

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 No. PF14-22-000
§ 375.308(z)

October 8, 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: Comments on the July 24, 2015 Draft Resource Reports

Mr. Moffat:

The enclosure contains the comments of the FERC staff on Tennessee Gas Pipeline Company, LLC's (Tennessee Gas) draft environmental resource reports (RRs) filed on July 24, 2015 for the planned Northeast Energy Direct Project (Project). The comments ask for clarifications of discrepancies and identify missing information that we believe necessary to begin substantive preparation of the draft environmental impact statement for the project. In addition, Tennessee Gas should address all of the comments filed in the public record by other federal, state and local agencies; as well as stakeholders regarding the draft environmental resource reports.

You should be aware that Tennessee gas needs to address all comments within the attached enclosure as well as all comments received during the scoping period. Any omission of content relevant to these comments may affect the Project schedule after the application is filed. If Tennessee Gas cannot provide the necessary information in its application, Tennessee Gas should clearly state the timing for all supplemental information.

To facilitate review of the application, Tennessee Gas should include a matrix that identifies the specific locations in the RR's (i.e., section and page number) where the information requested in these comments may be found.

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

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

Sincerely,

Eric Tomasi
Environmental Project Manager
Office of Energy Projects

Enclosure

cc: Public File, Docket No. PF14-22-000

**Northeast Energy Direct Project (Project)
Docket No. PF14-22-000**

Comments on Revised Draft Resource Reports

Resource Report 1 – Project Description

1. General – Include all information listed in Resource Report (RR) 1 (or in the Responses to Comments on Draft Resource Reports matrix) listed as pending, “will be addressed in the final ER,” or “TBD” (or include a schedule for submittal) in the July 24, 2015 Resource Reports, which includes, but is not necessarily limited to:
 - a. updated aerial imagery for the Project area;
 - b. status of wetland and waterbody field surveys and site-specific waterbody and wetland plans and associated crossing techniques;
 - c. site-specific residential construction plans for all relevant areas;
 - d. detailed construction schedule showing Project components by year (e.g., 2017, 2018);
 - e. identification of additional delivery points and description of any associated metering and regulation facilities;
 - f. updated discussions between Tennessee Gas and the other utility entities regarding co-location. State specifically whether these individual entities would allow Tennessee Gas to use portions of their existing rights-of-way for construction, operation, or both and define any potential physical constraints (e.g., guy wires). Where existing rights-of-way would not be shared, indicate whether the NED Project would directly abut the existing corridor. Include a fully descriptive table, with explanations and details included that lists each area where a generally co-located Project segment would temporarily deviate away from other co-located utilities due to the existence of obstacles. 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 (and where) the proposed Project centerline and associated workspaces would have to be modified;
 - g. evaluations (including details of ongoing discussions with regulatory agencies) regarding the feasibility of additional horizontal directional drills (HDDs) in sites containing forested wetlands with an impact of more than 0.5-acre per crossing or in sites containing any high quality or specially designated forested wetland;

- h. evaluations regarding the potential for using HDDs at all major waterbodies and sites where waterbody crossings would be greater than 30-feet-wide and a dry construction method is not feasible, as well as at all waterbodies listed as sensitive or high quality;
 - i. evaluations regarding whether Tennessee Gas would install communication towers as part of the Project, and, if so, describe their location and features;
 - j. updates regarding the identification and full description of any 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 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 local, state, or federal permitting authorities.
 - k. an updated table listing the 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 a summary table stating how each State Environmental Construction Plan (ECP) differs from one another and from the FERC Plan and Procedures; and
 - l. summary of scour analysis, and a cross-reference to where the detailed scour analysis discussion is provided in appropriate RRs.
2. Section 1.1.1 (page 1-10) – Include, to the extent known, the possible uses of the Project’s end-users/customers for the gas capacity created. 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).

3. For each delivery lateral, identify the volumes of gas that would be delivered and identify the delivery points/customers.
4. Section 1.1.1 (page 1-10) – Include a list that identifies local distribution companies (LDCs) and their service areas that have expressed direct interest in receiving natural gas from the Project. In addition, list any other LDCs that are viable candidates to potentially receive natural gas from the Project.
5. Section 1.1.2.2.1 (page 1-30) – Identify the overall parcel size for each proposed compressor station.
6. Provide public versions of the compressor station site plans that identify workspaces, fencelines, cleared areas and general location of compressor station components.
7. Section 1.2.4 (page 1-62) – As requested in our May 15, 2015 Environmental Information Request (EIR), indicate whether forests, wetlands, waterbodies, or other sensitive resources would be affected by use of the contractor yards. Update RRs 2 and 3 appropriately.
8. Section 1.3.1.1 (page 1-83) – As requested in our May 15, 2015 EIR, describe any special measures that would be employed to prevent post-restoration slips and landslides in steep terrain. In addition, describe the process for how rocks that might roll off the construction right-of-way beyond the reach of equipment positioned on the right-of-way would be retrieved.
9. Section 1.3.1.13 (page 1-81) – As requested in our May 15, 2015 EIR, describe the source or type of source of imported soils during restoration and plans to address associated issues such as the spread of invasive plant species, soil type compatibility, and rock content.
10. Section 1.3.2.2 (page 1-84) – Confirm that pre- and post-construction testing of groundwater would include any spring (not just wells) if requested by the landowner. List the specific water quality parameters or suites of parameters that would be analyzed for wells and springs.
11. Section 1.3.2.2 (page 1-85) – Clarify how Tennessee Gas would assess and repair damage to private or public roads caused by the Project-related traffic from heavy trucks and equipment, not just from the actual road crossings themselves. Confirm that Tennessee Gas would ultimately be responsible for any Project-related damage to roads, not its contractor.
12. Section 1.3.2.5.2 (page 1-86) – As requested in our May 15, 2015 EIR, 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.

13. Section 1.3.2.6 (page 1-89) – As requested in our May 15, 2015 EIR, include a discussion regarding whether blasting would be used in areas of limestone or karst geology. Note that karst geology is not discussed in the blasting management plan and that blasting is not discussed in the karst mitigation plan.
14. Discuss the feasibility of alternate methods of rock excavation/removal other than blasting by rock type.
15. Section 1.4.3 (page 1-97) – For each cathodic protection facility, provide any identification number, associated access road (if applicable) including directional orientation to the road, approximate length and width of the facility, area affected, and associated land use type.
16. Section 1.5 (page 1-122) – As requested in our May 15, 2015 EIR, provide a description of work/upgrades that would take place at Station 319 due to the planned/proposed Susquehanna West Project.
17. It has come to our attention that areas where the pipeline would abut powerline right-of-ways may not be fully cleared of trees. Indicate if existing trees within the powerline right-of-ways would need to be cleared and indicate this additional clearing in the resource report impact tables as a separate line-item.
18. Provide updated micro-routing along the planned powerlines for areas where the pipeline would need to move away from the existing right of way due to constructability or other issues.
19. 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, as indicated in the table below. The projects should include, but not be limited to: industrial or commercial facilities; mines; FERC jurisdictional projects; intrastate pipelines and compression; gathering pipelines; gas processing facilities; gas wells, industrial; infrastructure development (roads, bridges, rail, etc), housing developments, etc.

Include a table that identifies:

- the project(s) type/name and county;
- approximate distance and direction of the project(s) from the proposed NED Project facilities;
- a description of the project(s); and
- the current status and schedule of the project(s) (e.g., proposed for December 2016, under construction, completed).

Question 19 (continued)	
Environmental Resource	Region of Influence
Surface Waters, Wetlands, Groundwater, Vegetation, Wildlife and Fisheries, Soils	Hydrologic Unit Code 10 Watersheds.
Cultural Resources	Overlapping impacts on historic properties.
Land Use (including visual and residential)	½ mile from construction work areas. For other projects that impact more than 10 acres of land, use 5 miles.
Noise - Operation	Other facilities that would impact any noise sensitive area (NSA) that is within 1 mile of a planned NED compressor station.
Noise - Construction	¼ mile from pipeline or aboveground facilities. Horizontal direction drill or direct pipe installation – ½ mile.
Air Quality - Operation	Provide an inventory of proposed and reasonable foreseeable air emission sources within 50 kilometers of the compressor stations, documenting their location, distance from the proposed project, estimated or permitted emissions for each criteria pollutant in tons per year and identify the potential incremental cumulative impacts of the Project. This does not include greenhouse gas emissions.
Air Quality - Construction	¼ mile from pipeline or aboveground facilities
Socioeconomics	Affected counties.
Geology	¼ mile from pipeline or aboveground facilities

Resource Report 2 – Water Use and Quality

1. General – Include all information listed in RR2 as pending or “TBD” (or include a schedule for submittal), which includes, but is not necessarily limited to:
 - a. discussion regarding groundwater classification in the New Hampshire portion of the Project, post-consultation with New Hampshire Department of Environmental Services;
 - b. locations of new compressor stations and associated potential impacts to groundwater;
 - c. location of public and private drinking water wells and springs located within 150 feet of any Project workspace area;
 - d. avoidance and mitigation measures that would be taken around wellhead protection areas (WHPAs);
 - e. exact locations of pipe yards and contractors yards, as well as their potential resource impacts including wetlands and waterbodies;

- f. impact avoidance, minimization, and mitigation measures for waterbodies containing fisheries resources and how timing restrictions on those waterbodies may influence the Project schedule;
 - g. locations of all potable water intakes within 3 miles downstream of any proposed waterbody crossing;
 - h. sensitive public water supply watersheds;
 - i. hydrostatic test water quantity needed, as well as discharge location;
 - j. field survey results and wetland delineation reports;
 - k. identification of wetland impacts associated with each facility;
 - l. wetland mitigation provisions;
 - m. State Wetland Classifications; and
 - n. wetland-specific crossing methods.
2. General – Include justification for all modifications to the Commission’s Procedures including but not necessarily limited to:
 - a. section 2.3.5.1 (page 2-96) site-specific locations of additional temporary workspace (ATWS) within 50 feet of wetlands; and
 - b. table 2.3-12 (page 2-161) – any site-specific locations where a construction workspace greater than 75 feet would be utilized in wetlands.
 3. Section 2.1 (page 2-2) – In the groundwater descriptions, include a detailed description of the aquifers in each state including the names, beginning and ending mileposts (MPs) for each crossing, confining layers, principal use, depth to water, and general water quality. Update table 2.1-2 to include aquifer name, well depth, and yield. Include a discussion on stratified drift and granite aquifers and potential impacts and mitigation.
 4. Section 2.1.1.1.1 (page 2-2) – Discuss construction/operations precautions that would be implemented near WHPAs as well as any mitigation measures that may be required by WHPA managers. Provide updated correspondence with the Town of Wilmington regarding the Zone 1 WHPA that would be crossed by the pipeline.
 5. Section 2.1.1.2.1 (page 2-3) –This section states that “New York also has a Wellhead Protection Program Plan (“WHPP”), which is consistent with New York policy on WHPAs, but is not a regulation.” Clarify whether Project construction and operation would be conducted in accordance with the WHPP.
 6. Section 2.1.1.2.3 (page 2-7) – Define the groundwater designation ‘Class GA.’ Clarify whether this classification includes all groundwater or just potable groundwater.

7. Section 2.1.5 (page 2-16) – Define “water supply protection area” in table 2.1-2. Does this include both groundwater and surface water drinking supply areas? Be sure to specify whether the water supply protection area is for a groundwater source or surface water source.
8. Section 2.1.6 (page 2-27) – Include a discussion of potential aquifer impacts resulting from ground disturbing activities (e.g., HDD drilling, blasting). Include mitigation measures for potentially affected springs and aquifers. Identify alternative water sources if water supplies are impacted.
9. Section 2.1.6 (page 2-27) – Include a discussion on trench dewatering; include specific locations where dewatering would be required or anticipated to be required.
10. Section 2.2 (page 2-28) – Identify all surface waterbodies crossed within karst-prone areas and their crossing methods.
11. Section 2.2 (page 2-28) – Update tables 2.2-4, 2.2-5, 2.2-6, 2.2-7, and 2.2-8 showing waterbodies that would be crossed by the Project to include new information on correct crossing width, crossing method, and timing restrictions. Clarify whether crossing length and bank width are the same.
12. Section 2.2 (page 2-28) – Update tables 2.2-5, 2.2-7, and 2.2-8 to provide fishery type designations and timing restriction data for all waterbodies that would be crossed by the Project in New York, New Hampshire, and Connecticut. Include relevant citations along with an estimated timeline for the provision of this information, if it is not currently available.
13. Section 2.2 (page 2-28) – For each waterbody greater than 100 feet wide, the default construction method should be a HDD, direct pipe, or similar techniques. If one of these techniques is not feasible:
 - a. describe why an HDD or similar method is not possible;
 - b. provide a site-specific crossing plan; and
 - c. provide a mitigation and restoration plan.

For crossings of major waterbodies that would be completed using in-stream and open water construction (e.g., clamshell dredging), provide the results of sediment modeling indicating the predicted fate and transport of excavated or dredged sediments. Describe the models that were used; the assumed ambient average and range of total suspended sediments in the waterbody; the anticipated direction, duration, and concentration of sediment plumes during construction; and the anticipated extent and depths of redeposited sediments on the riverbed or seabed.

14. Section 2.2.1 (page 2-28) – Provide mitigation measures for all public water supply watersheds and reservoirs including but not limited to the Pennichuck Brook Watershed, the Cobleskill Reservoir System, and the Metropolitan District Commission’s public drinking water supply watersheds.
15. Section 2.2.5 (page 2-41) – Identify all areas with known or potentially contaminated sediments.
16. Section 2.2.6 (page 2-43) – Provide a table of all public drinking water supply watersheds, surface water reservoirs, and WHPAs. In the table, include crossing length or distance of each protected surface water supply from the project. Indicate if a waterbody crossing would be within 3 miles upstream of any potable water supply intakes. Specify details regarding the public usage of each of the protected surface waters identified. Identify appropriate mitigation measures within surface water protection areas (SWPA). Identify the government entities that manage the SWPAs within the Project area. Discuss local management/protection strategies and restrictions for SWPAs.
17. Section 2.2.6 (page 2-43) – Include mitigation measures for all water supply areas within 150 feet of the Project area. Confirm whether Tennessee Gas would file a post-construction report describing any complaints received regarding water supply (aquifer, wells, and springs) quality and yield and how those complaints were resolved.
18. Section 2.2.7 (page 2-48) – Include data for hydrostatic test pressure, volume (in gallons) of hydrostatic test water by specific source location (waterbody and MP), the expected month water would be withdrawn and discharged, and source alternatives. Include proposed treatment and/or disposal method for treated discharge water. Include specific locations of the test water discharges. Include a Hydrostatic Test Plan.
19. Section 2.2.9 (page 2-52) – Provide updated information and consultations with state agencies on sensitive waterbodies and identify mitigation measures for potential impacts to sensitive waterbodies and fisheries.
20. Section 2.3 (pages 2-67 through 2-100) – Update section to include results from wetland field surveys. Provide the Wetland Delineation Reports.
21. Section 2.3 (pages 2-67 through 2-100) – Provide information regarding potential impacts on wetlands from the construction and operation of aboveground facilities, access roads, and contractor yards.
22. Section 2.3 (pages 2-67 through 2-100) – Clarify how construction wetland acreages were calculated for all construction-related tables. In each wetland table,

include specific construction right-of-way widths for each wetland crossed and note any wetlands with irregular workspaces, which could expand impacts beyond merely calculating length multiplied by width.

Resource Report 3 – Fisheries, Wildlife, and Vegetation

1. General – Include all information listed in RR3 as “pending” or “TBD,” or specify when it will be filed. This includes, but is not necessarily limited to:
 - a. all updated consultation information and documentation for information received after May 2015;
 - b. a discussion of potential Project-related impacts on interior forest and edge forest habitats that includes acreage by forest habitat type, and figures of the interior forest blocks that would be crossed by the Project;
 - c. results of field surveys conducted to characterize the natural landscape at the proposed Appalachian Trail crossing, as well as a crossing plan for the same location;
 - d. a list of common or representative plant species found in the Project area;
 - e. a list of vegetative community types in the Project area based on National Land Cover Database mapping;
 - f. the results of vernal pool surveys conducted for the Project area with a detailed impact assessment on vernal pools potentially affected by the Project. Include the locations and timing of any ongoing and/or future vernal pool surveys;
 - g. a discussion of potential construction and operation impacts on vegetation outside the pipeline construction right-of-way associated with any aboveground facilities and appurtenant facilities (mainline valves [MLVs], pig launchers, and receivers), temporary and permanent access roads, pipe and contractor yards, cathodic protection systems, and alternating current mitigation systems;
 - h. the results of surveys for protected species and their habitat, including vegetative communities of special concern within the Project area, along with any updates to the locations, timing, and reporting schedule of ongoing or future surveys;
 - i. a seeding plan (or plans) for the stabilization of construction areas;
 - j. a discussion of the potential construction and operation impacts on migratory bird species of special concern and their habitats that contains:

- i. an evaluation of the potential direct, indirect, and cumulative impacts on these species along with the impacts' expected duration (short-term, long-term, or permanent);
 - ii. Project-specific conservation measures and best management practices developed in consultation with the U.S. Fish and Wildlife Service (FWS) to avoid and minimize impacts on these species; and
 - iii. documentation of the relevant consultations with the FWS.
2. General – Provide information regarding the extent of improvement (e.g., paving, widening, etc.) that would be necessary for all access roads proposed to pass through significant or sensitive wildlife habitats.
3. General – Provide a discussion of invasive insects (e.g., emerald ash borer, Asian long-horned beetle) known to be problematic within the Project area. The discussion should include a description of the insects, their occurrence within the Project area, any quarantine areas that would be crossed by the Project, any potential impacts of the Project on invasive species populations and distribution, and measures to avoid and minimize potential adverse impacts due to invasive insects associated with the Project.
4. Section 3.1.3 (pages 3-15 and 3-16) – Expand upon, and provide citations for, the discussion of the potential effects on the survival and fitness of fish and aquatic wildlife resources associated with the removal of riparian vegetation at stream crossings and the duration of these effects. Include the expected timeframe within which invertebrate populations would recolonize the crossing area to pre-construction conditions.
5. Section 3.1.4 (page 3-18) – Include a discussion about the potential effects of HDD crossing methods on riparian habitat at all waterbody crossings. Include a discussion of potential HDD crossing impacts on the floodplain forest habitat at the Farmington River.
6. Section 3.1.4 (page 3-18) – Comments from the U.S. Army Corps of Engineers and FWS (April 24, 2015 and May 15, 2015, respectively) suggest planting trees during restoration in places where forested vegetation would be removed adjacent to waterbody crossings. Clarify whether or not Tennessee Gas would comply with this request to plant trees at applicable waterbody crossings. The Project would cross more than 400 miles of vegetated land, which could cause a reduction in the populations of honey bees and other pollinators.
7. Section 3.1.4 (page 3-18) - Describe the feasibility of adding seeds that support pollinators into the mixes used to restore construction workspaces. Provide copies

of Tennessee Gas' consultations with the relevant federal and/or state regulatory agencies, and update the state-specific ECPs, as necessary. Include any measures that would protect pollinators in the ECPs, which could include, but is not limited to, removal of invasive species by more manual or mechanical means rather than chemical (herbicides/pesticides).

8. Section 3.2.2.3.7 (page 3-39) – Provide an explanation regarding why the Project centerline would not be co-located immediately adjacent the existing utility right-of-way located in the Montague Plains Wildlife Management Area (WMA; i.e., the proposed Project route is separated from the existing right-of-way by an approximately 100- to 140-foot strip of primarily forested habitat). Discuss any impacts the Project would have on the use of prescribed fires to manage habitat at the Montague Plains WMA and other similarly managed areas. Discuss potential impacts that prescribed burning in the vicinity of the Project could have on Project construction and operation.
9. Section 3.2.2.5.3 (page 3-48) – Discuss the potential Project-related impacts on wildlife habitat and vegetation at Talcott Mountain State Park and explain why the proposed 120-foot crossing of this park could not be avoided.
10. Section 3.2.3.1 (page 3-51) – Include a more detailed discussion, with citations from recent literature, on the potential effects of the Project on wildlife movement and displacement, including examples of specific species that may be affected depending on the time of year, the relative sensitivity of the species, and seasonal habitat selection.
11. Section 3.2.3.1 (page 3-51) – Discuss potential impacts on wildlife associated with air pollution and heat generated from the operation of Project aboveground facilities.
12. Section 3.2.3.1 (page 3-51) – Include a more detailed discussion, with documentation from agency consultations, of the steps Tennessee Gas would take to avoid and minimize impacts on wildlife, including but not restricted to:
 - a. minimization measures for habitat fragmentation impacts, including those on forest interior dwelling species;
 - b. timing restrictions on tree removal and how Tennessee Gas would handle tree removal with regard to tree-clearing restrictions in the Migratory Bird Treaty Act;
 - c. whether or not Tennessee Gas would conduct tree surveys prior to tree removal (e.g., to assess presence of nesting sensitive and/or rare species); and

- d. measures Tennessee Gas would take to minimize Project impacts to smaller species of wildlife (e.g., falling into or becoming trapped in open trenches).
13. Section 3.2.3.1 (page 3-51) – Discuss whether Tennessee Gas would conduct 24-hour or nighttime operations using artificial lighting that could cause disturbance to nocturnal wildlife, including bats. Identify mitigation measures to minimize impacts.
14. Section 3.2.3.1 (page 3-51) – Discuss and provide citations from recent literature:
 - a. the expected timeframes for the revegetation of Project areas that would be allowed to revert back naturally to their original condition. Include timeframes for all vegetative community types that would be impacted;
 - b. the likely successional progression of vegetation and wildlife at the sites during these timeframes based on the restoration actions followed in Tennessee Gas’ Plan; and
 - c. the effects of these successional changes on wildlife species that are likely to be present at the sites (i.e., pre-construction).
15. Section 3.2.3.1 (page 3-51) – Clarify whether wetland restoration plans would be developed for the restoration of wetlands affected by the Project. If so, include the plans or identify the schedule for when they would be provided.
16. Section 3.3.2.4.1 (page 3-75) – Provide the location of the Emergent Marsh – Shrub Swamp natural community system near Cheshire, New Hampshire relative to the Project and discuss potential impacts on the system, if applicable.
17. Section 3.3.2.4.1 (page 3-76) – Identify the location of the Mixed Pine-Red Oak Woodland natural community in Hillsborough County, New Hampshire relative to the Project along with a discussion of potential impacts on the community along with mitigation measures, as applicable. Clarify whether avoidance of the Red Maple – Sensitive Fern Swamp that would be crossed by the Project in Hillsborough County, New Hampshire has been considered as a measure to avoid impacts to this natural community system.
18. Section 3.3.4.1 (page 3-80) – Tennessee Gas has stated that it plans to clear all approved workspace areas. Clarify whether or not any trees within an approved workspace would be saved (i.e., not felled) and include a description of the circumstances in which this would occur.
19. Section 3.3.4.1 (page 3-80) – For felled trees that inadvertently land in waterbodies or outside of the right-of-way that cannot be removed immediately, provide measures that would be taken to prevent adverse impacts associated with

- the fallen vegetation from occurring to resources or landowners prior to its removal along with an estimated timeline for its removal.
20. Section 3.3.4.1 (page 3-80) – Include a discussion of the wildlife habitat that could be provided by if landowners or land-management agencies requested timber stacks and clarify whether or not the use of timber stacks is proposed as a mitigation measure to offset impacts on wildlife habitat.
 21. Section 3.3.4.2 (page 3-80) – Clarify whether or not the disposal/removal of chipped woody vegetation would be held to the same state-specific and U.S. Forest Service guidelines as firewood with regards to preventing the spread of invasive insects (e.g., the emerald ash borer).
 22. Section 3.4.1.3 (page 3-88) – Clarify the rationale for the assertion that no impacts would occur to the significant natural community of the Emmond Pond Bog Preserve.
 23. Section 3.4.2.1.7 (page 3-103) – Discuss measures that Tennessee Gas would implement to avoid, minimize, or mitigate impacts to eagle nests, should any nests be found during the pre-construction surveys.
 24. Section 3.4.2.2.3 (page 3-106) – Identify measures that would be taken to minimize or avoid impacts on the three Massachusetts state-listed plants identified by the Natural Heritage and Endangered Species Program (NHESP) as Species A, B, and C due to their sensitivity to collection.
 25. Section 3.4.2.2.3 (page 3-106) – Discuss and provide citations from recent literature on the effects electroshocking on fish may have if used as a method for relocation as suggested by the NHESP (e.g., stress response to electroshocking, effects on survival and fitness). Discuss feasible and/or preferable alternative methods of relocation.
 26. Section 3.4.2.2.5 (page 3-108) – Clarify whether or not Tennessee Gas would attempt to retain large-diameter coniferous and deciduous trees to minimize long-term impacts on the hoary and silver haired bats, as recommended by the Connecticut Natural Diversity Data Base. If this measure would be implemented, discuss the process by which Tennessee Gas would determine whether to retain or remove such trees.
 27. Section 3.4.2.2.5 (page 3-108) – Clarify whether or not Tennessee Gas would adhere to the Connecticut Department of Energy and Environmental Protection recommendations listed in section 3.4.2.2.5 to avoid/minimize potential impacts on the eastern ribbon snake, state-listed plants, threatened and endangered

mussels, the blue-spotted and Jefferson salamanders, grassland bird species, and the pine barren tiger beetle.

28. Identify if any of the FWS offices involved (Pennsylvania, New York, and New England) have identified a lead office for consultation purposes.
29. Figure 3.2-1 (figure 4 of 11) – For the portion of the Fitchburg Lateral between MPs 5.0 and 14.0, explain the feasibility of avoiding BioMap2-mapped sensitive resources by adjusting the route to cross nearby areas with few to no mapped resources.

Resource Report 4 – Cultural Resources

1. Section 4.2.1 and Appendix DD – Include all new and previously unfiled correspondence, meeting notes, phone logs, or emails between Tennessee Gas and the State Historic Preservation Offices (SHPOs).
2. Section 4.2.2 and Appendix EE – Include all new or previously unfiled correspondence, meeting notes, phone logs, or emails between Tennessee Gas and interested Indian tribes.
3. Section 4.2.2 – Include an update on the status of on-the-ground cultural resources surveys conducted by Indian tribes along the proposed pipeline route, organized by pipeline segment (with mileposts) including the state-county-tribe-miles inventoried and survey results. If tribal surveys are not completed in time for the application, provide the schedule for when all pending survey results will be filed.
4. Attachment 4a – File comments from the SHPOs and Indian tribes on Tennessee Gas’ Draft Unanticipated Discovery Plans, and revised state-specific plans that address those comments.
5. Include copies of the Project-specific cultural resources Overview and Survey reports that cover the entire direct area of potential effect and meet the requirements outlined in sections V. and VI. of the FERC’s Office of Energy Projects *Guidelines for Reporting on Cultural Resources Investigations for Pipeline Projects* (December 2002 version). Document that Tennessee Gas also submitted copies of these reports to the appropriate SHPOs, interested Indian tribes, and FERC-designated other consulting parties, and file comments on the reports. If Tennessee Gas’ surveys are not completed in time for the application, provide the schedule for when all pending survey results will be filed.
6. Include a response to the January 15, 2015 letter from the town of Wilmington, Massachusetts expressing concerns about impacts to the town-owned Colonel Joshua Harden Tavern and Museum. Indicate if the Project would affect this site,

- including the distance between the pipeline and the building, and discuss any necessary measures to avoid or minimize impacts.
7. Include a response to the February 5, 2015 letter from Carol Iodice of Mason, New Hampshire expressing concerns about impacts on the historic Pickity Place restaurant. Indicate if the Project would affect this site, including the distance between the pipeline and the building, and discuss any necessary measures to avoid or minimize impacts.
 8. Include a response to the February 17, 2015 letter from Phoebe Bushway expressing concerns about impacts on the West Street and Hilltop cemeteries in Plainfield, Massachusetts. Indicate if the Project would affect these cemeteries, including the distance between the pipeline and the cemetery boundaries, and discuss any necessary measures to avoid or minimize impacts.
 9. Include a response to the May 25, 2015 letter from Mark Wolterbeek expressing concerns about impacts on the Rindge, New Hampshire Smallpox Cemetery. Indicate if the Project would affect the cemetery, including the distance between the pipeline and the cemetery boundaries, and discuss any necessary measures to avoid or minimize impacts.
 10. Include a response to the July 28, 2015 letter from the town of Northfield, Massachusetts expressing concerns about impacts on the Swan and Sites homesteads within the Northfield Bush Mountain Conservation Area. Indicate if the Project would affect these sites, including the distance between the pipeline and the site boundaries, and discuss any necessary measures to avoid or minimize impacts.
 11. Include a response to the July 28, 2015 letter from Susan Williams expressing concerns about impacts on the New Ipswich, New Hampshire Center Village Historic District. Indicate if the Project would affect the Historic District, including the distance between the pipeline/aboveground facilities and the District boundaries, and discuss any necessary measures to avoid or minimize impacts.
 12. Include a response to the August 12, 2015 letter from the town of Deerfield, Massachusetts expressing concerns about impacts on the historic site of Old Deerfield. Indicate if the Project would affect this site, including the distance between the pipeline and the site boundaries, and discuss any necessary measures to avoid or minimize impacts.
 13. Include a response to the August 13, 2015 letter from the town of Dalton, Massachusetts expressing concerns about impacts on the Upper Housatonic Valley National Heritage Area. Indicate if the Project would affect this area, including the

distance between the pipeline and the area boundaries, and discuss any necessary measures to avoid or minimize impacts.

14. The following people stated that they reside in historic houses near the pipeline route: Lawrence DeVito of Mason, New Hampshire; Kathleen Rose of Merrimack, New Hampshire; Kaela Law of Pelham, New Hampshire; Lester Garvin of Ashfield, Massachusetts; Tina Hanson of Rindge, New Hampshire; Libby Reilly of Nassau, New York; Robert Borden of Fitzwilliam, New Hampshire; Elizabeth Tatro of Lanesborough, Massachusetts; Peter LeCount of Mason, New Hampshire; Barbara Markessinis of Hancock, Massachusetts; Holly Woodward of Fitzwilliam, New Hampshire; John Angleman of Ashfield, Massachusetts; and Peter Cottrell of Stephentown, New York. Indicate if the Project would affect those houses, including the distance from the edge of the construction work area to each building, and discuss any necessary measures to avoid or minimize impacts.

Resource Report 5 – Socioeconomics

1. General – Include all information listed in RR 5 or the Responses to Comments on Draft Resource Reports matrix as pending or “TBD” (or include a schedule for submittal), which includes, but is not necessarily limited to:
 - a. section 5.8 (page 5-12) – Environmental Justice discussion for aboveground facilities. Include a table that includes a breakdown of minority and low-income populations near each facility;
 - b. section 5.8 (page 5-12) – Environmental Justice discussion for both pipeline and aboveground facilities at the municipal level; and
 - c. section 5.9.1 (table 5.9-1) – Include the estimated increase in property tax revenues and the estimated yearly escalation for Hampden County, Massachusetts.
2. Section 5.1.3 (page 5-4) – The text states that there would be a peak workforce of 5,247, that 50 percent of workers would be non-local, and that none of the non-local workers would bring families. Clarify how the estimated temporary population increase of 3,000 is calculated.
3. Section 5.4 (page 5-11) – Specify the contractor yards and “Park-N-Ride areas” that would be used for parking and discuss traffic management and mitigation measures at these areas. For the public Park-N-Ride areas, discuss their capacity and their ability to accommodate the extra vehicles and still provide parking to the public.
4. Section 5.9.1 (page 5-23) and Section 5.9.2.1 (page 5-25) – Clarify the local expenditures during construction.

- a. page 5-23 lists the estimated expenditures by non-local workers on local goods and services as \$38,027,439 and also lists the estimate for locally purchased construction materials as \$38,027,439. Confirm whether these estimates are identical and the basis for the calculations.
 - b. page 5-25 lists the estimated expenditure by workers in the local communities as \$64,713,600 during construction. Clarify the difference between this estimate and the estimated expenditure of non-local workers of \$38,027,439 that is stated in section 5.9.1. Explain how each of these estimates is calculated.
5. Section 5.9.1 (table 5.9-1) – Clarify how the “Estimated Escalation” column is calculated.
 6. Develop a traffic and transportation plan that provides an estimate of the anticipated number of vehicles, trips, travel routes, and timeframes for construction. Break the construction estimate down by activity (e.g., stringing, water hauling). Describe in detail the pipeline construction vehicle traffic and potential impacts, especially when road closures would be required and an explanation of why a reasonable detour could not be used. Include a section addressing safety and how access would be provided to residences, businesses, and schools during detours and road closures.
 7. Provide documentation of consultation with the various affected agencies and commercial businesses within each county impacted by construction. Describe any recommendations by the various agencies and landowners in how to alert the public of construction and any requirements regarding minimizing impacts related to construction.
 8. Estimate direct tax base benefits for each township/county along the pipeline route and for aboveground facilities.

Resource Report 6 – Geological Resources

1. General – Include all information listed in RR 6 as pending or “TBD” (or include a schedule for submittal), which includes, but is not necessarily limited to:
 - a. state mine database data for Massachusetts, New Hampshire, and Connecticut;
 - b. the completed table, discussion, and additional requested information for oil and gas wells as specified in the Responses to Comments on Draft Resource Reports matrix;
 - c. potential blasting areas by MP;

- d. Unanticipated Discovery Plan (with regards to paleontological resources); and
 - e. soil liquefaction analysis for the proposed Project in Connecticut.
2. General – Include 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 MP. 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.
3. Section 6.3 (pages 6-37 through 6-39) – Include a table and discussion of oil and gas wells located within 0.25 mile of the pipelines, ATWS, aboveground facilities, and access roads by MP. Include the following information:
 - a. the total number of active, inactive (plugged), and proposed wells that would be within 0.25 mile of the Project;
 - b. measures that would protect any well and/or oil/gas gathering pipelines that may be located within the working area and/or located proximal to the working area; and
 - c. measures that would be taken if any unknown and unmapped wells are encountered during construction.
4. Section 6.4.2.7 (pages 6-49 through 6-53) – Include the following information with regards to seismic risk:
 - a. the specific standards that Tennessee Gas would design the pipeline to meet associated with seismic hazards;
 - b. mitigation methods and pipeline design criteria that would be used to prevent damage to the pipeline and minimize hazards from the pipeline in the event of a significant seismic event; and
 - c. a table of past seismic events with a magnitude of 3.0 or greater that have occurred within 100 miles of the Project, including their magnitude, date, and distance from the proposed Project by state.
5. Table 6.4-3 (page 6b-95) – Identify any quaternary or Holocene faults crossed by the proposed Project and provide a class category for the listed faults. Identify if the faults are class A, B, C, or D within the U.S. Geological Survey fault data base, and include the age and when the most recent movement or displacement occurred for each.

6. Section 6.4.4.7 (page 6-60) – Include the following information with regards to karst terrain.
 - a. specify if blasting would be conducted in areas of karst topography and provide a discussion of potential contamination due to blasting in karst terrain and mitigation measures;
 - b. identify who would be responsible for identifying karst features and terrain during construction;
 - c. specify if contractors and Environmental Inspectors would be trained to identify karst features;
 - d. a discussion of the affects blasting may have on deeply fractured granite aquifers, such as those located near Merrimack and Hall, New Hampshire. Include a discussion of potential contamination of fractured granite bedrock aquifers; and
 - e. a discussion of groundwater contamination due to blasting and the compounds used in blasting. Include a discussion of mitigation measures that would be used.
7. Section 6.4.6.4 (page 6-71) – Due to the moderate seismic hazard in New Hampshire, confirm whether the soils crossed by the Project in New Hampshire are prone to soil liquefaction.

Resource Report 7 – Soils

1. General – Include all information listed in RR 7 as pending or “TBD” (or include a schedule for submittal), which includes, but is not necessarily limited to:
 - a. total acres that would be affected by Project construction and operation including active agricultural land, fallow agricultural land/field, managed forest land, and open field/open land;
 - b. data regarding stony/rocky soils crossed by the Project;
 - c. the Spill Prevention, Control, and Countermeasure Plan and Stormwater Pollution Prevention Plan;
 - d. data on soils with a low revegetation potential that would be crossed by the Project; and
 - e. vulnerable soils tables in the state-specific ECPs.
2. General – In addition to the detailed tables provided in RR 7, include summary tables that identify soil limitations that would be impacted by construction and operation of the Project. Provide a separate table for each type of Project component including pipeline facilities, aboveground facilities (including compressor stations, meter stations, and MLVs), access roads, ATWS, and

contractor yards. Include both construction impacts and operational impacts in acres for all Project facilities. Provide impacts for the following: soil limitations, potential water erosion, potential wind erosion, stony rocky soils, shallow depth to bedrock, potential soil compaction, poor revegetation potential, poor drainage potential, and prime farmlands (including farmlands of statewide importance).

Example Summary Table.		
Facility	Soil Limitation	
	Const	Operat
Pipeline Facilities		
Loop 317-3	Total acres	Total acres
Loop 319-3	Total acres	Total acres
Wright Pipeline	Total acres	Total acres
Pipeline Total	Pipeline Total Construction Impact	Pipeline Total Operational Impact

3. General – Include the following information in each of the state-specific ECPs:
 - a. the mitigation measures that Tennessee Gas would use in soils that have a high stone and rock content;
 - b. the procedures and measures developed in coordination with the appropriate state and local agencies to prevent the introduction or spread of invasive species, noxious weeds, and soil pests resulting from construction and restoration activities;
 - c. the procedures and measures developed in coordination with or recommended by the appropriate state and local agencies with regard to erosion control and revegetation specifications; and
 - d. the procedures and measures developed in coordination with or recommended by the appropriate state and local agencies with regards to drain tiles, irrigation systems, and grazing deferment.

4. General – Include a detailed discussion on ground heaving and frost heaving and any potential hazards it might pose to the Project. Include areas along the proposed Project where ground heaving may be encountered, frost depths along the proposed pipeline route, and mitigation measures, or pipeline design elements that would be used in locations where ground heaving is a possibility. Include a discussion of ground heaving and frost heaving at aboveground facilities.

5. General – Include a discussion of stony/rocky soils and include this soil limitation along with shallow depth to bedrock in tables 7.1-1, 7.1-2, 7.1-3, 7.2-1, 7.3-1, and associated summary tables.

6. Section 7.3 (page 7-5) – Include a summary table of impacts to prime farmlands and farmlands of state wide importance. Include total acres that would be affected by Project construction and operation for active agricultural land, fallow agricultural land/field, managed forest land, and open field/open land.

Impacts on Prime Farmlands and Farmlands of Statewide Importance (in acres) etc										
Farmland Classification	Farmland Type									
	Total Farmland Impacts		Active Agricultural Land		Agricultural Land/Fallow Field		Managed Forest Land		Open Field/Open Land	
	Constr. Impacts	Operation Impacts	Constr. Impacts	Operation Impacts	Constr. Impacts	Operation Impacts	Constr. Impacts	Operation Impacts	Constr. Impacts	Operation Impacts
STATE										
Pipeline										
Access Roads										
Compressor Station										
Meter Stations										
Contractor Yards										
State Subtotal										
Project Total										

7. Section 7.4.1 (page 7-7) – Include a discussion of the mitigation measures and pipeline design that would be used in the Schoharie Valley, which is known to be commonly flooded, and the Ponemah Bog Sanctuary where burial of the pipeline could disrupt drainage, and acidic conditions could affect the pipeline.
8. Section 7.5.1 (page 7-11) and Appendix K (page K-72) – This section states that erosion control barriers would be installed immediately after soil disturbance while the state-specific ECP states that erosion control such as silt fence and hay bales would be installed following perimeter brush clearing. Clarify this apparent discrepancy.
9. Section 7.5.2 (page 7-12) – This section states that phase two of soil decompaction involves use of a paratill to loosen the soil profile to a depth of 20 to 22 inches after topsoil replacement. However, section 7.5.3 (page 7-13) states that the top 12 inches of soil would be segregated and kept from mixing with subsoil. Clarify that the actions in phase two of soil decompaction would not mix topsoil with subsoil.
10. Section 7.5.4 (page 7-14) – Specify what measures Tennessee Gas would use to mitigate impacts to agricultural land and prime farmlands and identify under what conditions they would be used.

11. Attachment 7B Table 7.3-1 (page 7b-284) – Include the following information:
 - a. soil limitation ratings for all soil limitations including potential water erosion, potential wind erosion, stony rocky soils, shallow depth to bedrock, potential soil compaction, poor revegetation potential, poor drainage potential, and prime farmlands (including farmlands of statewide importance);
 - b. soil limitations ratings for all soils that would be affected by Project construction, not just agricultural and residential areas;
 - c. classify soils as having a poor drainage potential if the drainage potential is listed as poor or worse;
 - d. classify soils as having shallow depth to bedrock if bedrock is at a depth of 5 feet or less from the ground surface;
 - e. classify soils as being stony/rocky if 20 percent of the surface layer consists of rock fragments greater than 3 inches;
 - f. classify soils as having a poor revegetation potential if soils have a capability class of three or greater, have a low water capacity, or if slopes are greater than 8 percent; and
 - g. specify the criteria used to determine the potential of a soil to be eroded by wind and/or water.
12. Attachment 7B (Table 7.1-1) – Several soil series including but not limited to Holly Soils, Udifluvents, cobbly, and Medisaprists have a revegetation potential listed as N/A. Confirm whether or not the revegetation potential is not applicable for each of these soil series, and, if so, identify why the revegetation potential is not applicable.
13. Appendix K, State Specific ECPs (General) – Include the mitigation measures and construction techniques that would be used when construction would take place in vulnerable soils such as fragipans (e.g., table 5.6-3).

Resource Report 8 – Land Use, Recreation and Aesthetics

1. General – Include all information listed in RR 8 as pending or “TBD” (or include a schedule for submittal), which includes, but is not necessarily limited to:
 - a. section 8.1.3 (page 8-10) – Include locations, lengths, and any proposed improvements of additional access roads;
 - b. section 8.1.4 (page 8-10) – Update contractor yard information once landowner permissions are obtained;
 - c. section 8.1.6.2 (page 8-22 and table 8.1-8) – Include updated information on agricultural drain tile locations;

- d. section 8.2.1 (page 8-33 et seq.) – Include updated correspondence with planning agencies, along with information regarding locations of planned development and mitigation measures;
- e. section 8.2.2 and Appendix P (page 8-40 et seq.) – Include results of field verifications of building locations and include all site-specific residential construction plans for residences within 50 feet of the construction work area;
- f. section 8.3 (page 8-47) – Include updated information regarding the location, distance crossed, and affected acreage on all public and recreational lands and special land uses;
- g. section 8.3.1 and Section 8.3.2 (page 8-48 et seq.) – Include further correspondence with agency staff regarding public conservation lands and natural, recreational, or scenic areas. Add details regarding existing resources, impacts, and mitigation measures;
- h. section 8.3.2.1.2 (page 8-88) – Describe methods that would be used to avoid or minimize impacts on the Connecticut River Byway based on consultation with the Massachusetts Department of Transportation;
- i. section 8.3.2.1.3 (page 8-88) – Identify the proposed crossing methods for the Westfield River and assess the land use impacts of this crossing;
- j. section 8.3.2.2.1 (page 8-89) – Include additional methods that would be used to avoid or minimize impacts on the Viaduct Valley Way based on consultation with the Pennsylvania Department of Transportation;
- k. section 8.3.2.2.2 (page 8-89) – Include results of consultation with the New York State Department of Transportation and assess impacts as appropriate;
- l. section 8.3.3 (page 8-91 et seq.) – Include further correspondence with agency staff. Add details regarding existing resources, impacts, and mitigation measures based on communications with staff and any other sources;
- m. section 8.3.4.1.2 (page 8-101) – Document whether the Project would affect the West Street Cemetery in Plainfield and identify mitigation if applicable;
- n. section 8.3.4.1.3 (page 8-102) – Specify how impacts on the Rindge Smallpox Cemetery would be avoided;
- o. section 8.3.4.2.4 (page 8-104) – Specify how impacts on Birches Academy Charter School would be avoided or minimized;
- p. section 8.3.4.3 (page 8-104 to 8-106) – Update discussion with the results of surveys, correspondence, and discussions with state agencies and landowners related to specialty crop, organic, and tree farms. Complete table 8.3-7. Specify how Tennessee Gas would avoid or minimize impacts;

- q. section 8.3.6 (page 8-106) – Include updated information regarding hazardous wastes obtained from online sources and agencies;
 - r. section 8.4.2.2 (page 8-116) – Include a site-specific analysis of impacts from construction and operation of the meter stations, including the dimensions of new meter stations and their sites;
 - s. section 8.5 (page 8-117) – Include results of consultations with applicable federal and state agencies;
 - t. attachment 8b (Table 8.1-6) – Add information to the “Modification Required” column. Also identify the widths of new roads;
 - u. attachment 8b (Table 8.2-2) – Add information to the Line List/Tract and Number Building Type columns;
 - v. attachment 8b (Table 8.3-8) – Provide conclusions for those sites still under evaluation. For those sites where impacts are proposed to be unlikely, explain why they are unlikely and what measures would be implemented should impacts occur; and
 - w. appendix F – Include the updated aerial imagery as noted on the alignment sheets and identify the source of the updated information.
2. Section 8.3.1.1.2 (page 8-54) – Confirm that the Appalachian Trail would be crossed using the bore method or describe how impacts would be mitigated should the open cut method be required.
 3. Section 8.3.1.1 (page 8-64 and 8-72) – Specify crossing methods for both the Wapack Trail and trails within the Wind Blown Cross Country Ski Area in New Hampshire. Discuss impacts to recreation including whether or not trails would be able to remain open and include methods that would be used to mitigate these impacts.
 4. Section 8.3.2.1.4 (page 8-89) – Identify any Land and Water Conservation Fund properties that would be crossed by the pipeline and describe the impacts and appropriate mitigation based on consultation with the appropriate agencies.
 5. Section 8.3.3 (page 8-91) – In addition to the lands enrolled in Federal and State conservation land programs, specify the locations and acreages of all deeded conservation easements that would be crossed by the Project, and describe restrictions in the easements and whether or not the Project will comply with the easements. Discuss how effects would be mitigated if conditions in the easements cannot be met.
 6. Section 8.3.5 (page 8-106) – Identify all facilities within the New York coastal zone management area.

7. Section 8.4.1 (page 8-109) – Provide the length of the pipeline route through each of the visually sensitive areas listed in section 8.4.1.1 through 8.4.1.16 and list the acreages affected by duration (e.g., temporary, long term, permanent).
8. Section 8.4.1.13 (page 8-113) – Discuss how visual resource impacts would be minimized at waterbody crossing, especially scenic waterbodies such as the Deerfield River whether an HDD is successful or not at this location.
9. Section 8.4.2.1 (page 8-114) – Provide a description of the dimensions of the proposed compressor stations and the sites on which they would be located. Describe the visual characteristics and topography of the surrounding area for each site. State whether each compressor station would be visible from public vantage points or from residences and what the impacts would be from locating the compressor station in this area. Describe whether existing terrain or vegetation would screen views. Describe whether additional mitigation measures would be used to reduce the visual impacts by compressor station.
10. Section 8.4.2.1.4 (page 8-114) – Discuss why the Supply Path Tail Station would result in a change in visual quality. Describe how restoration would successfully mitigate this impact.
11. Section 8.4.2.1.5 (page 8-115) – Correct the number “1,550400,” which appears to be a typo.

Resource Report 9 – Air and Noise Quality

1. Section 9.1 (page 9.3) – Indicate the horsepower for each proposed compressor turbines, and identify at each new and modified compressor station (manufacturer, model, etc). In addition, identify all other air-emission producing equipment at the compressor stations.
2. Section 9.1 (page 9.3) – Indicate whether any compressor station is within 62 miles of a federal Class I area, and if so, discuss potential impacts and mitigation.
3. Section 9.1.2.4 (page 9-18) – Include detailed descriptions of any state or local greenhouse gas emission reduction regulations or initiatives, and how the Project would impact compliance with them.
4. Section 9.1.2.5 (pages 9-19 to 9-23) – Include a summary of air quality regulations pertaining to construction of the pipeline for all states, or verify that no related provisions would apply to Project construction. For Massachusetts, New Hampshire, and Connecticut that have maintenance areas in the Project area, include a discussion of provisions that would be applicable within the maintenance area, or verify that no related provisions would apply to the Project.

5. Section 9.1.3.2 (page 9-25) – Provide the emission rate of criteria pollutants (NO_x, CO, SO₂, PM₁₀, PM_{2.5}, VOC), greenhouse gases (GHG), and speciated hazardous air pollutants from all the equipment at the proposed compressor stations (engines, turbines, dehydrators, generators, boilers, tanks, fugitive methane emissions, etc.) expressed in tons per year for maximum operating conditions. Include supporting calculations, emission factors, fuel consumption rates, and annual hours of operation.
6. Section 9.1.3.2 (page 9-25) – For each compressor station, estimate the number of yearly releases, the amount of volatile organic compounds (VOC) and GHG released per blowdown in tons per year, indicate whether the blowdown would be installed with a silencer and estimate the noise impact at the nearest noise sensitive areas (NSA).
7. Section 9.1.3.2 (page 9-25) – Provide an air quality screening (AERSCREEN) analysis of each compressor station demonstrating that emissions of criteria pollutants do not result in exceedance of the National Ambient Air Quality Standards (NAAQS), SILs or state standards. Include all input parameters (emission rate, stack height, stack temp, exit velocity, etc.) and justify bases for any assumptions. For any facility requiring refined modeling for an air permit using refined modeling (AERMOD or EPA-approved alternative), provide the impacts for all criteria pollutants (regardless of state permit requirements), modeling protocol, a narrative describing and justifying the modeling basis all inputs (MET data, terrain data), and all input and output files.
8. Respond to public comments regarding local human health impacts from HAPs and air toxic emissions from the planned compressor stations.
9. Section 9.1.3.2 (page 9-25) – Discuss whether odor from the compressor turbines would be detectable beyond the compressor station site and what methods Tennessee Gas would implement to prevent odor.
10. Section 9.1.3.3 (page 9-25 to 9-29) – As the construction emissions are very close to the General Conformity Thresholds for specific nonattainment areas, provide a Plan that would ensure emissions would not exceed the applicability threshold. This plan may include issues such as ensuring only newer equipment is used, tracking hours, tracking fuel use, etc.
11. Section 9.1.4.1 (pages 9-30 and 9-31) – Include specific details on:
 - a. how Tennessee Gas would ensure that contractors and employees minimize vehicle and equipment idling time;
 - b. what maximum speeds would be on unpaved roads; and

- c. how Tennessee Gas would determine when application of water is warranted to control dust in active construction zones.
12. Section 9.1.4.2 (page 9-30) – Include 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.
13. Section 9.2.1.2 (pages 9-32 to 9-35) – Identify 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 address each one during both construction and operations.
14. Section 9.2.2 (pages 9-36 to 9-50) – Ensure that the acoustical analysis for the compressor stations includes:
 - a. step-by-step supporting calculations or identification of the computer program used to model the noise levels, the input and raw output data, far-field sound level data for maximum facility operation, the source of the data, and all assumptions in running the model; and
 - b. sound pressure levels all noise generating equipment, and for un-muffled engine inlets and exhausts, engine casings, and cooling equipment, dynamic insertion loss for all mufflers, sound transmission loss for all compressor station building components (including walls, roof, doors, windows and ventilation openings), sound attenuation from the station to the nearest NSA, the manufacturer’s name, the model number, the performance rating, and a description of each noise source and noise control component.
 - c. Topographic maps identifying the location of the NSAs in relation to the compressor station.
15. Section 9.2.2 (pages 9-36 to 9-50) – Include a discussion on what measures Tennessee Gas would implement to ensure that vibration impacts would not result in a perceptible increase in vibration.
16. Section 9.2.2.2.1 (page 9-35) – For the noise survey conducted on December 8 and 9, 2014 at the NSAs near Station 319, provide time of day, weather conditions, wind speed and direction, and other noise sources. Provide copies of the original contractor noise survey reports.
17. Section 9.2.5 (page 80) – Identify whether HDD activities would occur on a 24-hour basis, and the approximate time required for each drill (days/weeks).
18. Section 9.2.5 (page 9-80) – Include specific details on what measures Tennessee Gas would implement to mitigate HDD noise. State that effort would be made to mitigate noise prior to offering relocation.

19. Section 9.2.5 (page 9-80) – Include a section on blasting noise.
20. Section 9.2.6 (page 9-82) – Include a description of the frequency of anticipated blowdown events by type of blowdown (maintenance, capped, full-station, etc) as well as the likelihood of an unscheduled pipeline blowdown event. This discussion should include the cause and frequency of a blowdown event, associated noise and emissions, and the approximate time it would take to evacuate gas from the pipeline.
21. Section 9.3 (page 9-82) – Provide a discussion on climate change.

Resource Report 10 – Alternatives

1. General – Include all information listed in RR 10 (or in the Responses to Comments on Draft Resource Reports matrix) listed as pending, “will be addressed in the final ER,” or “TBD” (or include a schedule for submittal), which includes, but is not necessarily limited to:
 - a. 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, miles/acres of interior forest, streams with drinking water use designation, important bird areas, and Audubon forest blocks of importance;
 - b. a list of the “other shippers” mentioned in Section 10.1;
 - c. a detailed comparative analyses specifically assessing viable alternative crossing locations (i.e., viable for the proposed route) for the Appalachian Trail to minimize visual, usage interruption, and other potential impacts. Discuss and document coordination with the National Park Service and other relevant stakeholders regarding the proposed Trail crossing and alternatives;
 - d. a discussion regarding the feasibility of using waste heat electric generation (cogeneration) for the proposed turbines at the proposed compressor stations. Provide the rate of electricity potentially generated on a kilowatt/month basis and compare this with the amount of electricity used by the compressor station(s) per month. Describe the average load factor of the facility and any impediments that would prevent the operation of the compressor station continuously at 60 percent minimum load. Compare the size of the electric transmission line necessary under the current proposal with what would be required under a cogeneration system with return to the electric grid;

- e. a discussion of the feasibility of using electric-motor-driven compressors at the proposed new compressor stations. Provide the rate of electricity required and the number of electric motors required. Compare the size of the electric transmission line necessary under the current proposal with what would be required for the electric motors. Demonstrate why this is not feasible in areas where the planned compressor stations would be along an electric transmission powerline;
 - f. a comparative alternatives analysis for all of the other (non-compressor station) permanent, aboveground facilities such as meter stations and MLVs where appropriate, such as where there could be visual or noise impacts to sensitive receptors; and
 - g. additional analyses for the Existing Line 200 Alternative combined with the New York Alternative as well as the Massachusetts Turnpike Alternative combined with the New York Alternative. Indicate the number of miles of looping, and additional compression that would be required to handle the current 1.3 bcf proposed.
2. Include a description of cumulative and/or overlapping impacts these projects and the planned NED Project would have on each environmental resource. Also include descriptions of the measures that would be implemented to minimize these impacts. Lastly, include a map showing the identified projects in relation to the planned NED Project. In addition, this cumulative discussion should include any available information on regional predictive climate change effects and the resultant cumulative impact on resources and on the planned NED Project.
 2. Section 10.2 (page 10-9) – As requested in our February 27, 2015 EIR, provide a table of all of the pipeline systems reviewed in Section 10.2, including both existing (such as Tennessee 200 and 300, Millennium, Transco Leidy, Iroquois, Algonquin, M&NP/PNGTS Joint, Granite State, and M&NP) and proposed systems. Consider whether pipeline segments or facilities from different system alternatives could be combined into viable hybrid system alternatives.
 3. Section 10.2 (page 10-10) – As requested in our May 15, 2015 EIR, include an evaluation of the facilities, equipment, and processes that would be required to transport a Project-equivalent volume of natural gas from the supply area to the destination locations via the alternative mode of railway. Provide this analysis, as well as the similar analysis completed for truck delivery included only in the Response to Comments matrix, within RR 10 as well.
 4. Section 10.2.2 (page 10-14) – Tennessee Gas states that the Constitution Pipeline Project currently has shippers that have subscribed for 650,000 dekatherms per day (Dth/d). Tennessee Gas states that it anticipates that this transportation capacity may be increased to an additional 650,000 Dth/d, resulting in an

estimated maximum transportation capacity of 1,300,000 Dth/d. However, the Constitution Pipeline Project Final EIS, states that the estimated maximum transportation capacity would be 850,000 Dth/d based on information provided by Constitution. Revise the associated discussion based on this data for maximum transportation capacity for the Constitution Pipeline Project.

5. Section 10.3 (page 10-18) – Evaluate and provide updated, comprehensive analyses of any reasonable system, major route, or minor route alternatives that was suggested by the public or agencies, as well as the feasibility of those alternatives. List and describe the rationale for any of these alternatives that were determined to be unreasonable and dismissed without evaluation.
6. Section 10.3 (page 10-18) – As requested in our February 27, 2015 EIR, evaluate the constructability of the proposed NED route where it would be co-located with existing pipelines in steep terrain and where the most suitable location for construction may already be encumbered, thereby potentially precluding co-location. Identify any such specific areas where co-location would not be possible. Further, identify and describe any other potential constraints associated with co-location with other pipelines or electrical transmission lines including side slopes, urbanized areas, or other factors. Where the Project would be co-located, overlapping, and/or abutting with existing rights-of-way, indicate where (and for what distance) deviations away from the individual existing rights-of-way would be required due to the avoidance of constraints. As applicable, discuss how the avoidance of constraints could affect the reported co-location data.
7. Section 10.3.1.1 (page 10-20) – In May 2015, Constitution filed numerous proposed modifications to its routes with its implementation plan. Clarify whether NED has incorporated, is incorporating, or is researching these proposed modifications regarding its proposed route and identify any associated environmental, engineering, landowner, or other constraints that may be associated with NED’s general co-location with the Constitution Pipeline project.
8. Section 10.3.1.1.4 (page 10-28) – As requested in our February 27, 2015 EIR. where the proposed route deviates significantly away (at least 0.5 mile) from the original Northeast Exchange Alternative for at least 1 mile, provide detailed mapping as well as a tabular analysis and comparison of the two routes with particular emphasis regarding the avoidance of potential constraints associated with co-location with the Constitution Pipeline.
9. Section 10.3.2 (page 10-32) – As requested in our February 27, 2015 EIR, update RR 10 to include at least one alternative for each segment of the proposed Project, such as the Peabody Lateral as well as the Concord Delivery Line and Maritimes Delivery Line (outside of alternatives presented within and as part of the Wheeler Road alternatives as appropriate).

10. Section 10.3.1.10 (page 10-52) – As requested in our February 27, 2015 and May 15, 2015 EIRs, provide comparison tables that include the number of subject properties crossed as well as the total crossing length(s) for the Article 97 Avoidance and Co-location Route Alternatives, list and describe the subject properties in RR 10, and depict the subject locations in mapping as well. Clarify why in figure 10.3-12 (and in the text in section 10.3.1.10) these two alternatives do not appear to be connected to the proposed route at their western terminus instead of potentially connecting with the proposed route near MP 13. Describe the pending potential impact avoidance (such as HDD), minimization, and mitigation measures that could be used to address impacts to Article 97 properties. Report and document the status of Tennessee’s ongoing consultations with the Massachusetts agencies regarding possible mitigation.
11. Section 10.3.3 (page 10-57) – Provide updated, comprehensive tables 10.3-14 and 10.3-15 containing 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. Clarify why the two above-referenced tables contain a total of 77 assessments, but Tennessee Gas reported that they had examined over 100 minor route deviations. Evaluate and consider routing, workspace, and construction method alternatives as appropriate. Confirm that the analyses were based on direct stakeholder discussions and on-site evaluations, if the landowner was willing, and on available desktop imagery and data if landowner access was denied. Provide additional data columns for individual tract/parcel number (i.e., matching LL numbers from the list of affected landowners) and also indicating whether the stakeholder’s specific concerns have been fully 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. Clarify the statement “not adopted due to co-location with powerline.” Update the status for all deviations listed as “pending” in the July 24, 2015 filing. Confirm that Tennessee Gas will provide regular updates of this table as appropriate throughout the course of the project.
12. Section 10.3.2.4 (page 10-61) – Provide the purpose and context for the Amherst, New Hampshire alternative routes. Indicate whether Tennessee Gas has finalized its pending decision regarding the possible adoption of Amherst alternative route 1 and provide the rationale for the decision.
13. Section 10.3.2.5 (page 10-66) – Provide data comparison tables for all alternatives discussed, such as for the Wheeler Road alternatives.

14. Section 10.3.3.2 (page 10-67) – As requested in our February 27, 2015 EIR, provide documentation of consultation with Massachusetts agencies to identify and evaluate agency requested minor route deviations for Areas of Critical Environmental Concern (ACEC) and provide alternatives comparison tables. List and describe (including locations by MP and crossing lengths) the ACECs in RR 10, and depict them in mapping as well.
15. Section 10.4 (page 10-76) – The Constitution Pipeline Project has not yet begun construction. Evaluate the feasibility of a single pipeline alternative combining the NED project with the Constitution Pipeline project for the Supply Path Component, including under a theoretical scenario where initiation of construction of the Constitution Pipeline could be delayed until the fourth quarter of 2016 or the first quarter of 2017.
16. Section 10.7 (page 10-83) – Provide a detailed description, mapping, and comparative tabular analysis of at least one fully viable alternative for each compressor station site. Viability status would include at a minimum a potentially willing seller, the fulfillment of basic site requirements such as size, shape, topography, and existing use, road/utility access, and a minimal distance to the proposed route. Potential alternative sites summarily dismissed due to a lack of survey permission, inadequate size, and the lack of an existing agreement between the landowner and Tennessee Gas regarding the proposed site, for example, are not sufficient avoid a robust alternatives analysis. Provide an alternatives environmental data comparison table for each viable potential site that includes at a minimum: parcel size, areal extent of construction, areal extent of operation, land use setting, zoning, prime farmland, protected species, cultural resources, wetlands, waterbodies, floodplains, noise sensitive areas (number, distance, and location/orientation), visibility, and any local air quality concerns.

Resource Report 11 – Reliability and Safety

1. General – Include all information listed in RR 11 (or in the Responses to Comments on Draft Resource Reports matrix) listed as pending, “will be addressed in the final ER,” or “TBD” (or include a schedule for submittal), which includes, but is not necessarily limited to the pending data regarding the location of high consequence areas.
2. Section 11.2.2 (page 11-6) – Clarify whether the natural gas in the Supply Path pipeline segment from Pennsylvania to the Supply Path Tail Station would be odorized and if not, describe why. Confirm whether or not the only other Project pipeline components that would not be odorized would be the Loop 317-3 and Loop 319-3.

3. Provide additional information on Tennessee Gas's plans to train 1st responders and fire personnel regarding pipeline or aboveground facility incidents.
4. Indicate if Tennessee Gas would voluntarily build the pipeline to more stringent US DOT Class locations in Class I and Class II areas and/or reduce the distance between mainline valve locations.
5. Indicate the sensitivity of the leak detection equipment that would be installed for the pipeline system.
6. Indicate the feasibility of recapturing gas from unit blowdowns/blowoffs.