigation measures Tennessee Gas would take to avoid or minimize impacts on pollinators.

37. Section 3.2.2.7 (page 3-57) – Discuss the duration, frequency, and magnitude of noise levels during construction and operation as they relate to potential effects to wildlife, including bats and migratory birds. This should include, but not be limited to, a discussion of potential noise impacts within environmentally sensitive areas (e.g., the fall raptor migration path along the Pack Monadnock Range).
38. Section 3.2.2.7 (page 3-57) – Discuss the potential for wildlife and/or livestock to be injured by falling into an open trench during construction. Based on the Tennessee Gas statement in its Response to our October 8, 2015 EIR that the time a trench would be open at a location would be minimized in part to protect wildlife, identify the typical and maximum duration a trench would be expected to be open associated with upland and wetland construction through wildlife habitat. In addition, clarify whether or not Tennessee Gas would do any or all of the following:
  - a. install trench ramps at regular intervals to provide a wildlife exit;
  - b. maintain regular breaks in the trench, spoil piles, and pipe stringing to allow wildlife to migrate through the construction corridor; and
  - c. install temporary drift fencing to minimize the likelihood of small mammals, reptiles, or amphibians from falling into the trench (e.g., the listed timber rattlesnake).
39. Section 3.2.2.7 (page 3-57) –As previously requested in our October 8, 2015 EIR, discuss and provide citations from recent literature on the expected timeframes for the revegetation of Project areas that would be allowed to revert naturally to their original, forested condition. Include timeframes for all vegetative community types that would be impacted.
40. Section 3.2.2.8 (page 3-59) – State whether or not Tennessee Gas would conduct tree surveys prior to tree removal to assess presence of nesting sensitive and/or rare species.
41. Section 3.2.2.8 (page 3-59) – Provide a discussion of deer wintering areas (DWA) that would be within the Project area for all affected states (i.e., not just New Hampshire). The discussion should include, but not necessarily be limited to, the following:
  - a. methods Tennessee Gas will use to identify DWAs;

- b. any known locations of DWAs, along with the source(s) of these data;
  - c. site-specific descriptions of potential impacts on DWAs; and
  - d. any measures Tennessee Gas would implement to minimize, avoid, and/or mitigate impacts on these sites.
42. Section 3.2.2.9 (page 3-59) – Clarify how surveys by qualified botanists and biologists would reduce impacts on interior forest dependent wildlife and migratory birds during construction. Provide a timeline of when the surveys would be conducted relative to the construction phase and when the results of these surveys would be available. Discuss measures Tennessee Gas could employ during the construction phase to minimize or mitigate impacts on wildlife based on the survey results.
  43. Section 3.3.2 (page 3-73) – Provide the shortest distances between the Project’s construction footprint and the old-growth white pines in Susquehanna County, Pennsylvania; and the mixed pine-red oak woodland and the swamp white oak floodplain forest in Hillsborough County, New Hampshire.
  44. Section 3.3.2.1 (page 3-74) – Clarify whether or not any Pennsylvania Wild Plant Sanctuaries would be crossed by the proposed Project. If applicable, provide any additional avoidance or minimization measures Tennessee Gas would implement in these areas.
  45. Section 3.3.2.3 (page 3-78) – Update the discussion based on available data for natural communities of special concern in Massachusetts NHESP’s Priority Habitats of Rare Species GIS data layer.
  46. Section 3.3.2.3 (page 3-78) – Identify any land enrolled in the Massachusetts Forest Stewardship Program that would be crossed by the Project. Discuss potential Project-related impacts on these lands, and identify any additional avoidance or minimization measures Tennessee Gas would employ in these areas.
  47. Section 3.3.2.4 (page 3-83) – Clarify whether or not the New Hampshire Natural Heritage Bureau (NHNHB) requested Tennessee Gas to implement impact minimization or avoidance measures at the proposed crossing of the Red Maple – Sensitive Fern Swamp in Hillsborough County, New Hampshire. Provide copies of all related agency correspondence.
  48. Section 3.3.3 (page 3-86) – Provide a comprehensive list of herbicides that could potentially be used. Clarify whether or not the chemical metsulfuron-methyl would be used.
  49. Section 3.3.3 (page 3-86) –In areas where herbicides are not (or would not) be used within collocated rights-of-way, identify the locations of any areas that are

currently being used for research or habitat management efforts (such as the study that is being conducted by the University of Vermont and the Audubon Society along the Vermont Electric Power Company's right-of-way).

50. Section 3.3.3 (page 3-86) – Provide a discussion of the potential for the introduction and/or spread of invasive plant species associated with operational mowing activities.
51. Section 3.3.3 (page 3-86) – Discuss any potential impacts on vegetation associated with methane emissions from compressor stations.
52. Section 3.3.3 (page 3-86) – Clarify whether or not vegetation clearing would be required between HDD entry and exit pits for any proposed HDD crossings. If it would be required, describe the extent and duration, and provide justification for any clearing and maintenance.
53. Section 3.3.3 (page 3-86) –As previously requested in our October 8, 2015 EIR, for all invasive species with potential to occur within the Project area:
  - a. identify all quarantine areas that would be crossed by the Project, if applicable;
  - b. discuss potential impacts of the Project on invasive species populations and distribution;
  - c. clarify whether or not woody vegetation that has been cleared from workspace (slash, wood chips, stumps, etc.) would be treated the same as firewood with regards to transport restrictions outlined in federal and state guidelines; and
  - d. further clarify whether or not the invasive insect training program that would be provided by Tennessee Gas to its contractor would be developed in coordination with, and approved by, applicable federal and/or state agencies.
54. Section 3.3.3 (page 3-86) – Provide a more in-depth discussion of the potential spread and control of invasive species. In addition to invasive vegetation, information should include measures to protect against invasive aquatic species, such as zebra mussel, aquatic plants, fish, and invertebrates, which can be transported on construction equipment.
55. Section 3.3.3 (page 3-86) – Provide a discussion of the Project-related potential for health impacts on trees growing along and near the edge of the proposed right-of-way, including, but not necessarily limited to, root damage, windthrow, sunscald, and insect-related death due to surrounding trees being removed.

56. Section 3.3.3 (page 3-86) – In its *Responses to Scoping Comments – June 30 through October 1, 2015*, Tennessee Gas states that it would, “evaluate selectively leaving some trees on a case-by-case basis.” Provide a discussion that includes the following:
- a. a description of the methods and criteria that would be used for these evaluations, taking into consideration the trees’ ecological, aesthetic, health, economic, and cultural values in the area;
  - b. a description of the specific types of situations in which Tennessee Gas would and would not conduct such evaluations; and
  - c. clarification as to whether or not affected landowners would be included in all parts of the evaluation process. If the landowners would not be included in all parts of the evaluation, describe the extent to which landowners would participate in the process.
57. Section 3.3.4.3 (page 3-90) – Tennessee Gas states that it will, “...develop a plan for stabilization of construction areas with and/or without seed mixtures.” However, in its Responses to October 2015 Scoping Comments matrix, Tennessee Gas states that, “all TWS and ATWS areas will be...reseeded and/or replanted during restoration activities.” Clarify this apparent discrepancy.
58. Section 3.3.4.3 (page 3-90) – Discuss the feasibility of using Integrated Vegetation Management (IVM) methods to maintain vegetation within the proposed right-of-way during Project operations.
59. Section 3.4 (page 3-90) – Describe contingency plans that would be activated in the event that Tennessee Gas unexpectedly encounters a federally or state-listed species during construction activities. The discussion should include, but not necessarily be limited, to the following:
- a. how workers would be trained to identify and respond to potential encounters;
  - b. parameters for proper handling of the listed species; and
  - c. agency notification and reporting measures.
60. Section 3.4.1.2 (page 3-94) – Discuss measures Tennessee Gas would take should surveyors observe any of the *Lepidoptera* species or associated natural communities (leatherleaf-bog rosemary and leatherleaf-sedge wetland).
61. Section 3.4.1.3 (page 3-96) – Henslow’s sparrow (*Ammodramus henslowii*), which is a state-listed threatened species in New York, is not included in Table 3.4-4. However, historic surveys indicate this species may be present in grassland areas along the proposed right-of-way in Albany County. Clarify whether or not this

species will be considered in Tennessee Gas’s analysis of impacts on state-listed threatened and endangered species. If applicable, provide a discussion of potential Project-related impacts on this species that includes a timeline for species-specific surveys. In addition, provide copies of related agency correspondence.

62. Section 3.4.1.4 (page 3-97) – The marbled salamander (*Ambystoma opacum*) is classified as a Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan (MAWAP). Clarify whether or not this species will be considered in Tennessee Gas’s analysis of impacts on state-listed threatened and endangered species. If applicable, provide a discussion of potential Project-related impacts on this species that includes a timeline for species-specific surveys. In addition, provide copies of related agency correspondence.
63. Section 3.4.2 (page 3-105) – Provide a discussion of potential Project-related construction and operation impacts on the herd of sensitive Newfoundland Ponies located, “...more than 0.25 mile from the Project.” The discussion should include, but not necessarily be limited to, impacts associated with noise, air quality, light, vegetation, and safety (i.e., the ability to evacuate, if needed).
64. Section 3.4.2.1 (page 3-106) – In a letter from the NHNHB (dated October 15, 2015), they note that a population of the federally listed small whorled pogonia (*Isotria medeoloides*) occurs within 1 mile of the centerline of the proposed Fitchburg Lateral. Identify any potential Project impacts to this species and whether surveys will be conducted for it (and the timeline for them). Provide correspondence with the New England USFWS regarding the species.
65. Section 3.4.2.1.7 (pages 3-110 and 3-111) – Clarify whether or not Tennessee Gas would adhere to all applicable recommendations and guidelines in the *U.S. Fish and Wildlife Service’s 2007 National Federal Bald Eagle Management Guidelines*.
66. Section 3.4.2.1 (pages 3-111 and 3-112) – Provide a *Migratory Birds Impact Avoidance, Minimization, and Mitigation Plan*. This plan should include, but not necessarily be limited to, the following:
  - a. General descriptions of migratory birds and their habitats that could be affected by the proposed Project;
  - b. Specific measures Tennessee Gas would implement to avoid and minimize impacts on all potentially affected migratory birds and their habitats. Development of these measures should be conducted in coordination with the FWS and other applicable agencies, and should, at a minimum, consider the following:

- i. all state-recommended timing restrictions applicable to migratory birds for each state crossed by the proposed Project. Verify that Tennessee Gas would adhere to these restrictions;
    - ii. the exclusive use of seed mixtures containing plant species native to affected migratory bird habitat during the restoration phase;
    - iii. reducing the width of the proposed construction right-of-way through Important Bird Areas (IBAs) and large contiguous forested tracts;
    - iv. overlapping construction workspace with existing rights-of-way through IBAs and large contiguous forested tracts; and
  - c. Specific measures Tennessee Gas would implement to mitigate for unavoidable long-term and permanent impacts on potentially affected migratory birds and their habitats.
67. Section 3.4.2.1 (pages 3-111 and 3-112) – Address public concern about the Pack Monadnock Range raptor migration path and heat from compressor stations (e.g., the Tennessee Gas response to Comments on Draft Resource Reports states that, “...exhaust from combustion turbines at compressor stations...is approximately 800 degrees Fahrenheit and is emitted from a stack that is approximately 80 feet tall. It is expected that this heat will dissipate upwards and eventually come to equilibrium with the surrounding atmosphere.” Provide a discussion of the potential impacts this heat source could have on migratory birds. The discussion should include:
- a. the average flight height(s) of raptors that frequent the path;
  - b. the expected height and width at which the heat would fully dissipate; and
  - c. impacts that could occur on birds if they avoid the heat plume, and the anticipated likelihood of this occurring.
68. Section 3.4.2.1 (pages 3-111 and 3-112) – Discuss the potential for migratory bird injury and mortality due to collisions with proposed Project aboveground facilities (e.g., compressor station exhaust stacks) and disorientation/exhaustion caused by artificial lighting associated with the facilities. Provide specific measures that Tennessee Gas would implement to avoid, minimize, and mitigate for these potential impacts.
69. Attachment 3A (figure 3.2-1) – Revise the Massachusetts BioMap2 Core Habitats and Critical Natural Landscapes to show areas of dataset overlap (e.g., use cross-hatching or a separate color in areas that are both Core Habitats and Critical Natural Landscapes).

70. Attachment 3B (table 3.4-8) – Discuss Tennessee Gas’ adherence with the following NHHNB recommendations, if applicable:
- a. Move the proposed May survey dates for *Allium canadense* to late May to mid-July to ensure that the plants will have fully emerged at the time of surveys;
  - b. Move the proposed October survey dates for *Solidago odora* to July to September to ensure that plants will not be senescing (or have already senesced) at the time of surveys;
  - c. Conduct additional surveys between June and July for *Thalictrum revolutum* as this is now a New Hampshire state-listed endangered species.
71. Appendix H (page H-12) –In areas where the Project would be collocated with an existing right-of-way, clarify whether or not the existing right-of-way would be considered ‘adjacent undisturbed land’ and thus potentially used as a benchmark for revegetation success in the additional temporary workspace, temporary workspace, and/or along the new permanent right-of-way.
72. Appendices J through N (Invasive Species Management Plans) – For the state-specific invasive species management plans, clarify:
- a. the phase of construction during which invasive species signage would be installed;
  - b. whether or not all locations known to contain invasive species would be marked with signage;
  - c. the equipment inspection and cleaning protocols that would be used to prevent the spread of invasive vegetation, including the circumstances under which it would be required; the methods used (e.g., weed washing stations); and general frequency, timing, and location of these activities;
  - d. the methods that would be used to determine if fill material (e.g., soil, gravel, rock) contains invasive vegetation (including seeds);
  - e. whether or not Tennessee Gas would use fill identified to contain invasive species; and
  - f. the measures Tennessee Gas would take if a source of fill that does not contain invasive species is not available.
73. Appendix M (table 10.4-3) – Reed canarygrass is included in seed mixture D for permanent vegetation for New Hampshire. Reed canarygrass is also on the invasive species watch list in New Hampshire and is classified as a prohibited noxious weed in Massachusetts. Clarify whether or not this species would be used to reseed disturbed areas.

## **Resource Report 4 – Cultural Resources**

1. Address comments, such as one by Joe McGuire (20151016-4050) and the Town of Mason, New Hampshire (20151015-5110) that are concerned about how construction would impact property boundaries that are fieldstone walls built around agricultural fields and referenced in property deeds. Provide any information from coordination efforts with the appropriate state historic preservation offices on the mitigation and treatment plans.
2. Discuss Native American and tribal participation in cultural resources investigations. In particular, provide details about investigations to record and evaluate ceremonial stone landscapes, including a schedule of proposed dates for future field work and submittal of reports to the FERC and SHPOs, and the identification of individuals-companies-tribes that would conduct the investigations.
3. Revise the *Interim Progress Report Phase I Archaeological Reconnaissance Survey Northeast Energy Direct Project Bradford and Susquehanna Counties, Pennsylvania* (Wilkins et al., 9 November 2015, attached to Appendix CC of RR4 in Tennessee Gas' application to the FERC) to indicate how much (in feet of overlap, miles of route, segments, and mileposts) previous surveys for the existing Tennessee Gas 300 Line and Northeast Upgrade projects overlapped portions of the proposed NED pipeline route in Pennsylvania. Revise table 5 to indicate which previous surveys overlapped with portions of the NED Project right-of-way (by feet of overlap, miles of route, segment, and milepost). Identify which of the 18 previously recorded archaeological sites within the direct area of potential effect (APE – within 200 feet of the proposed NED pipeline centerline) were relocated and evaluated by Tennessee Gas' consultant Louis Berger (Berger) during their surveys in Pennsylvania. Provide the results of those evaluations. Explain why not all previously recorded archaeological sites in the APE were relocated during the Berger surveys for the NED Project. Illustrate the location of all archaeological sites identified in the APE in Pennsylvania on USGS 7.5-minute topographic quadrangle maps. In addition, attach copies of official state site forms for all archaeological sites identified in the APE in Pennsylvania. Document that Tennessee Gas submitted a copy of the revised archaeological survey report to the Pennsylvania State Historic Preservation Office (SHPO), and file the SHPO's comments on that report with the FERC.
4. Provide a schedule for conducting additional field work and filing reports documenting cultural resources surveys covering about 26 miles of pipeline route, 2 compressor stations, 76 new and improved access roads, and 27 contractor yards in Pennsylvania; additional investigations at archaeological sites TS-3201-05, 3203-01, and 3203-03; and all the stone feature locations.

5. Revise the *Interim Progress Report, Architectural Reconnaissance Survey, Northeast Energy Direct Project, Bradford and Susquehanna Counties, Pennsylvania* (No Author, 9 November 2015, included in Appendix CC of RR4) to list all areas inspected for standing historic (more than 50 years old) structures, by width (in feet) of the survey, miles of route, segment, milepost, and acres inventoried. Indicate if any the seven previously recorded architectural sites within the APE were relocated and evaluated by Berger. Provide the results of those evaluations. Explain why all previously recorded architectural sites in the APE were not relocated during the Berger survey for the NED Project. Illustrate the location of all historic architectural sites in the APE in Pennsylvania on USGS 7.5-minute topographic quadrangle maps. Document that the revised architectural survey report was submitted to the Pennsylvania SHPO, and file the SHPO comments on the report with the FERC.
6. Provide an avoidance or treatment plan for the three historic architectural structures evaluated as eligible for the National Register of Historic Places (NRHP) in Pennsylvania, and a schedule for conducting additional investigations and filing a report that assesses the NRHP-eligibility of the 107 unevaluated structures.
7. For pipeline segments in New York, clarify the overlap of previous cultural resources surveys conducted by URS for the Constitution Project. In addition, revise table 2 in the *Interim Progress Report, Phase I Archaeological Reconnaissance Survey, Northeast Energy Direct Project, Broome, Chenango, Delaware, Schoharie, Albany, and Rensselaer Counties, New York* (Lynch et al. 9 November 2015, attached in Appendix CC of RR4) to indicate which previous surveys overlap portions of the NED pipeline route. Provide a table with the amount of survey overlap (in feet) of the NED construction right-of-way for each previous survey, by segment, and milepost.
8. Revise the archaeological survey report for New York (Lynch et al. 9 November 2015), to clarify which of the 79 previously recorded archaeological sites in the APE for the NED Project listed on table 1 were relocated and evaluated by Berger. Provide the results of those evaluations. Explain why not all previously recorded archaeological sites in the APE were relocated during the Berger survey. Illustrate the location of all archaeological sites identified in the APE in New York on USGS 7.5-minute topographic quadrangle maps. In addition, attach copies of official state site forms for all archaeological sites in the APE. Document that Tennessee Gas submitted a copy of the revised archaeological survey report to the New York SHPO, and file the SHPO's comments on that report with the FERC.
9. Provide a schedule for conducting additional field work and filing reports documenting cultural resources surveys covering about 69 miles of pipeline route, 4 new compressor stations, 3 new meter stations, 109 new and improved access

roads, and 82 contractor yards in New York; additional investigations at 20 newly recorded archaeological sites unevaluated by Berger; and all the stone feature locations.

10. Revise the New York historic architectural survey report (Bedford and Muir, 9 November 2015) to clarify the length and width of each segment covered by pedestrian inventory for the NED Project. Summarize miles and acres inventoried. Verify if Berger relocated and evaluated all 108 previously identified historic architectural sites. If not, provide a list of previously recorded historic architectural sites relocated and evaluated by Berger, and those sites that require future research. Explain why not all previously recorded architectural sites in the APE were relocated during the Berger survey. Provide a table that lists all 116 newly identified historic architectural sites recorded by Berger, including site number or name, pipeline segment, milepost, type and date of the building, and assessment of NRHP eligibility. Describe the two historic architectural sites in New York evaluated as eligible for the NRHP, including their location (segment and milepost) and features; and explain the characteristics that make them eligible under 36 CFR 60.4. Illustrate the location of all historic architectural sites in the APE on USGS 7.5-minute topographic quadrangle maps. Provide copies of site forms for all historic architectural sites identified in the APE in New York, including photographs of each historic structure. The interim report was missing sections II.B. (Historic Context), III. (Architectural Survey), IV. (Conclusions); and V. (References); include those sections in the revision. Document that the revised architectural survey report was submitted to the New York SHPO, and file the SHPO comments on the report with the FERC.
11. Provide a schedule for conducting additional field work and filing reports documenting the evaluation of the 106 newly identified historic architectural sites in New York not previously assessed. For the two historic architectural sites in New York evaluated as eligible for the NRHP, provide either a site-specific avoidance plan, or a site-specific treatment plan.
12. File with the FERC the comments of the Massachusetts SHPO on Tennessee Gas' definition of the APE for historic architectural resources.
13. Revise the *Interim Progress Report Archaeological Reconnaissance Survey Northeast Energy Direct Project in Massachusetts* (Fiedel, 9 November 2015) to identify which of the 55 previously recorded archaeological sites within the direct APE listed on table 3 were relocated and evaluated by Berger. Provide the results of those evaluations. Explain why not all previously recorded archaeological sites in the APE were relocated during the Berger survey. Revise table 5 to indicate the distance (in feet) from the pipeline to each of the historic buildings identified through map research, and indicate which of these sites were relocated and recorded by Berger. Revise table B-1 to list the mileposts and distance (in feet)

for the crossing of each tract where access was denied, and total the miles not yet surveyed at the end. Document that the Discovery Plan attached as Appendix C was reviewed and approved by the SHPO and interested Indian tribes. Illustrate the location of all archaeological sites identified in the APE on USGS 7.5-minute topographic quadrangle maps. In addition, attach copies of official state site forms for all archaeological sites in the APE in Massachusetts. Document that Tennessee Gas submitted a copy of the revised archaeological survey report to the Massachusetts SHPO, and file the SHPO's comments on that report with the FERC.

14. Provide a schedule for conducting additional field work and filing reports documenting cultural resources surveys covering about 81 miles of pipeline route, 3 new compressor stations, 8 new meter stations, 11 existing meter stations to be modified, 2 new regulators, 82 new and improved access roads, and 52 proposed contractor yards in Massachusetts, and for conducting evaluations of the 5 newly recorded historic archaeological sites identified by Berger, and all the stone feature locations.
15. Provide copies of site forms for the three historic structures identified by map research that were relocated by Berger (sites HND-HA-2 in Hinsdale and PLF-HA-3 and PLF-HA-6 in Plainfield) in Massachusetts, and assess if any of those sites are eligible for nomination to the NRHP.
16. Provide a schedule for when the "windshield" survey of historic architectural sites would be conducted in Massachusetts, and a report documenting results would be filed with the FERC and submitted to the SHPO. File the SHPO's comments on the report with the FERC.
17. In letters dated October 19, 2015, Tennessee Gas contacted various Historical Commissions, historical organizations, and local governments in Massachusetts and New Hampshire. File any responses not already in the public record for this proceeding with the FERC.
18. File with the FERC the comments of the New Hampshire SHPO on Tennessee Gas' definition of the APE.
19. Revise the *Interim Progress Report, Phase IB Intensive Archaeological Investigations, Northeast Energy Direct Project, Cheshire, Hillsborough, and Rockingham Counties, New Hampshire* (Lynch et al., 9 November 2015) to clarify which of the four previously recorded archaeological sites in the APE listed on table 14 were relocated and evaluated by Berger. Provide the results of those evaluations. Explain why not all previously recorded archaeological sites in the APE were relocated during the Berger survey. Illustrate the location of all archaeological sites identified in the APE on USGS 7.5-minute topographic

quadrangle maps. In addition, attach copies of official state site forms for all archaeological sites in the APE in New Hampshire. Document that Tennessee Gas submitted a copy of the revised archaeological survey report to the New Hampshire SHPO, and file the SHPO's comments on that report with the FERC.

20. Provide a schedule for conducting additional field work and filing reports documenting cultural resources surveys covering about 68 miles of pipeline route, 1 new compressor station, 2 new meter stations, 66 new or improved access roads, and 31 contractor yards in New Hampshire, and for conducting evaluations of four newly recorded archaeological sites identified by Berger in the state, and all the stone feature locations.
21. Revise the *Project Area Form, Northeast Energy Direct Project, Chester, Hillsborough, and Rockingham Counties, New Hampshire* (Muir, et al. 9 November 2015) to clarify if any of the seven previously recorded historic architectural sites listed on table 2 were relocated and evaluated by Berger. Provide the results of those evaluations. Explain why not all previously recorded architectural sites in the APE were relocated during the Berger survey. Summarize in a table all areas subject to architectural inspection, including survey width (in feet), segment, mileposts, miles, and acres inventoried. Explain in narrative the survey methods. Provide a table that lists all of the new historic architectural sites recorded by Berger by site number and name, type, segment, milepost, distance to centerline (in feet), NRHP evaluation, and assessment of Project effects. Relate that table to the photographs of buildings at the end of this report. Illustrate the location of all historic architectural sites in the APE in New Hampshire on USGS 7.5-minute topographic quadrangle maps. Document that Tennessee Gas submitted a copy of the revised architectural survey report to the New Hampshire SHPO, and file the SHPO's comments on that report with the FERC.
22. Provide a schedule for conducting additional field work and filing reports documenting architectural surveys of the areas recommended on table 3 of the *Project Area Form Report for New Hampshire* (Muir, et al. 9 November 2015).
23. Revise the *Interim Progress Report, Phase I Archaeological Reconnaissance Survey, Northeast Energy Direct Project, Hartford County, Connecticut* (Wilkins et al., 9 November 2015) to clarify if any of the previously recorded archaeological sites listed on table 3 were relocated and evaluated by Berger. Provide the results of those evaluations. Explain why not all previously recorded archaeological sites in the APE were relocated during the Berger survey. Illustrate the location of all archaeological sites identified in the APE in Connecticut on USGS 7.5-minute topographic quadrangle maps. In addition, attach copies of official state site forms for all archaeological sites in the APE in Connecticut.

Document that Tennessee Gas submitted a copy of the revised architectural survey report to the Connecticut SHPO, and file the SHPO's comments on that report.

24. Provide a schedule for conducting field work and filing reports documenting cultural resources surveys covering about 9 miles of pipeline route, 3 modified meter stations, 13 new or to be improved access road, and 6 contractor yards in Connecticut, and evaluations of the stone feature locations.
25. File with the FERC the comments of the Connecticut SHPO on Tennessee Gas' definition of the APE.
26. Revise the *Interim Progress Report, Architectural Resource Survey, Northeast Energy Direct Project, Hartford County, Connecticut* (Bedford and Muir, 9 December 2015) to clarify if any of the previously recorded historic architectural sites in table 1 were identified in the APE and relocated and evaluated by Berger. Also clarify the pipeline segments, by milepost, inventoried for architectural sites. Illustrate the location of all historic architectural sites identified in the APE in Connecticut on USGS 7.5-minute topographic quadrangle maps. Attach copies of official state site forms for the historic architectural sites listed on table 2. Document that Tennessee Gas submitted a copy of the revised architectural survey report to the Connecticut SHPO, and file the SHPO's comments on that report with the FERC.
27. File a cultural resources survey summary table for the Project that lists each pipeline segment (proposed length in miles) by state, the areas along each pipeline segment covered by cultural resources inventories (miles, acres, mileposts, dates of survey), and sites recorded (NRHP evaluation and recommendation for future work). Also list the number of shovel probes excavated along each segment, by county and state, and specify the number of positive probes.
28. Document that the comments of the Delaware Nation, Mashpee Wampanoag, Oneida Nation of New York, Shawnee, Stockbridge-Munsee, Tonawanda Seneca, and Tuscarora Nation were incorporated into the state-specific plans for *Unanticipated Discoveries of Cultural and Paleontological Resources and Human Remains* (Discovery Plans) filed with the FERC. Those edits can be illustrated in highlights and/or Word Track Changes or Comments within the revised Discovery Plans.

### **Resource Report 5 – Socioeconomics**

1. Section 5.1.3 (page 5-3) – Provide a table with an estimate of the average and peak workforce for each pipeline segment/spread and each aboveground facility. By quarter estimate the beginning and end of construction for each pipeline segment/spread and each aboveground facility.

2. Section 5.4 (page 5-11) – Provide a schedule of when Tennessee Gas will submit its detailed traffic and transportation plan or plans to the FERC. The plan should include access maintenance plans for residences and businesses, traffic and controls for entrance/egress into access roads, wareyards, compressor station locations, site specific construction plans for roadside or in-road construction traffic activities.
3. Section 5.7 (page 5-17) – File with the FERC the study commissioned by Tennessee Gas on property values entitled “*A Study of Natural Gas Pipelines and Residential Property Values*”, by Steven R. Foster with LPC Commercial Services.”
4. Section 5.7 (page 5-18) – Provide further discussion on the impact of compressor stations or other aboveground facilities on property values citing research or studies.
5. Address the following Scoping Comments:
  - a. Address public and agency concerns that local public services such as police and fire departments do not have the man power or necessary equipment to respond to pipeline or compressor station emergencies. Provide discussion on specific requirements of local emergency services in the case of a pipeline emergency. Discuss these requirements and the ability of various local communities to respond considering the information reported in table 5.3-1. Identify if Tennessee Gas plans to coordinate with local enforcement regarding security measures and the potential need for law enforcement to patrol near compressor stations or other aboveground facilities;
  - b. identify the measures that would be implemented to avoid and minimize impacts described in the *2015 Rindge Pipeline Task Force Report* (dated October 14, 2015) including but not limited to the socioeconomic impacts to the town of Rindge, New Hampshire;
  - c. provide the state-specific economic impact studies that Tennessee Gas reports were conducted that have otherwise not been filed with FERC (e.g., New Hampshire); and
  - d. provide a discussion on the impacts of tree removal on heating and cooling costs.

## **Resource Report 6 – Geological Resources**

1. As previously requested in our May 15, 2015 EIR, provide the following information:
  - a. a discussion of the potential for ground failure due to past or future mining activities within 0.25 mile of the Project specifically addressing subsidence, slumping, land sliding, or other ground failure;
  - b. a discussion of the methods and mitigation measures that would be used in areas of mine tailings and spoils; and
  - c. a discussion of monitoring, mitigation, and minimization measures that would be used concerning the development of karst features post-construction. Update the Karst Mitigation Plans, as appropriate.
  
2. As previously requested in our October 8, 2015 EIR, provide the following information:
  - a. a discussion of the potential for groundwater contamination by blasting in karst areas and include mitigation and minimization measures that would be used. Specify methods and procedures to protect groundwater resources in karst areas from blasting activities. Update the Karst Mitigation Plans as appropriate;
  - b. Provide a discussion of the potential impacts and mitigation measures that would be used to prevent impacts from blasting within or in proximity to granite bedrock aquifers and stratified drift aquifers; and
  - c. provide a geotechnical review of the high-resolution aerial photographs along the Project that are known or may contain hazards resulting from steep slopes, potential landslides, and potential karst topography. The review should be conducted by a geotechnical engineer or certified geologist to provide the extent of the areas where hazards exist (or may exist) to Project construction and operation by milepost. Identify mitigation measures to avoid and minimize potential impacts of the Project on these conditions as well as avoiding and minimizing the impacts of these conditions on Project construction and operation. Update the state-specific ECPs as appropriate.
  
3. Section 6.2 (page 6-31) - Provide a more detailed discussion on alternative methods to blasting. Include the methods that would be expected to be used to remove bedrock encountered by rock type (e.g., shales could be removed via methods A and B while weathered limestones and sand sandstone would be removed via method C and D). In addition, provide a discussion on bedrock removal methods that would be used along the pipeline route in proximity to electrical transmission, cable, or pipeline corridors. Include a discussion of

potential hazards to these types of facilities due to blasting and other rock removal methods and how Tennessee Gas would mitigate hazards to these facilities.

4. Section 6.4.3 (page 6-68) - Provide the closest distance of Project facilities to the Small Fractures on Mount Toby in Franklin County, Massachusetts, and the Newbury Liquefaction Features in northeast Massachusetts, and identify when these areas were last seismically active.
5. Table 6.4-3 (pages 6-71 through 6-73) - Update the table to identify if the faults are formally considered active or inactive and the timeframe of last fault movement.
6. Section 6.4.4 (pages 6-74 through 6-80) – Identify karst features within 0.25 mile of the proposed Project including caves, sink holes, and pits. Update the Karst Mitigation Plans to describe karst specific erosion and sediment control measures and mitigation measures for potential spills in karst areas. Discuss any measures above and beyond the currently proposed erosion control measures that would be implemented to protect groundwater resources areas of karst (e.g., additional rows of silt fence near known recharge features, additional fuel setback distances in areas with known or suspected karst features).
7. Section 6.4.6 (pages 6-91 through 6-92) - Identify areas where soil conditions exist for lateral spreading and identify areas at aboveground facilities where soil liquefaction could pose a significant risk to the pipeline. Include specific measures and design criteria that would be used to protect the pipeline and aboveground facilities where hazards from soil liquefaction may exist.
8. Update the state-specific ECPs with the following information regarding blasting and potential impacts on groundwater resources including:
  - a. address public concerns about the appropriate analyses that should be conducted in water wells and potable springs, both pre- and post-blasting for arsenic, minerals, metals, perchlorate, volatile organic compounds, radon, and uranium groundwater contamination due to blasting and/or construction;
  - b. as requested by the NHDES, update the state-specific ECP to satisfy NHDES Alteration of Terrain Application. This may include identifying drinking water wells located within 2,000 feet of the proposed blasting activities; and developing a groundwater quality sampling program to monitor for pre- and post-blasting nitrate and nitrite levels in drinking water supply wells and other wells representative of the drinking water supply wells in the area (as approved by NHDES prior to initiating blasting);
  - c. provide a discussion of whether or how Tennessee Gas would assess the potential for blasting medium to contaminate groundwater, and any

additional mitigation measures implemented to protect water quality during blasting in the vicinity of drinking water wells and springs.

- d. address public concerns that seismic shock would impact sensitive technologies such as those occurring at PC Connection’s data center in Merrimack, New Hampshire;
  - e. as requested by the Southwest Regional Planning Commission, identify how Tennessee Gas would notify residents of pending blasting activities in a manner that would ensure all residents are successfully notified prior to the initiation of blasting activities
9. Clarify the potential discrepancies in the Pennsylvania state-specific ECP regarding measures of successful vegetative restoration in non-agricultural areas, specifically whether it is “a minimum uniform, perennial 80 percent vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion,” or if it will be “considered successful if upon visual survey the density and cover of non-invasive vegetation is similar in density and cover to adjacent undisturbed lands.”

### **Resource Report 7 – Soils**

1. General – As previously requested in our May 15, 2015 and October 8, 2015 EIRs, provide summary tables that identify the total acreages of soil limitations that would be impacted by construction and operation of the Project. Provide the total acreage of impact for each soil limitation for each Project component including, but not limited to, pipeline facilities (by Segment), compressor stations (by station), meter stations (by station), MLVs (group total), access roads (grouped total), additional temporary workspaces (grouped total), and contractor yards (group total). Provide both construction impacts and operational acreages for all Project facilities. The table should provide soil limitations acreages for each soil limitation including but not limited to, potential water erosion, potential wind erosion, stony rocky soils, shallow depth to bedrock, potential soil compaction, poor revegetation potential, poor drainage potential, prime farmlands (including farmlands of statewide importance), and hydric soils. An example table is provided below. It may be prudent to provide separate tables for each state or Project component (pipelines, compressor stations etc.) or add a column for state.

Example Summary Table State # 1.					
Facility	Wind Erosion Potential		Hydric Soils		etc....
	Permanent	Temporary	Permanent	Temporary	etc....
Pipeline loop 1	# acres	# acres	# acres	# acres	etc.
Pipeline loop 2	# acres	# acres	# acres	# acres	etc.
<i>Pipeline Total</i>	<i># acres</i>	<i># acres</i>	<i># acres</i>	<i># acres</i>	<i>etc.</i>
Access Roads	# acres	# acres	# acres	# acres	etc.
Contractor Yards	# acres	# acres	# acres	# acres	etc.
Etc.	etc.	etc.	etc.	etc.	etc.
<i>Project Total</i>	<i># acres</i>	<i># acres</i>	<i># acres</i>	<i># acres</i>	<i>etc.</i>

2. Table 7.1-1 (starting on page 7B-1) – Confirm that acreages provided for the soil series that would be crossed by the project include additional temporary workspace.
3. Table 7.2-12 (starting on page 7B-223) – Provide the onsite percentages for soils series at aboveground facility locations greater than 5 acres.
4. Table 7.4-1b (starting on page 7B-283)) – Clarify or provide the following information:
  - a. which areas have been surveyed and a timeline for when information will be presented regarding areas that have not been surveyed; and
  - b. farmland classifications types for each Project facility by state. Address all facilities and all types of farmland classifications. Clearly indicate instances where no farmlands are associated with a Project facility (e.g., add “N/A”).
5. As previously requested in our October 8, 2015 EIR, provide the following information:
  - a. soil limitation ratings for all soils in table 7.3-1 (pages 7b-229 though 7b-282) that would be affected by the Project, not just soils in agricultural and residential areas;
  - b. soil classifications for poor revegetation potential if the soils have a capability class of three or greater, have a low water capacity, or if slopes are greater than 8 percent in table 7.1-1 through 7.3-1;
  - c. a discussion of the specific construction techniques and mitigation measures that would be used when crossing vulnerable soils such as, but not limited to, fragipans;

- d. frost depths along the proposed pipeline route with a discussion of ground heaving and frost heaving at aboveground facilities;
  - e. a discussion of the mitigation measures and pipeline design that would be used in the Schoharie Valley, as flooding in some areas may be relatively common;
  - f. a discussion of the specific mitigation measures that would be used in areas of prime farmland soils not just measures for active agricultural lands in the state-specific ECPs; and
  - g. clarify table 7.4-1b to state if the Project would cross any managed forest land. Specify in the table which areas have been surveyed and which have not. For those that have not, provide a timeline for when the surveys are anticipated and when the results will be filed with the FERC.
6. Section 7.4.1 (page 7-8) – Describe hydric soils that would be impacted by construction of the Project and include hydric soils as a soil limitation in table 7.1-1 through 7.3-1.
7. Attachment 7B Tables 7.1-2 – All of the soils listed in this table have a Wind Erodibility Group of “#NA” which is not listed in the table notes and appears to be an error. Clarify this apparent discrepancy.
8. Responses to the October 2015 Scoping Comments matrix (attachment 2), – Revise the table titled “Earthquake Epicenter within 100 Miles of the Pipeline Facility” to include the following:
- a. earthquakes with a magnitude of 3.0 or greater appear to be the only earthquakes presented. Provide a note that specifies what types of earthquakes are presented in the table;
  - b. dates of the sources provided in the table footnote;
  - c. add county information, in addition to the state and town information provided; and
  - d. full citations for the references used to populate the table, including identification of the specific databases accessed to generate this list (e.g., not just data repositories like the USGS ANSS comprehensive earthquake catalog or the Lamont-Doherty Cooperative Seismographic Network).

## **Resource Report 8 – Land Use, Recreation and Aesthetics**

1. General – Provide all updated information regarding Tennessee Gas’ ongoing coordination and efforts to assess impacts and further avoid, minimize, and mitigate those impacts described in RR8. Some examples of the ongoing coordination as stated by Tennessee Gas in RR8 include, but are not limited to, impacts and mitigation measures associated with the following:
  - a. section 8.3.1.1.1 (pages 8-50) – Provide updated information from the National Park Service and any other federal agencies (e.g., Job Corps, Bureau of Land Management, U.S. Postal Service, and Army National Guard) regarding impacts and mitigation for crossing federal land;
  - b. section 8.3.1.1.2 (page 8-54) – Provide any replies from NYSDEC concerning identification of sensitive environmental areas; also provide results of coordination with NYSDEC regarding crossing the Melondy Hill State Forest;
  - c. section 8.3.1.1.2 (page 8-55) – Provide updated information regarding impacts and mitigation measures on the Finger Lakes Trail based on coordination with the Finger Lakes Trail Council and other interested parties;
  - d. section 8.3.1.1.2 (pages 8-55 and 8-56) – Provide updated information regarding impacts on the Clapper Hollow State Forest and Petersburg Pass State Forest and mitigation measures based on coordination with NYSDEC;
  - e. section 8.3.1.1.2 (page 8-56) – Provide updated information regarding impacts on the Long Path Trail and mitigation measures based on coordination with the State of New York, Rennselaer Plateau Alliance, and other interested parties;
  - f. section 8.3.1.1.2 (page 8-56) – Provide updated information regarding impacts on the Pittsfield State Forest and mitigation measures based on coordination with MADCR and other interested parties;
  - g. section 8.3.1.1.2 (page 8-56) – Provide updated information regarding impacts on the Ashuwillticook Rail Trail and mitigation measures based on coordination with Berkshire Regional Planning Commission, Berkshire Bike Path Council, MADCR, and other interested parties;
  - h. section 8.3.1.1.2 (page 8-57) – Provide updated information regarding impacts on the Appalachian Trail and the Chalet WMA and mitigation measures based on coordination with MADCR, Appalachian Trail Conservancy, and other interested parties;
  - i. section 8.3.1.1.2 (page 8-58) – Provide updated information regarding impacts on the Peru State WMA and Upper Westfield River WMA and

mitigation measures based on coordination with MADFW and other interested parties;

- j. section 8.3.1.1.2 (page 8-58) – Provide updated information regarding impacts on the South River State Forest road/trail and mitigation measures based on coordination with MADCR and other interested parties;
- k. section 8.3.1.1.2 (page 8-58) – Provide updated information regarding impacts on the Mahican-Mohawk Trail and mitigation measures based on coordination with MADCR;
- l. section 8.3.1.1.2 (page 8-59) – Provide updated information regarding impacts on the Monague Plains WMA and mitigation measures based on coordination with MADFW;
- m. section 8.3.1.1.2 (page 8-59) – Provide updated information regarding impacts on the Northfield State Forest and mitigation measures based on coordination with MADCR;
- n. section 8.3.1.1.2 (page 8-60) – Provide updated information regarding impacts on the Harold Parker State Forest and mitigation measures based on coordination with MADCR;
- o. section 8.3.1.1.2 (page 8-60) – Provide updated information regarding impacts on the Squannacook River WMA and mitigation measures based on coordination with MADFW;
- p. section 8.3.1.1.2 (page 8-60) – Provide updated information regarding impacts on the Willard Brook State Forest and associated Off-Road Vehicle Trail and mitigation measures based on coordination with MADCR;
- q. section 8.3.1.1.2 (page 8-61) – Provide details regarding the types of sensitive land uses that might be affected based on information from individual towns;
- r. section 8.3.1.1.2 (page 8-61) – Provide updated information regarding impacts on the Cheshire Branch Rail Trail and mitigation measures and indicate with whom coordination has occurred;
- s. section 8.3.1.1.2, (page 8-61) – While figure 8.3-1 appears to show the pipeline crossing Rhododendron State Park, the park does not appear to be listed in section 8.3 or table 8.3-1. Clarify if Rhododendron State Park would be crossed by the Project and if it is, provide a discussion on potential impacts on the recreational use and any other environmental resources (e.g., sensitive plant communities). Update table 8.3-1 and figure 8.3-1 as appropriate; and

- t. section 8.3.1.1.2 (pages 8-61 and 8-62) – Provide updated information regarding impacts on the Monadnock Branch Rail Trail and mitigation measures and indicate with whom coordination has occurred.
2. Section 8.1 and table 8.1-2 – Provide the acreages of operational impacts that would be within the existing Tennessee Gas right-of-way that are mentioned in footnote 10 of table 8.1-2.
3. Section 8.1.3 (page 8-19) – Provide updated locations, lengths, and necessary improvements of access roads based on updated surveys or landowner permission. Provide updates to tables 8.1-2 and 8.1-6 as needed.
4. Section 8.1.4 (page 8-19) – Provide updated information on contractor yards, including a detailed explanation of how the areas would be used and include justifications for the number of sites and the total area required for the sites. Provide revised contractor yard locations/acreages based on updated landowner permissions and surveys.
5. Section 8.1.6.3 (page 8-22 and table 8.1-8) – Provide the current information on agricultural drain tile locations.
6. Section 8.2.1 (page 8-35) – Provide updates to the list of planned developments through further correspondence with local planning agencies or landowner consultations. Provide an updated table listing all planning agencies that Tennessee Gas has attempted to contact regarding planned developments within 0.25 mile of the Project. Provide updated information on which agencies have responded, which agencies have identified planned development, and which agencies have verified that there are no planned developments.
7. Section 8.2.2 (page 8-45) and Appendix P – Provide updated results of field verification of structures within 50 feet of the pipeline or aboveground facilities. Update tables 8.2-2 and 8.2-3 and the site-specific drawings in appendix P.
8. Section 8.2.3 (page 8-47) – Provide locations of known septic systems that fall within the footprint of the Project. Provide the status of contacting additional affected landowners regarding the presence of private septic systems along the proposed alignment.
9. Section 8.2.3 (page 8-49) – Provide updated information based on continued communications with landowners regarding modification to proposed workspaces.
10. Section 8.3.1.1.3 (page 8-68) – Clarify whether or not the information on Tewksbury town resources has been provided by Northern Middlesex Council of Governments. Provide the information or the anticipated schedule for providing it.

11. Section 8.3.1.1.3 (page 8-71) –Clarify what steps Tennessee Gas is taking to obtain records from the Town of Fitzwilliam and provide the information or the anticipated schedule for providing it.
12. Section 8.3.1.1.3 (page 8-72) – Provide information regarding Town of Milford resources and results of consultation with NHDES.
13. Section 8.3.1.2 (page 8-81) – Provide further discussion of the impacts on Hanscom Air Force Base and Camp Curtis Guild. Include updated information on the correspondence with the United States Air Force and the Army National Guard.
14. Section 8.3.1.4 (pages 8-98 to 8-100) – Provide an explanation of the types of impacts that would result from the contractor yards on each land use mentioned and describe mitigation that would be used to alleviate the impacts.
15. Section 8.3.2.2.2 (page 8-109) – Based on consultation with the New York State Department of Transportation, confirm whether any New York scenic byways would be crossed by the Project.
16. Section 8.3.3.2.3 (pages 8-115 to 8-116) – Clarify who is preparing the MEPA documents cited, and when they will be provided to the FERC.
17. Section 8.3.3.2.5 (page 8-120) – Clarify whether the statement that “Correspondence from Connecticut agencies has not identified particular easements on parcels in the Project area” means that they are not present or whether they just have not been identified. If the latter, explain how this information will be obtained. Clarify whether lands protected under Connecticut’s Farmland Protection Program are not present or just have not been identified. If the latter, explain how this information will be obtained.
18. Section 8.3.4.1.2 (page 8-121) – Provide updated information from discussions with the Church of Bethlehem regarding the types of impacts that might affect their property and the Elmwood Cemetery and discuss how these impacts would be avoided.
19. Section 8.3.4.1.4 (page 8-122) – Specify how impacts on the Rindge Smallpox Cemetery would be avoided.
20. Section 8.3.4.2 (pages 8-123 to 8-126) – Provide updated information on schools listed as within 0.25 mile of the Project. Include the distance in feet of the school property and buildings to the Project at the nearest point. Provide a description of the types of measures that would be implemented to minimize impacts and ensure access to the schools during construction.

21. Section 8.3.4.3 (pages 8-126 to 8-130 and table 8.3-8) – Provide updated information regarding the presence of specialty crop farms, organic farms, and tree farms (including maple sugaring operations).
22. Section 8.3.4.4 (page 8-130) – Clarify how the Villi Poni Farm “will be affected by the Project,” but, “no impacts are expected.”
23. Section 8.3.6 (page 8-131) – When discussing the coating on utility poles, clarify the specific distance meant by “minimal distance around the pole,” and provide the estimated distances from the Project workspace to the utility poles during construction.
24. Section 8.3.6.2 (page 8-132) – Provide the results of contamination investigations by Tennessee Gas at the proposed Supply Path Mid Station, Supply Path Tail Station, and Market Path Head Station locations or a schedule of when they will be provided.
25. Section 8.3.6.3 (page 8-133) – Provide results of contamination investigations by Tennessee Gas at the Market Path Tail Station or a schedule of when they will be provided. Provide information on the site investigations from MADEP or other sources.
26. Section 8.3.6.4 (page 8-133) – Provide results of contamination investigations by Tennessee Gas at the Merrimack Industrial Metals, Inc. Brownfield Site and Merrimack Meter Station or a schedule of when they will be provided. Provide information on the site investigations from NHDES or other sources.
27. Section 8.4.1 (page 8-136) – Clarify what is meant by the statement that “areas surrounding the pipeline...do not provide any other visual benefits” and how this was determined.
28. Section 8.4.2.1 (page 8-142) – Provide results of the discussions with stakeholders associated with visual impacts of the proposed Supply Path Head Station, Supply Path Tail Station, Market Path Head Station, and Market Path Mid Station 2. Provide a description of how visual effects would be determined for appurtenant facilities.
29. Address the following Scoping Comments:
  - a. provide a discussion of impacts and appropriate mitigation associated with the proposed crossing of the Gaseau Conservation property in Fitzwilliam, New Hampshire, and those properties subject to the Massachusetts Heritage Landscape Inventory program;
  - b. provide a discussion addressing the request by the New Hampshire Department of Justice (letter dated October 9, 2015) for maps and

- supporting documentation of all charitable land trusts affected by the proposed Project;
- c. provide a discussion of impacts and minimization measures associated with equine health and socioeconomic impacts at Keswick Farm Equine Assisted Therapy, located on Upper Gap Mountain Road in Fitzwilliam, New Hampshire.
  - d. provide a discussion of impacts on Capital Region Career and Technical School, located at 174 State Route 30A in Schoharie, New York.
  - e. address concerns that the pipeline would destroy two ski trails that are necessary for beginner skiers to access the rest of the trails at the Windblown Cross Country Ski Area in New Ipswich, New Hampshire. Provide a discussion of impacts associated with the ski area's certification as a Tree Farm with the American Tree Farm System;
  - f. provide a discussion of any additional minimization measures associated with concerns that the topographical conditions at the proposed Market Path Mid Station 1 site would increase impacts of compressor station emissions, noise, and lighting on residents of and visitors to Burden Lake, New York;
  - g. provide a discussion of impacts on Woolman Hill Quaker Retreat Center in Deerfield, Massachusetts;
  - h. provide an updated discussion of the configuration of the proposed NED Project and the pending Merrimack Valley Reliability Project along the 17 miles where Tennessee Gas is proposing they be collocated with specific descriptions of the configuration through any and all residential areas; and
  - i. provide a discussion on the potential impacts of the Project in agricultural areas associated with crop rotation. Specifically address how impacts would be mitigated to avoid violation of New York's concentrated animal feeding operation permit requirements and associated certified nutrient management plans.
30. Appendix F (Alignment Sheets) – Provide additional alignment sheets to show the full extent of project features such as access roads, additional temporary work spaces, and contractor/supply yards, which may not be captured in the current aerial photos centered on the pipeline. Also address each of the specific discrepancies identified in the attachment and carefully review all of the alignment sheets to correct additional discrepancies.
31. Appendices J through N (section 9.4) – Tennessee Gas states that in residential areas it would replace ornamental shrubs that have been impacted by Project construction 'where possible.' Identify the situation(s) in which Tennessee Gas

would not replace ornamental shrubs. Clarify what types of plants would and would not be characterized as ornamental shrubs. Further, discuss the possibility of replacing other landscaped vegetation (other shrubs, perennial plants, and trees) damaged or destroyed by construction in residential areas.

32. Appendix P (Residential Construction Plans) – Provide the following updates to tables 8.2-2 and 8.2-3 and the Residential Construction Plans (RCPs):
  - a. in order to clarify which structure in each plan is a residence, assign a unique residence identification number (Residence ID) to each residence within 50 feet of the construction workspace for the pipeline and aboveground facilities. Add a column in tables 8.2-2 and 8.2-3 for the Residence ID and label the residences in the RCPs with the Residence ID;
  - b. correct apparent discrepancies in distances listed in tables 8.2-2 and 8.2-3 and the corresponding distance labels in the RCPs. For example, the table for Residential Drawing Number SP-SEG\_C-RES-002 lists the distances from the residence to the edge of workspace and pipeline centerline as 24 and 139 feet respectively. On the corresponding RCP, none of the five structures displayed has matching distances. Additionally, some distances are absent from the drawings (e.g., this occurs on drawing MG-SEG\_H-RES-009);
  - c. add the aerial imagery as a background layer in the site-specific drawings in order to more clearly show other relevant features of the properties. Identify garages, mobile homes, sheds, decks, pools, major landscaping areas, driveways, and secondary access routes during Project construction, if warranted. For example, Drawing SP-SEG\_C-RES-002 shows the footprints of the structures, but the aerial photo on alignment sheet TE-SEG\_C-012 shows what appears to be the property's driveway being crossed by ATWS-C-147 and perhaps by the adjacent temporary workspace as well; and
  - d. identify any known septic systems or septic drain fields in the RCPs.
33. We have received numerous comments indicating that Tennessee Gas and/or its contractors have trespassed on private property. Provide an assessment of how frequently this may have occurred and a detailed outline of the steps Tennessee Gas is implementing to ensure that it will not happen in the future.

## **Resource Report 9 – Air and Noise Quality**

1. As previously requested in our May 15, 2015 EIR, provide the following information:
  - a. ambient noise surveys and an acoustical analysis of impacts at each HDD entry and exit site. Provide mitigation as required to meet regulatory requirements; and
  - b. for maintenance areas in the Project area, provide a discussion of any air quality or conformity provisions that would be applicable within the maintenance area, or explicitly state that no additional provisions apply for each area.
  
2. As previously requested in our October 8, 2015 EIR, provide the following information:
  - a. specific details on how Tennessee Gas would ensure that contractors and employees minimize vehicle and equipment idling time;
  - b. the maximum speed of Project-related vehicles on unpaved roads;
  - c. how Tennessee Gas would determine when application of water would be warranted to control dust in active construction zones;
  - d. a discussion on the potential to generate crystalline silica as fugitive dust from granite excavation and how Tennessee Gas would monitor and control such dust;
  - e. the local and state nuisance-based noise ordinances and vibration ordinances for all areas in which a pipeline or compressor station would be located, and indicate how Tennessee Gas would adhere to each one during both construction and operations;
  - f. a discussion on what measures Tennessee Gas would implement to ensure that vibration impacts would not result in perceptible increases in vibration at nearby residences;
  - g. specific details on what measures Tennessee Gas would implement to mitigate HDD noise prior to offering relocation; and
  - h. a discussion of the frequency of a blowdown (venting) event. Tennessee Gas has indicated that such events would be “infrequent” and “irregular.” Clarify how many times per year unit venting and station venting would be expected to occur for maintenance purposes, as well as the likelihood of an unscheduled pipeline venting event. Provide the expected duration in hours or minutes for each and the noise contribution in terms of the day-night average sound level dBA  $L_{dn}$ .

3. Address the following Scoping Comments:
- a. Section 9.1.2.1 (page 9-23) and section 9.1.3.1 (pages 9-30 to 9-58) – Provide a discussion of mitigation strategies to reduce greenhouse gas emissions for the entire Project (not just compressor stations), including any specific measures that were considered but not proposed for implementation;
  - b. Section 9.1.3.1 (pages 9-30 to 9-58) – Identify whether the following measures would be implemented to reduce GHG and criteria pollutant emissions at compressor stations:
    - i. replacement of rod packing systems in reciprocating compressors every 26,000 hours of operation/every 36 months;
    - ii. capturing rod packing emissions in a closed vent system; and/or
    - iii. use of optical gas imaging equipment to monitor leaks and subsequent repair of identified leaks within a specified timeframe;
  - c. Section 9.1.3 (page 9-30 to 9-58) – Address concerns whether modeled air quality impacts at compressor stations account for air inversions, particularly at the proposed Market Path Mid Station 3 located in Northfield, Massachusetts;
  - d. Section 9.1.3 (page 9-3) – Provide equipment lists and existing and proposed operational emissions of criteria pollutants and GHGs for all meter stations;
  - e. Section 9.1.3.2 (page 9-25) – Ensure that speciated HAP emissions for all HAPs (not just formaldehyde) are provided for all compressor station equipment (including the turbines at the Supply Path Mid, Supply Path Tail, Market Path Head, and Market Path Tail Compressor Stations);
  - f. Section 9.1.4.1 (page 9-66) – Discuss efforts and commitments to use the newest equipment available from subcontractors, and use cleaner fuels and retrofits to minimize construction equipment emissions;
  - g. Section 9.1.4.3 (page 9-67) – Address concerns regarding the potential for radioactive emissions (e.g. radon) from compressor stations;
  - h. Section 9.1.5 (page 9-68) – As requested by the NHDES, address cumulative in-state and upwind emissions of nitrogen oxide (NO<sub>x</sub>) and particulate matter with an aerodynamic diameter less than 2.5 micrometers (PM<sub>2.5</sub>) in New Hampshire, with emphasis on the summer ozone season;
  - i. Section 9.2.2 (pages 9-76 to 9-92) – Address public concerns about potential impacts of low frequency vibration/noise from compressor stations. As appropriate, indicate how Tennessee Gas will assess impacts from this low frequency vibration/noise;

- j. Section 9.2.1.2 (pages 9-72 to 9-76) – As requested by the Southwest Regional Planning Commission, indicate how Tennessee Gas would address noise impacts in New Ipswich, New Hampshire, whose Zoning Ordinance prohibits large industry;
  - k. Section 9.2.2 (pages 9-76 to 9-92) – As requested by the MADEP, indicate whether Tennessee Gas would calculate ambient noise surveys using a full week of 1-hour  $L_{90}$  ambient sound level measurements. Also, discuss how Tennessee Gas will account for noise impact for rural areas with low level ambient background conditions (i.e., by committing to a more stringent standard of 45 dBA  $L_{dn}$  instead of 55 dBA  $L_{dn}$  for these areas);
  - l. Section 9.2.3.2 (pages 9-94 to 9-96) – Consider conducting annual post-construction surveys during winter months to assess compressor station noise impacts;
  - m. Section 9.2.7 (page 9-101) – Address concerns that tree removal for construction of the pipeline would cause an increase in noise from non-project related sources, due to removal of existing buffer.
4. Section 9.1.1.1 (page 9-6) – Identify the source of the general description of the climate in the Project area.
  5. Section 9.1.1.2 (page 9-7) – Clarify whether the monitored concentrations shown in tables 9.1.5 through 9.1.10 are the highest reported concentration listed for 2012 to 2014 (as indicated on page 9-7), or are the average reported concentration listed for 2012 to 2014.
  6. Section 9.1.1.2 (tables 9.1.5 to 9.1.10) – Describe the existing predominant land use (i.e., rural or urban) and terrain (i.e. hilly or flat) in the area of each compressor station. For each ambient air quality monitor selected as having representative data for a compressor station, provide the predominant land use and terrain in the area of the monitor. In addition, if there are any monitors that are closer to the area of the compressor station that were not selected as having representative data, provide the monitored concentrations, distance to the compressor station, land use, and terrain in the area of the monitor for these as well. If the closest monitor with similar land use and terrain to the compressor station was not selected as being representative, provide a rationale for why the more distant monitor was selected as representative. For example, Market Path Mid-Station 4 is located in a rural area of Hillsborough County, New Hampshire. Monitor ID 33-011-0018 is also in a rural area of Hillsborough County, and is located about 6 miles from this compressor station. Explain why Tennessee Gas selected Monitor ID 33-015-0018, located in an urban area 24 miles away from the compressor station, as more representative of the compressor station area for carbon monoxide,  $PM_{2.5}$ , ozone, and sulfur dioxide than Monitor ID 33-011-0018.

In addition, provide electronic copies of, or complete citations for, the State Annual Monitoring Reports referenced in the tables and identify which values are from these reports rather than the EPA database.

7. Section 9.1.1.2 (Tables 9.1.5 to 9.1.10) – If there is not a nitrogen dioxide or PM<sub>2.5</sub> pollutant monitoring station within 50 miles of a given compressor station that is considered representative (i.e., predominantly the same land use and terrain as the compressor station), consider installing ambient air quality monitors and collecting pre-construction ambient air quality data for the purpose of ensuring background ambient air quality data are representative.
8. Section 9.1.1.2 (table 9.1.10) – Provide the distance and direction of the selected air quality monitor to each compressor station.
9. Section 9.1.1.2 (pages 9-7 to 9-19) – Update the section to reflect EPA’s Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan Requirements; Final Rule dated March 6, 2015 (80 Federal Register 44, pages 12264 to 12319) that revokes the 1997 ozone standard. If any county is partially classified as nonattainment or maintenance, clearly indicate whether any part of the Project (including pipeline and meter stations) is located within the portion designated as nonattainment or maintenance.
10. Section 9.1.1.2 (pages 9-14 to 9-19) – For each area designated as nonattainment or maintenance for PM<sub>2.5</sub>, indicate which precursors of PM<sub>2.5</sub> (NO<sub>x</sub>, sulfur dioxide, volatile organic compounds [VOCs], or ammonia) are considered significant precursors to PM<sub>2.5</sub> in each state.
11. Section 9.1.2.5 (pages 9-24 to 9-29) – For each state, provide a discussion of any state air quality provisions for construction activities, or explicitly state that no additional provisions apply for construction.
12. Section 9.1.2.5 (pages 9-24 to 9-29) – Specifically state whether or not the permits for each of the compressor stations would be New Source Review (NSR) permits, or if they would be non-NSR state permits. Provide the permit applications, and any revisions/updates to the permits.
13. Section 9.1.3 (pages 9-30 to 9-58) – Provide operational methane emission estimates (as methane and CO<sub>2e</sub>) associated with leaks and releases from the pipeline, valves, meter stations, gate stations, interconnects, taps, regulation facilities, and pig launcher/receivers along the pipeline, per year. Include supporting calculations, and indicate all assumptions.
14. Section 9.1.3.6 (pages 9-61 to 9-65) – For purposes of the General Conformity (GC) applicability analysis, ensure that construction emissions from all counties

within any nonattainment or maintenance area affected by the Project are combined for comparison to each GC threshold, for each nonattainment or maintenance area pollutant and precursor (e.g., the New York-New Jersey-Long Island, NY-NJ-CT Area, which is maintenance for the 2006 24-hour PM<sub>2.5</sub> standard, includes both Fairfield and New Haven Counties; thus direct PM<sub>2.5</sub> emissions, as well as any precursors, should be combined for comparison to their respective thresholds). If a GC threshold does not apply for any specific reason (e.g., for an area that is nonattainment for ozone due solely to location in the ozone transport region), state this as well. If any of the emission estimates in the GC applicability analysis exceed the GC applicability thresholds in a designated nonattainment or maintenance area, provide the following information necessary for a Conformity Determination:

- a. a revised schedule for construction and in-service for the Project. The schedule should allow sufficient time for FERC staff to prepare and issue a draft GC determination as an appendix to the draft EIS for the Project, as well as preparation and issuance of a final GC determination appended to the final EIS for the Project. The schedule should also allow sufficient time for Tennessee Gas to complete its demonstration of conformance in accordance with Title 40 of the Code of Federal Regulations (CFR) Part 93.158 prior to construction;
  - b. revised estimates of construction emissions (including construction of any non-jurisdictional facilities) consistent with 40 CFR 93.159(b) based on the revised schedule, broken down by calendar year. Provide all detailed supporting calculations, assumptions, and references;
  - c. identify which method under 40 CFR 93.158(a) Tennessee Gas would follow to demonstrate conformity. Provide all supporting documentation and detailed calculations (e.g., if purchasing offsets, provide documentation that such offsets are available within the nonattainment/ maintenance region for the time period of the Project; or if an emissions budget exists within the State Implementation Plan, provide documentation of the emissions budget and documentation of the state or local agency's concurrence that the Project can be accommodated through this budget); and
  - d. documentation of consultation with the local and/or state air quality agencies and the U.S. Environmental Protection Agency regarding the method selected for demonstrating conformity, including any comments they provide.
15. Provide a discussion regarding the potential cumulative impacts on regional and local air quality resulting from operation of the Supply Path Tail Station, Market Path Head Station, and Iroquois' Wright Compressor Stations.

16. Section 9.2.4.1 (table 9.2-24, page 9-97) – Identify the units for the Sound Level at 50 feet, A-weighted decibels (dBA). Is this the maximum sound level ( $L_{\max}$ )?
17. Section 9.2.2 (pages 9-36 to 9-50) – Ensure that the closest NSA in each of the 16 major direction sectors (delineated by directions N, NNE, NE, ENE, E, ESE, E, SSE, S, etc.) within 1 mile of each compressor station are identified and shown on figures 9.2-1 to 9.2-10. For each, specify the type of NSA, specify the distance and direction of the NSA from the compressor station, conduct ambient noise surveys, and calculate predicted noise levels from the operation of the compressor station. For example, there appears to be a residence ENE of the Supply Tail Compressor Station about 3,000 feet from the compressor station for which this information has not been provided.
18. If other compressor stations or industrial facilities are under construction or planned for operation that would impact noise sensitive areas within 1 mile of the proposed compressor stations, provide a discussion of the cumulative impacts of these facilities.
19. Sections 9.2.4.1, 9.2.4.4, and 9.2.5 (page 9-78 and 9-80) – Clarify what noise criterion Tennessee Gas will use when applying mitigation for construction noise, blasting noise, and HDD noise.

### **Resource Report 10 – Alternatives**

1. General – Provide all information listed in RR10 (or in the Responses to Comments on Draft Resource Reports matrix, the Responses to October Scoping Comments matrix, or the Response to the December 8, 2015 Environmental Information Request #1) that Tennessee Gas has identified would be provided to the FERC (or include a schedule for submittal), which includes, but is not necessarily limited to:
  - a. the ongoing evaluation of the constructability of the proposed route where it would be collocated with existing pipelines or electric transmission lines in steep terrain, particularly in steep side slope terrain (Responses to Comments on Draft Resource Reports);
  - b. the ongoing evaluation of the suitability of Constitution’s updated alignment for collocation (Responses to Comments on Draft Resource Reports);
  - c. analysis of an alternative route for the Peabody Lateral (Responses to Comments on Draft Resource Reports, and Responses to October Scoping Comments);
  - d. updated, comprehensive tables containing all stakeholder-, landowner-, and agency-requested minor route deviations filed on the docket or made

- known to Tennessee Gas after September 4, 2015 or otherwise not previously provided to the FERC (Responses to Comments on Draft Resource Reports);
- e. updated alternatives environmental data comparison tables for each potential compressor station site (Responses to Comments on Draft Resource Reports); and
  - f. a supplemental report regarding analysis of the Interstate 88 Hybrid Alignment Alternative mentioned in section 10.3.1.1.3 (page 10-31).
2. General – As requested in our February 27, 2015 and October 8, 2015 EIRs, provide additional data categories in all alternatives comparison tables for miles or feet of expected side-slope construction (including data for both moderate and severe side slope), shallow bedrock, karst geology, landslides, numbers of landowners affected, residences located within 125 and 250 feet of any proposed work area, and miles/acres of interior forest.
  3. General – Provide consistent data categories in all alternatives comparison tables where possible. Note that in section 10.3.1.2.7 (table 10.3-9, page 10-57) data comparison categories include “coldwater fisheries crossings (Massachusetts only), threatened and endangered species critical habitat crossed (Massachusetts only), and contiguous forest tracts greater than 100 feet long,” but these data categories are missing for other alternative routes located in Massachusetts. Define “contiguous forest tracts greater than 100 feet long.”
  4. General – As requested in our February 27 and October 8, 2015 EIRs, evaluate the constructability of the proposed Project route where it would be collocated with existing pipelines in steep terrain and where the most suitable location for construction may already be encumbered, thereby potentially precluding or constraining collocation. Identify any such specific areas where collocation would not be possible. Further, identify and describe any other potential constraints associated with collocation with other pipelines or electrical transmission lines including side slopes, urbanized areas, or other factors. As applicable, discuss how the avoidance of these constraints could affect the current collocation data.
  5. Section 10.2.2.4 (page 10-21) – Provide an analysis of the potential viability for the transport of a Project-equivalent volume of compressed natural gas via railway (in addition to liquefied natural gas via railway).
  6. Section 10.3 (page 10-22) – Include assessment and information where applicable for alternatives facilitating avoidance or minimization of impacts on lands associated with the Land and Water Conservation Fund (LWCF) program. Refer to the letter dated December 2, 2015 from the State of New Hampshire, Department of Resources and Economic Development that provides additional

detail on the collection of accurate and officially confirmed LWCF Section 6(f) property information as well as identifying LWCF Section 6(f) areas that may be impacted by the proposed Project. Include the number of LWCF lands crossed as well as the total length of these lands crossed in each alternatives comparison table where applicable.

7. Section 10.3.1.2.9 (page 10-63) – As requested in our February 27, 2015, May 15, 2015, and October 8, 2015 EIRs, provide comparison tables that include the number of subject Article 97 properties crossed as well as the total crossing length(s) for the Article 97 Avoidance and Collocation Route Alternatives, list and describe the subject properties, and depict the subject locations in maps as well. Clarify whether or not the two Article 97 alternatives could be potentially connected with the proposed route near Segment G, MP 13 to form hybrid alternative routes.
8. Section 10.3.1.2.2 (page 10-41) – As requested in our February 27, 2015 and October 8, 2015 EIRs, provide locations of Areas of Critical Environmental Concern (ACEC) and provide data for crossing(s) lengths in alternatives comparison tables, where appropriate.
9. Section 10.3.2 – Address the comments contained in the letter received by the FERC from NYSDEC on October 16, 2015 regarding pipeline routing alternatives to avoid or minimize impacts to the Cannonsville/Stream Mill Important Bird Area. In addition, address the comment regarding designing a specific alternative to avoid or minimize impacts on watershed that feeds Cleveland, Windsor, and Egypt reservoir, and provides drinking water for the City of Pittsfield as well as multiple towns in western Massachusetts.
10. Section 10.3.2.3 (page 10-73) – Provide an analysis of shifting the Fitchburg Lateral Extension to the east to avoid or minimize impacts on the Squannassit ACEC. Update figure 10.3-16 to depict the Willard Brook State Forest.
11. Section 10.3.2.4 (page 10-76, Figure 10.3-17) – Depict the “aquifer protection area and Pulpit Falls” on figure 10.3-17. Confirm the calculations for the “Difference (if applicable)” column in table 10.3-14 (and elsewhere) as the data for the length of the corresponding segment appears to be incorrect for segment 5.
12. Section 10.3.3 (pages 10-87 and 10-93) – Update tables 10.3-16 and 10.3-17 to identify all stakeholder-, landowner-, and agency-requested minor route deviations. In addition, address any stakeholder comments where a minor route deviation may not be specifically requested, but where a specific resource concern (e.g., Project proximity to a home, well, spring, wetland, future residential development, etc.) is identified that would potentially benefit from a resource avoidance/impact minimization analysis by Tennessee Gas. Evaluate and consider

routing, workspace, and construction method alternatives as appropriate. Re-check to ensure that all relevant comments filed on the docket have all been included and note examples of apparently missing comments that include, but may not be limited to LL#1959.04 (docket letter dated April 17, 2015) and LL#579.04 (docket letter dated April 10, 2015), and the Town of Dalton, Massachusetts comment dated August 7, 2015 (referenced in the Massachusetts Energy Facilities Siting Board docket letter dated October 19, 2015 and as responded to by Tennessee Gas on the docket on December 28, 2015). Specific to the Town of Dalton comment, it appears that the response provided by Tennessee Gas does not specifically answer the comment and that no cross-reference is provided to the specific location of other information in support of the response. Expand the response accordingly to fully address the Town of Dalton comment.

13. Responses to October 2015 Scoping Comments – Tennessee Gas indicated that multiple reroutes had been assessed in regard to avoidance of Land Conservation Investment Program (LCIP) lands, but discussions of these reroutes do not appear to be included in either RR 10 or in other recent filings. Either provide a cross-reference to the specific location of this information within previously filed material or provide the analysis including discussion, comparative data, and mapping.
14. Response to the December 8, 2015 Environmental Information Request #1 – Notations regarding coldwater fisheries indicated that only coldwater fisheries crossings for Massachusetts were presented and that coldwater fisheries data for New York is not publicly available. In RR 3, section 3.1.2.3, Tennessee Gas states that consultations were initiated with NYSDEC in 2015 to refine the list of coldwater fishery designated streams that would be crossed by the Project. Provide all applicable alternative environmental comparison tables to include the number of coldwater fisheries crossings in New York, or provide the anticipated schedule for filing this information with this FERC.
15. Tables 10.3-16 and 10.3-17 (pages 10-87 and 10-93) – As requested in our October 8, 2015 EIR, provide an additional data column indicating whether the stakeholder’s specific concerns have been fully (emphasis added) resolved. If the requested reroute was rejected or if the stakeholder’s concerns have not been fully resolved, then provide a clear and complete explanation. For example, the explanation provided on page 10-87 of “not adopted due to constructability issues related to existing pipeline infrastructure in the area” is not sufficient detail or justification.
16. Responses to October 2015 Scoping Comments (attachment 1) – Explain the relationship(s) of the new table to tables 10.3-16 and 10.3-17 in RR 10. Revise the new table’s data columns to match those presented in tables 10.3-16 and 10.3-17

in RR 10 as well as providing the stakeholder resolution status noted in the comment located immediately above.

17. Section 10.6 (page 10-115) – Provide an alternatives analysis for each proposed MLV that would not be located in an existing pipeline infrastructure/industrial setting, and where there would be a potential visual impact on a residence.
18. Response to the December 8, 2015 Environmental Information Request #1 – Where applicable, explain why a longer access road for compressor station site alternatives is proposed where shorter access roads appear to be feasible based on mapping by Tennessee Gas. For example, the aerial photography provided for Market Mid Station 2 Alternative 1 shows a relatively long access road from the alternative site extending northeast to an existing road; however, it appears that a much shorter access road could be constructed from the existing road on the southwest quadrant of this figure extending northeast to the site. Similarly, it appears that a shorter access road could be used at an alternative site for the Market Mid Station 1 (specifically the FERC Alternative 1B) extending from the existing road at the southwest quadrant of the figure and generally following the existing utility right-of-way to the southwest corner of the alternative site.

### **Resource Report 11 – Reliability and Safety**

1. Tennessee Gas states in multiple places in RR11 that it “will meet or exceed” the applicable safety requirements. Specifically list and describe any instances where Tennessee Gas intends to exceed regulatory safety requirements.
2. Provide a detailed overview of how steep topography, land instability, geology, and other natural forces could affect reliability and safety for the Project, and describe any associated proposed impact avoidance, minimization, and/or mitigation measures proposed. Clarify whether Tennessee Gas anticipates the use of strain gauges in steep or unstable areas, and if so describe their features and usage.
3. Section 11.2.1 (page 11-3) – Provide updated information regarding class locations and high consequence areas based on new aerial imagery that was planned to be obtained in November 2015 via overflight of the currently proposed route.
4. Provide equivalent High Consequence Areas (HCA) for all compressor stations.
5. Clarify the Potential Impact Radius (PIR) for specific segments of the pipelines, not just HCAs, as well as equivalent PIRs for each compressor station.
6. As described on page 37 of the Responses to Comments on Draft Resource Reports, October 8, 2015, provide the conclusion regarding Tennessee Gas’ consideration of the feasibility of incorporating natural gas recapture (the

recapture of natural gas at compressor stations instead of venting it) into the Project's compressor stations for both planned blowdowns as well as emergency blowdowns

7. Section 11.2.7 (page 11-13) – Discuss whether Tennessee Gas would sponsor and financially support “mock emergency drills” conducted with local emergency responders. Include an analysis of existing emergency responders, equipment, labor, status (full-time or volunteer), and capability along the Project route, particularly for fire departments in remote or relatively inaccessible areas.

### **Attachment – Specific comments on Appendix F Alignment Sheets**

1. Address the following inconsistencies between table 2.3-1 and the alignment sheets, and provide new alignment sheets.
  - a. consider differentiating symbology for the various classifications of wetlands (PEM, PSS, PFO, etc.) to make type of wetland impact easier to understand in alignment sheets;
  - b. the following wetlands are missing labels on the alignment sheets: SU-G-W037, WPI-600, DE-G-W032, WPI-773, WPI-794, WPI-795, WPI-798, WPI-888, WPI-891, WPI-894, NWI-924, WPI-1022, WPI-1095, WPI-1195, NWI-1375, NWI-1376, WPI-1212, WPI-1254, WPI-1309, NWI-1021, PL-M-W006, WPI-1390, WPI-1395, WPI-1484, WPI-1487, WPI-1625, WPI-1647, TR-D-W001, WPI-1800, WPI-1819, WPI-1908, WPI-1930, WPI-1929, WPI-1935, WPI-1971, WPI-2423, WPI-2426, WPI-2428, WPI-2437, WPI-2519, PH-Y-W008, and WPI-3103;
  - c. the following wetlands are identified in the table but do not appear on the alignment sheet: NWI-1369, WPI-1112, WPI-1162, WPI-478, NWI-1373, RE-G-W019, RE-G-W021, WPI-1117, WPI-1402, WPI-1464, NWI-1417, and NWI-1415;
  - d. wetlands are not labeled in compressor station drawings;
  - e. wetlands are not able to be verified in most contractor yards and along access roads;
  - f. the following locations appear to be impacted by ATWS, but are not delineating: ATWS-C-055, ATWS-E-061, AL-D-W02;
  - g. the following locations contain wetlands that do not appear to be impacted on the alignment sheets, but are listed as being impacted in wetland tables: NYS-012, NWI-1312;
  - h. the following are wetlands appearing to be impacted by the project path, but are not included in the wetland tables: WPI-1578, NO-G-W010, NWI-

1313, NWI-1314, wetlands at MP 1.3 in Segment O, and wetlands between MP 24.0 and 26.0 in Segment J; and

- i. the following features have labeling errors:
  - i. there is a field delineated wetland on sheets TE-SEG\_A-017 and TE-MLV-A\_02\_002 that is shown on the alignment sheets, but is not labeled and does not appear in table 2.3-1. It occurs along Segment A at MP 16.55;
  - ii. label for SU-L-W114 is outside the view of the alignment sheet at MP 24.18 in Segment C;
  - iii. SU-L-W110 is labeled as SU-L-W108 in the alignment sheet at MP 24.84 in Segment C;
  - iv. SU-D-W004 in table 2.3-1 appears to correspond to a wetland labeled as SU-D-W003 in the alignment sheet at MP 33.87 in Segment C;
  - v. DE-L-W006 has a typo in the wetland ID in table 2.3-3;
  - vi. AL-B-W001 has no color at MP4.58 in Segment F;
  - vii. WPI-1016 & RE-G-W022 are labeled in the HDD crossing plans, but do not appear to be labeled in the alignment sheet;
  - viii. there is an extra WIP-1093 label that is not pointing to anything; and
  - ix. TR-X-W004 in table 2.3-7 is labeled as TR-I-W004 in the alignment sheets.
  
2. Address the following inconsistencies between table 8.1-4 and the alignment sheets:
  - a. provide documentation for ATWS that were not found on the sheets but suspected of being required for access road starts. The following examples of ATWSs in the table but not on the provided alignment sheet: ATWS-A-259, ATWS-B-003, ATWS-C-266, ATWS-D-247;
  - b. the following ATWSs span public roads:
    - i. Segment A: ATWS-A-061, ATWS-A-071, ATWS-A-256;
    - ii. Segment E: ATWS-E-486;
    - iii. Segment F: ATWS-F-311;
    - iv. Segment Q: ATWS-Q-134; and
    - v. Segment J: ATWS-J-072;

- c. multiple unidentified/unlabeled ATWSs along Segment J between MP 22.2 and 25.9 that need to be labeled;
  - d. the following ATWS are identified in the table but not found on the map but are not suspected of being related to access road construction:
    - i. Segment A: ATWS-A-007, ATWS-A-253;
    - ii. Segment E: ATWS-E-219;
    - iii. Segment F: ATWS-F-330, ATWS-F-382, ATWS-F-452;
    - iv. Segment G: ATWS-G-031, ATWS-G-142, ATWS-G-155;
    - v. Segment H: ATWS-H-046, ATWS-H-062, ATWS-H-073, ATWS-H-196, ATWS-H-197, ATWS-H-198, ATWS-H-199, ATWS-H-200, ATWS-H-201, ATWS-H-202, ATWS-H-203;
    - vi. Segment I: ATWS-I-123, ATWS-140;
    - vii. Segment J: ATWS-J-147, ATWS-J-168;
    - viii. Segment N: ATWS-N-118, ATWS-N-134;
    - ix. Segment P: ATWS-P-012, ATWS-P-030; and
    - x. Segment S: ATWS-S-123;
  - e. the following ATWS is listed identified twice on the alignment sheets:
    - i. ATWS-C-283; and
  - f. the following ATWS are unlabeled on the alignment sheets but correspond with mapped ATWS:
    - i. Segment I: ATWS-I-229, ATWS-I-230, ATWS-I-231, ATWS-I-232, ATWS-I-233, ATWS-I-234, ATWS-I-235, ATWS-I-236, ATWS-I-237, ATWS-I-238, ATWS-I-239, ATWS-I-240; and
    - ii. Segment P: ATWS-P-053;
3. Address the following inconsistencies between table 8.1-6 and the alignment sheets:
- a. document full extent of all Access Roads required for construction on alignment sheets. Currently missing full documentation of access roads such as: NED-PAR-A-0001, TGP-TAR-A-0800, NED-TAR-C-0100; and
  - b. use different symbology on alignment sheets to indicate temporary versus permanent access roads.