

Issue	Summary of Comments	Response
Resource Report 1: General Project Description		
Project Purpose and Need	Request that the Commission undertake a full evaluation of the nature and extent of the regional need for new gas capacity, including consideration of the results of the Massachusetts Office of the Attorney General's Regional Electric Reliability Options Study, prepared by the Analysis Group, to evaluate options to address regional electricity reliability in New England, including natural gas capacity needs, through 2030.	<p>Tennessee Gas Pipeline Company, L.L.C. ("Tennessee") understands that the Commission, as part of its review of the Northeast Energy Direct ("NED") Project certificate application, will undertake a full evaluation of the nature and extent of the regional need for new gas capacity in New England, including consideration of the information provided by Tennessee in the certificate application and the Regional Electric Reliability Options Study prepared for the Attorney General of Massachusetts (the "AG Study") and issued November 18, 2015.</p> <p>In response to the AG Study, Tennessee notes that gas utilities alone in New England are planning on attaining a total of over 1 billion cubic feet of additional gas pipeline capacity by 2018. The current pipeline capacity for all of New England is just under 4 billion cubic feet of gas per day. The AG Study ignores these statistics and explicitly excludes a consideration of the need for more pipeline capacity by gas utilities. The AG Study further finds that more pipeline capacity for power generators is not necessary because New England's power market can use oil back-up and liquefied natural gas ("LNG") to a greater extent for peak days in the winter months. This conclusion ignores the fact that New England generators are more dependent on natural gas pipeline capacity to generate base-load electricity in recent years, and that going forward, with nuclear retirements such as Vermont Yankee and Pilgrim, natural gas's role as a baseload fuel likely will only increase. The AG Study further ignores the high cost New England consumers currently pay for energy and the economic benefit that relatively low-cost, clean natural gas would bring to the region. Tennessee is continuing its evaluation of the AG Study and will file a more detailed response to the AG Study in the near future.</p>
	Request for specific information on the contract commitments for the proposed Fitchburg Lateral.	Boston Gas Company (DBA National Grid) contracted for a total volume of 17,717 Dth/day on the Fitchburg Lateral to their Lunenburg, Leominster and Clinton delivery gates. The contractual commitments of NED Project shippers are set forth in Exhibit I to the certificate application.

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<p>Project Purpose and Need</p>	<p>Request for a description of the methodology used to determine and document need for the Project.</p>	<p>Tennessee has served New York and New England for over 60 years and is intimately familiar with the specific needs of its customers and the region as a whole. This was the starting point for determining and documenting the need for the NED Project. For years, Tennessee has followed and evaluated capacity requirements for the region to address constraints and high energy prices. Tennessee has had an ongoing dialogue with various local distribution companies, producers, and end-users about options for expanding transportation service to the region, increasing reliability, and lowering energy costs by accessing natural gas reserves to the west. Customer commitments and Project economics ultimately must support a Project in order for the Project to move forward. Accordingly, Tennessee held two open seasons as part of its process for designing and refining the NED Project, as described in the certificate application. Both open seasons received significant customer interest and Tennessee has entered into a number of precedent agreements for significant volumes. By executing precedent agreements with Tennessee, these Project shippers have committed to executing long-term firm transportation contracts with Tennessee for capacity on the NED Project.</p> <p>In addition to the open seasons, the open season bids, and the resulting executed precedent agreements, Tennessee documented the need for the NED Project in its November 20, 2015 certificate application. Tennessee filed an extensive analysis of New England’s need for the NED Project in the certificate application, including executed precedent agreements with Project shippers. Tennessee will supplement its certificate application with additional precedent agreements as those agreements are executed. Finally, there also are ongoing state proceedings that also document each state’s specific need for the NED Project. These proceedings include:</p> <ul style="list-style-type: none"> • State of New Hampshire Public Utilities Commission, DG 14-380, Liberty Utilities (Energy North Natural Gas) Corp. D/B/A Liberty Utilities, Petition for Approval of a Firm Transportation Agreement with the Tennessee Gas Pipeline, L.L.C. • The Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 15-48, Petition of The Berkshire Gas Company for Approval of a Precedent Agreement with Tennessee Gas Pipeline Company, L.L.C., pursuant to G.L.c. 164 94A. • The Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 15-34, Petition of Boston Gas Company d/b/a National Grid for Approval of a Firm Transportation Agreement with Tennessee Gas Pipeline Company, L.L.C., pursuant to G.L.c. 164 94A. • The Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 15-34, Petition of Bay State Gas Company d/b/a Columbia Gas of Massachusetts for Approval of a Firm Transportation Agreement with Tennessee Gas Pipeline, L.L.C. pursuant to G.L.c. 164 94A.

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<p>Project Purpose and Need</p>	<p>Request for an analysis of how the public is benefiting from the NED Project, including information on specific and quantifiable benefits to residents of New Hampshire and Southwest New Hampshire. In addition, request for clear, specific, and quantifiable information regarding the benefits of the Project, including a breakdown as to how the Project will benefit residents and businesses if New Hampshire and Southwest New Hampshire. Information should include the extent of benefit in terms of dollars saved in household budgets and specifics related to employment, wages, etc., for direct, indirect, and induced economic activity.</p>	<p>Tennessee provided a detailed analysis of how the public in New England, including in New Hampshire and Southwest New Hampshire, will benefit from the NED Project in the November 20, 2015 certificate application (see Section IX, Public Convenience and Necessity and Compliance with Certificate Policy Statement, pp. 57-100). As discussed in significant detail in the certificate application, the benefits of the NED Project include lower-priced energy supply, greater reliability, flexibility in natural gas supply, and natural gas service to localities in New Hampshire that previously had no access to this low-cost, clean, reliable fuel for heating, lighting, cooking, and other uses.</p> <p>In addition to the extensive information included in the certificate application, Tennessee is in the process of finalizing an economic impact report specific to New Hampshire. The study considers employment, income, gross state product, and tax revenues from the NED Project that will benefit New Hampshire directly. As referenced in the certificate application, once this report is finalized, Tennessee will file the report with the Commission to supplement the record in the certificate application proceeding.</p>
	<p>Request that Tennessee justify the need for a lateral through the town of Mason, New Hampshire.</p>	<p>The existing Fitchburg Lateral is currently supplied by Tennessee's existing 200 Line facilities from Southborough, Massachusetts to Fitchburg, Massachusetts. The extension of the existing Fitchburg Lateral, which starts at Fitchburg, will connect to the proposed NED Project Market Path Component Wright to Dracut portion of the pipeline. The extension would permit Tennessee to serve National Grid and its customers in the Fitchburg area with additional gas supplies, which would enhance reliability for all gas utilities and electric generators in the region that are served from the existing Fitchburg Lateral. For example, Boston Gas Company (DBA National Grid) contracted for a total volume of 17,717 Dth/day on the Fitchburg Lateral to its Lunenburg, Leominster, and Clinton delivery gates. The extension is routed through the town of Mason, New Hampshire because this is the most direct route located directly south of the NED Market Path mainline given Tennessee's existing pipeline system and the desire to feed additional pressure at the existing lateral served via the 200 Line.</p>
<p>Construction</p>	<p>Comment requesting that an analysis of smaller rights-of-way ("ROW"), such as a 50-foot ROW, be provided.</p>	<p>In accordance with standard industry practice, Tennessee plans to utilize generally a 100-foot-wide construction corridor for the installation of pipeline. This 100-foot-wide construction corridor will be comprised of (1) permanent easement in which Tennessee will install the pipeline and permanently maintain after pipeline construction (generally 50 feet in width) and (2) temporary workspace that will be used for construction of the pipeline. As part of the planning for the installation process, the temporary workspace may be enlarged if necessary to provide adequate space to safely install the pipeline or reduced to mitigate the impacts to the environment, dependent on the conditions encountered during the course of designing, permitting and constructing the Project, in accordance with the Project-specific Plans and Procedures, which incorporate the Commission's Plan and Procedures.</p>

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Construction	<p>Recommendation that the Project address the following pipeline construction issues:</p> <ul style="list-style-type: none"> * Pipeline materials and corrosion protection proposed for the pipeline. * How pipe sections will be joined and how leaks will be detected and addressed. * Measures to protect the pipeline should it pass under a heavily trafficked road to prevent damage from heavy loads. * Proposed trench backfill materials and a description of precautions to avoid damage to the pipe or its coating. 	<p>The NED Project will be designed and installed in compliance with U.S. Department of Transportation ("USDOT") regulations, 49 CFR Part 192. Pipeline materials will comply with specifications set forth in 49 CFR Part 192, Subpart B-Materials. The pipe to be installed will be steel pipe, in accordance with Section 192.55 of Subpart B. Corrosion protection will be designed, installed, and maintained in accordance with 49 CFR Part 192, Subpart I-Requirements for Corrosion Control. The NED Project will primarily utilize an Impressed Current Cathodic Protection System, where applicable.</p> <p>The pipe sections will be joined by welding in accordance with 49 CFR Part 192, Subpart E-Welding of Steel in Pipelines. Other components are joined in accordance with 49 CFR Part 192, Subpart F-Joining of materials Other than by Welding. The pipeline will undergo hydrostatic testing in accordance with 49 CFR Part 192, Subpart J-Test Requirements, to detect any leaks in the system prior to the Project facilities being placed into service. After the Project facilities are placed in service, Tennessee will perform periodic leak testing in accordance with 49 CFR Part 192, Subpart M- Maintenance.</p> <p>The design for pipelines that crossing roads is specified in 49 CFR Part 192, Subpart C-Pipe Design. Additional construction requirements for road crossings are specified in 49 CFR Part 192, Subpart G-General Construction Requirements for Transmission Lines and Mains.</p> <p>Installation of the pipeline will be performed in accordance with 49 CFR Part 192, Subpart G, Section 192.319 Installation of Pipe in a Ditch. This section requires pipe to be installed "so that the pipe fits the ditch so as to minimize stresses and protect the pipe coating from damage." Tennessee requires select padding material or other suitable material be installed to protect the pipe coating as part of its specifications.</p>
Cumulative Impacts	<p>Recommendation that a detailed account of cumulative impacts that will occur due to construction and operation of both the Constitution Pipeline and the NED Project be included, as well as other proposed or existing pipeline Projects (looping or laterals) that are associated with proposed portions of the NED pipeline being considered in the analysis.</p>	<p>A detailed cumulative impact analysis of the NED Project and the Constitution Pipeline Project, as well as other applicable projects within the cumulative impact areas for each resource, is included in each of the resource reports filed with the November 20, 2015 certificate application.</p>
Co-location with other ROWs	<p>Request that Tennessee provide alignment sheets or other design drawings that describe exactly how the pipeline will be co-located along the permanent electric utility TOW as it will be laid out to accommodate the Merrimack Valley Reliability Project.</p>	<p>Tennessee will provide this requested information in a supplemental filing to be submitted by the end of April 2016.</p>

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Co-location with other ROWs	Request that Tennessee calculate the total acreage, by New Hampshire town, that will be impacted within the existing, cleared utility ROW and the total impacted acreage outside the existing, cleared ROW (both temporary and permanent).	Tennessee will provide this requested information in a supplemental filing to be submitted by the end of April 2016.
Contractor Yards	Request for review of potential impacts from use of contractor yards, including the potential for contaminated material to enter waterways and other sensitive areas from cleaning and maintaining equipment and the storage of stockpiled material.	Tennessee will implement best management practices ("BMPs") outlined in the Project-specific Plan and Procedures (included in Volume II, Appendix H, of the November 20, 2015 certificate application) and incorporated into the Project-specific Environmental Construction Plan ("ECP") for each state (included in Volume II, Appendices J, K, L, M, and N, of the certificate application), which are intended to be used to avoid and minimize impacts from Project construction.
Resource Report 2: Water Use and Quality		
Public Water Supply	Comments expressing concerns about the pipeline's crossing of critically and highly protected Class I and Class II public water supply watershed land near drinking water reservoirs on the property of the Metropolitan District Commission ("MDC") in Connecticut.	Tennessee has recently obtained survey access from the MDC in order to conduct site-specific engineering, environmental, and cultural resources surveys. Surveys will commence as soon as weather and ground conditions allow, which is likely to be in the spring of 2016. Tennessee is also in discussions with the MDC to determine the correct minimization and mitigation techniques best suitable for the watershed and the permit application to be filed with the Connecticut Department of Public Health. Site specific plans will be developed in coordination with the MDC.
	Comments requesting a description of site-specific BMPs that will be employed at each water supply area to mitigate any construction or stormwater runoff related impacts to public drinking water supplies. BMPs should include those to mitigate for contaminated sediments that may be suspended during the horizontal directional drilling ("HDD") operations upstream of public drinking water supply intakes.	Sections 2.1.6 and 2.2.11.4 of Resource Report 2 included in the Environmental Report submitted with the November 20, 2015 certificate application identify impacts, minimization, and mitigation measures that will be employed during construction. Tennessee proposes to implement BMPs designed to avoid, reduce, and/or mitigate potential impacts on groundwater during construction and operation as detailed within the Project-specific ECPs for each state (included in Volume II, Appendices J, K, L, M, and N, of the certificate application) and Tennessee's Project-specific Plan and Procedures (included in Volume II, Appendix H, of the certificate application). Tennessee and its contractors will adhere to practices related to groundwater protection, including specifications for trench breakers and dewatering, as well as restrictions on refueling and storage of hazardous substances.

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Public Water Supply	Request for an analysis of the long-term effect that the pipeline will have on Townsend's Aquifer Protection District (the source of Townsend's water supply) and the High Yield Aquifer.	The Project is not anticipated to have long term negative impacts on groundwater quality or supply, including the Townsend Aquifer Protection District and the High Yield Aquifer. Tennessee proposes to implement BMPs designed to avoid, reduce, and/or mitigate potential impacts on groundwater during construction and operation as detailed within the Project-specific ECPs for each state and Tennessee's Project-specific Plan and Procedures. Tennessee and its contractors will adhere to practices related to groundwater protection, including specifications for trench breakers and dewatering, as well as restrictions on refueling and storage of hazardous substances. In the unlikely event that construction of the proposed Project is determined to have temporarily impacted private or public well quality or yield, Tennessee will provide alternative water sources or other compensation to the well owner. Should permanent well damage be sustained, Tennessee will either compensate the well owner or make arrangements for a new well to be drilled.
	Concerns about potential impacts to the Lenox watershed land near its Upper and Lower Root Reservoirs and Lenox Mountain Brook, an Outstanding Resource Water ("ORW") that feeds the reservoirs.	The ORW that surrounds the Upper and Lower Root Reservoirs is over 10 miles away from the proposed Project. Potential impacts from the Project are anticipated to be temporary and local in nature, and are not anticipated to extend to the ORW. No impacts to the Lenox Mountain Brook and ORW are anticipated.
	Question regarding compensation/technical support for the Town of Winchester or property owners should there be contamination of the town aquifer or town and private wells either during construction or during the life of the pipeline.	Throughout the entire Project area, including the Town of Winchester, Tennessee will test wells (both pre-construction and post-construction) located within 200 feet of the Project workspace or within 200 feet of blasting activities. To the extent that it has landowner permission to enter and test well(s) on their property, landowners will be offered pre- and post-construction well testing. This testing will be conducted by a qualified independent inspection service and will include tests of water quality and, in the case of shallow dug wells or springs, sufficient analysis on quantity to determine if pipeline construction has created an impact. In the unlikely event that construction of the Project is determined to have temporarily impacted private or public well quality or yield, Tennessee will provide alternative water sources or other compensation to the well owner(s). In the event it is determined that permanent impacts have occurred to a well as a result of its construction activities, Tennessee will repair or replace the well, to pre-construction condition or better.

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<p>Public Water Supply</p>	<p>Concerns regarding impacts to the Naticook Brook Aquifer that serves to provide water for the Town of Merrimack's Merrimack Village District wells, as well as impacts to a third Wellhead Protection Area ("WHPA") and a Merrimack Village District well and water treatment facility planned for near-term construction.</p>	<p>The Project is not anticipated to have long term negative impacts on groundwater quality or supply, including the Naticook Brook Aquifer, the third WHPA, the Merrimack Village District well, and the planned water treatment facility. Tennessee proposes to implement BMPs designed to avoid, reduce, and/or mitigate potential impacts on groundwater during construction and operation as detailed within the Project-specific ECPs for each state and Tennessee's Project-specific Plan and Procedures. Tennessee and its contractors will adhere to practices related to groundwater protection, including specifications for trench breakers and dewatering, as well as restrictions on refueling and storage of hazardous substances. In the unlikely event that construction of the proposed Project is determined to have temporarily impacted private or public well quality or yield, Tennessee will provide alternative water sources or other compensation to the well owner. Should permanent well damage be sustained, Tennessee will either compensate the well owner or make arrangements for a new well to be drilled.</p>
	<p>Request for a complete delineation of all aquifers and WHPAs located within the construction areas, contractor yards, and access roads.</p>	<p>A complete delineation of all aquifers and WHPAs will be completed and provided in a supplemental filing anticipated to be submitted by the end of April 2016.</p>
	<p>Concern regarding the crossing of Pennichuck Water watershed properties in the Town of Merrimack.</p>	<p>The Project is not anticipated to have impacts on groundwater quality or supply, including the Pennichuck Water watershed properties. Tennessee proposes to implement BMPs designed to avoid, reduce, and/or mitigate potential impacts on groundwater during construction and operation as detailed within the Project-specific ECPs for each state and Tennessee's Project-specific Plan and Procedures. Tennessee and its contractors will adhere to practices related to groundwater protection, including specifications for trench breakers and dewatering, as well as restrictions on refueling and storage of hazardous substances.</p>
<p>Private Water Supply</p>	<p>Comments regarding well testing, including the following questions: (1) What contaminants will be tested for? (2) Will well flow, recovery, and head be tested? (3) What is the timeframe? (4) What measures will be taken if testing indicates an impact on the well? (5) What is meant by "immediately qualify"? Does that suggest that immediate post-construction testing is what would be done?</p>	<p>Testing for water quantity and quality parameters will be conducted for wells located within 200 feet of the Project workspace both pre- and post-construction by a qualified independent inspection service, on property for which Tennessee has been granted access by landowners. Tennessee will similarly, at the request of a landowner, sample developed springs used for drinking water pre- and post-construction within the area referenced above. Water quality parameters for testing of both wells and springs will include: yield, pH, petroleum based hydrocarbons, total suspended solids, total dissolved solids, nitrates, nitrites, arsenic, iron, manganese, lead, copper, and total coliform bacteria.</p>

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<p>Private Water Supply</p>	<p>Comments expressing concerns regarding Tennessee's well monitoring plan and requesting more clarity and context for the process of evaluating whether or not Tennessee's activities have impacted a well. This should include an outline of specific steps for contacting well owners in advance of blasting, and for establishing baseline conditions.</p>	<p>A Tennessee representative will contact landowners after the sample analysis has been conducted to provide the results of pre- and post-construction sampling events. In the unlikely event that construction of the Project is determined to have temporarily impacted private or public well/spring quality or yield, Tennessee will provide alternative water sources or other compensation to the well owner(s). In the event that it is determined that permanent impacts have occurred to a well/spring as a result of construction activities, Tennessee will repair, replace or provide alternative sources of potable water.</p>
	<p>Request for a determination of the number of wells that could be potentially harmed through contamination or loss of function as a result of NED construction. Also request a schedule of testing that will be provided to each of the landowners. Testing should include baseline tests for arsenic and radon in private wells in case of future problems, as well as measures that will be used to ensure private water supplies are returned to previous capacity in the event of damage caused by construction.</p>	<p>All known public and private water supply wells have been identified in Tables 2.1-2 and 2.1-3 in Resource Report 2 included in the Environmental Report submitted with the November 20, 2015 certificate application. Testing for water quantity and quality parameters will be conducted for wells located within 200 feet of the Project workspace both pre- and post-construction by a qualified independent inspection service, on property for which Tennessee has been granted access by landowners. Tennessee will similarly, at the request of a landowner, sample developed springs used for drinking water pre- and post-construction within the area referenced above. Water quality parameters for testing of both wells and springs will include: yield, pH, petroleum based hydrocarbons, total suspended solids, total dissolved solids, nitrates, nitrites, arsenic, iron, manganese, lead, copper, and total coliform bacteria.</p> <p>A Tennessee representative will contact landowners after the sample analysis has been conducted to provide the results of pre- and post-construction sampling events. In the unlikely event that construction of the Project is determined to have temporarily impacted private or public well/spring quality or yield, Tennessee will provide alternative water sources or other compensation to the well owner(s). In the event that it is determined that permanent impacts have occurred to a well/spring as a result of construction activities, Tennessee will repair, replace or provide alternative sources of potable water.</p>
<p>Groundwater/Aquifers/Springs</p>	<p>Comments expressing concern over potential impacts to groundwater from excavated and backfilled trenches with pipeline in place below the seasonal high groundwater table because they may disrupt the groundwater flow.</p>	<p>Trench dewatering is likely to occur in areas where there is shallow groundwater or after heavy rains. The Project is not anticipated to have impacts on groundwater quality or supply. Tennessee proposes to implement BMPs designed to avoid, reduce, and/or mitigate potential impacts on groundwater during construction and operation as detailed within the Project-specific ECPs for each state and Tennessee's Project-specific Plan and Procedures. Tennessee and its contractors will adhere to practices related to groundwater protection, including specifications for trench breakers and dewatering, as well as restrictions on refueling and storage of hazardous substances.</p>

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Groundwater/Aquifers/Springs	Request for a plan that describes the potential impacts of drilling and pipeline construction on groundwater resources, including flow amounts and directions. The plan should also provide information about how impacts to the aquifers will be avoided during construction and post-construction.	The Project is not anticipated to have long-term negative impacts on groundwater quality or supply. Tennessee proposes to implement BMPs designed to avoid, reduce, and/or mitigate potential impacts on groundwater during construction and operation as detailed within the Project-specific ECPs for each state and Tennessee's Project-specific Plan and Procedures. Tennessee and its contractors will adhere to practices related to groundwater protection, including specifications for trench breakers and dewatering, as well as restrictions on refueling and storage of hazardous substances. In the unlikely event that construction of the proposed Project is determined to have temporarily impacted private or public well quality or yield, Tennessee will provide alternative water sources or other compensation to the well owner. Should permanent well damage be sustained, Tennessee will either compensate the well owner or make arrangements for a new well to be drilled.
Surface Waters	Comments expressing concern over the proposed dry crossing construction method for the Westfield River, which is part of the National Wild and Scenic River System.	Tennessee had a preliminary meeting with the National Park Service for the Westfield River in 2014 and will meet with the National Park Service again as part of the crossing approval process for Massachusetts in the second quarter of 2016. Tennessee is completing a crossing-unique review and analysis of watercourse crossing methods for various method feasibilities taking agency, including the National Park Service, comments and waterway classifications into consideration. A dry crossing method is proposed for the Westfield River due to the topographical, elevation, observed geological, and inadvertent release risks associated with trenchless crossing methods. Dry crossing methods are well recognized throughout the industry and generally accepted crossing methods are designed with the highest practicable consideration for the biological, physical, and chemical integrity of the affected waterways. This information was provided in the November 20, 2015 certificate application. Local approval processes for the crossing are anticipated to be completed approximately in the third or fourth quarter of 2016.
	Comments recommending that any lake crossings, such as Scott Pond in Fitzwilliam, not be subject to a dry crossing construction method.	Communications with Massachusetts Department of Environmental Protection ("DEP") are on-going with regard to waterbody crossings. Tennessee completes a crossing-unique review and analysis of watercourse crossing methods for various method feasibilities. A dry crossing method was selected for Scott Pond due to the topographical, elevation, observed geological, and inadvertent release risks associated with trenchless crossing methods. Dry crossing methods are well recognized throughout the industry and generally accepted crossing methods are designed with the highest practicable consideration for the biological, physical, and chemical integrity of the affected waterways.

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<p>Surface Waters</p>	<p>Comment requesting a discussion of how pre-construction conditions will be restored at each stream crossing location and how pre- and post-construction conditions will be monitored.</p>	<p>Tennessee will implement BMPs outlined in the Project-specific Plan and Procedures (included in Volume II, Appendix H, of the certificate application) and incorporated into the Project-specific ECP for each state (included in Volume II, Appendices J, K, L, M, and N, of the certificate application), which are intended to be used to avoid, minimize, and/or mitigate impacts from the Project. Tennessee will conduct post-construction field inspections along the pipeline corridor to ensure that disturbed locations are restored in accordance with the procedures detailed in the Project-specific Plan and Procedures and incorporated into the Project-specific ECPs for each state. The results of these inspection events will be provided to state and federal agencies as appropriate.</p>
	<p>Comment requesting a comprehensive discussion of measures to further reduce impacts to water bodies and aquatic organisms along the pipeline routes, including the use of HDD and time of year restrictions to control in-stream construction work periods. Discussion should also include detailed contingency plans that fully describe the process that will be followed should the chosen construction technique prove unsuitable (e.g., failure of an HDD).</p>	<p>All waterbodies that have state or federal timing restrictions will be constructed during the appropriate time. Tennessee has investigated specific waterbody and wetland crossings to determine the feasibility of using HDD based on the specific conditions at the crossing location. Site-specific plans for each crossing are located in the Environmental Report submitted with the November 20, 2015 certificate application, along with the HDD contingency plan should the HDD fail in all state specific ECPs (included in Volume II, Appendices J, K, L, M, and N, of the certificate application).</p> <p>In the event that an HDD installation is unsuccessful, Tennessee will evaluate the failed installation to determine if the conditions that resulted in the failure can be effectively mitigated. Tennessee will notify the appropriate regulatory agencies of the failed installations and provide information to determine whether a second HDD attempt has a reasonable chance to succeed. If it is determined that a second HDD attempt has a reasonable chance of success, Tennessee will relocate the entry and/or exit point as necessary (subject to any necessary regulatory and landowner approvals to move the entry and/or exit point locations) and proceed with a second attempt to install the crossing by HDD. If this second HDD attempt fails (or if Tennessee determines that a second HDD attempt does not have a reasonable chance to succeed), the crossing will be installed by open cut excavation or other alternative construction method along roughly the same alignment as the initial HDD attempt. In the event that a drilled hole is abandoned, the hole will be filled with a mixture of bentonite and drilled spoil.</p>

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Surface Waters		Tennessee will provide on-site inspection during the HDD process to maintain adequate daily progress reports, as-built information, and other applicable construction documentation that will describe the events leading up to an HDD failure. Tennessee will submit this documentation to the appropriate regulatory agencies, notifying them of the HDD failure and the subsequent schedule for implementing the approved alternate crossing method. The HDD contractor will not demobilize until Tennessee has received approvals from the appropriate regulatory agencies for an alternate crossing method. The alternate crossing method will not be implemented until Tennessee has received confirmation that appropriate regulatory agencies have received the documentation of HDD failure and approved an alternative crossing method.
	Request for information on impacts to riparian buffers, including a planting, restoration, and maintenance plan that indicates the types and sizes of plantings and planting distances. All plantings must be non-invasive species, and plantings and locations must be sufficient to serve the functions that were previously established by the existing buffer.	Tennessee will stabilize and restore the stream substrates, banks, and riparian zones immediately following completion of construction in accordance with Tennessee's Project-specific Procedures. Post-construction and operational impacts to fisheries will be minimal. Restoration and maintenance of the vegetation within the ROW will minimize the erosion potential relative to the stream. Tennessee will comply with Tennessee's Project-specific Procedures and will limit vegetation maintenance of the permanent ROW within a 25-foot riparian strip adjacent to the waterbody. Vegetation removal within this riparian strip will be limited to (1) selectively cutting trees within 15 feet of the pipeline and (2) mowing a 10-foot-wide corridor centered over the Project pipeline centerline as necessary for temporary equipment crossings and emergency access. This will allow for the re-establishment of woody and herbaceous species along the stream banks that will provide needed shading and crucial cover habitat to sufficiently maintain cold water fishery ("CWF") habitat characteristics. The determination of plantings within riparian buffers will be determined during the permitting process with each state and federal agency.
	Request for details of the procedures used during HDD and the protocols regarding the release of drilling fluids.	Measures will be taken during the design phase of the Project to decrease the risk of a hydraulic fracture/inadvertent return of drilling fluids for all HDD crossings. These measures include placement of the HDD bore path within soil or bedrock materials that are favorable to the HDD method (that avoid higher risk materials such as soft or loose soils), increasing the installation depth for longer HDD installations, performing hydraulic fracture calculations to evaluate the risk of an inadvertent return/fluid release, and providing appropriate depth of cover along the entire alignment. During construction, the contractor monitors conditions that may signal an increased risk of a hydraulic fracture/inadvertent return risk/drilling fluid release event. An HDD contingency plan is included as Attachment 05 of each state-specific ECP, which was included as part of the Environmental Report submitted with the November 20, 2015 certificate application.

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Surface Waters	Request that Tennessee provide a stormwater management plan that includes proposed methods of protecting watersheds and waterbodies, including handling stormwater during construction and post-construction.	As necessary, Tennessee will prepare stormwater management plans, according to state regulations. These plans will be submitted prior to construction as part of each state's permitting process.
	Question regarding the impacts of tree clearing on surface water temperatures.	Post-construction and operational impacts to fisheries will be minimal. Restoration and maintenance of the vegetation within the ROW will minimize the erosion potential relative to waterbodies. Tennessee will comply with Tennessee's Project-specific Procedures and will limit vegetation maintenance of the permanent ROW within a 25-foot riparian strip adjacent to the waterbody. Vegetation removal within this riparian strip will be limited to (1) selectively cutting trees within 15 feet of the pipeline and (2) mowing a 10-foot-wide corridor centered over the Project pipeline centerline as necessary for temporary equipment crossings and emergency access. This will allow for the re-establishment of woody and herbaceous species along the stream banks that will provide needed shading and crucial cover habitat to sufficiently maintain CWF habitat characteristics.
Dewatering	Request that procedures to address any needed dewatering due to high groundwater or construction during storm events be discussed. This discussion should include potential impacts to groundwater and compliance with the Massachusetts Stormwater Standards.	Should excessive water due to weather events or shallow groundwater be encountered during the course of construction, Tennessee will perform dewatering of the open and exposed trenches within the Project pipeline and/or facilities construction area in accordance with established federal and state procedures and practices as well as Tennessee's BMPs. Further information will be included as part of the Project's implementation plan.
Hydrostatic Testing	Request that Tennessee provide a water usage plan that shows the source and amount of water needed during construction and post construction including evidence that the amount needed will not deplete the current needs for drinking, farming, and support of aquatic life. Plan should include detailed information regarding the location, temperature, and potential contaminants in the discharged hydrostatic test water.	At this time, Tennessee cannot commit to the specific volume of water required to perform the hydrostatic testing as the detail engineering of the pipeline design has not been completed. Once the detail engineering is completed, the hydrostatic testing plan will be finalized and included in the implementation plan. As part of developing the hydrostatic testing plan, Tennessee is reviewing potential water sources, both naturally occurring and manmade, to preliminarily determine that the volumes withdrawn do not cause adverse effects on the ability of the water source to continue meeting the needs of the local community.
Wetlands/Vernal Pools	Request for a detailed description of each of the wetlands/waterbodies and vernal pools along the route that includes their location as well as an assessment of their functions and values.	This information is provided in Resource Report 2 and state-specific Wetland Delineation Reports and Vernal Pool Reports included in the Environmental Report submitted with the November 20, 2015 certificate application.

Issue	Summary of Comments	Response
Wetlands/Vernal Pools	Request that the Project avoid/minimize the conversion of wetlands from one type to another.	To minimize impacts on wetlands, Tennessee will implement the wetland construction BMPs described in Tennessee’s Project-specific Plan and Procedures and the Project-specific ECPs for each state. Workspace is limited within wetlands to 75 feet in width, unless topographic conditions or other safety concerns require additional workspace. These site-specific areas will be identified and approved by the permitting agencies, as well as the Commission, prior to construction. During operation of the Project, 10 feet of the permanent ROW, centered over the Project pipeline, will be maintained within wetlands as palustrine emergent ("PEM") wetland in accordance with Tennessee’s requirements. In palustrine forested ("PFO") wetlands, Tennessee will minimize tree clearing to the maximum extent practicable while maintaining safe construction conditions. Tree clearing within wetlands during operation of the pipeline will be limited to selectively clearing trees within 15 feet of the pipeline that may damage the pipeline coating.
	Question regarding the impacts from soil compaction from construction on wetlands.	Tennessee will protect and minimize potential adverse impacts to wetlands, including soil compaction, by expediting construction in and around wetlands, by restoring wetlands to their original configurations and contours, by segregating topsoil during excavation, by permanently stabilizing upland areas near wetlands as soon as possible after backfilling, by inspecting the ROW periodically during and after construction, and by repairing any erosion control or restoration features until permanent revegetation is successful. Tennessee will comply with the applicable permit conditions issued by federal, state, and local permitting agencies with respect to construction and operation of the Project facilities within wetlands. Access within the ROW across wetlands will only be permitted where soils are non-saturated and able to support construction equipment at the time of crossing, during frozen soil conditions (for winter tree clearing), or with the use of timber mats to avoid rutting of the wetland soil. If mats are not used, the EI will record the pre- and post-construction soil density using a penetrometer to determine if the soil has been inadvertently compacted during construction or access.

Issue	Summary of Comments	Response
<p>Wetlands/Vernal Pools</p>	<p>Question regarding impacts to wetlands and water quality from pH change in soil due to the rotation of removed and replaced earth.</p>	<p>Tennessee does not anticipate pH changes as a result of construction, as only the soil within the trench line is impacted and flow across the wetland is not obstructed; thus, hydrology of the wetland remains relatively unchanged during construction. There could be some minor soil disturbance to soils within the travel lane as a result of removal of tree stumps to provide safe working conditions, but these impacts are considered minor. Impacts to wetlands will be minimized by segregating up to the top 12 inches of soil from the area disturbed by trenching activities, except in super saturated areas or when soils are frozen or when no topsoil segregation is possible. The topsoil will be restored to its original location immediately after backfilling is complete to preserve the existing seedbank and promote revegetation of the disturbed area. Seed mixes spread on the restored topsoil for temporary stabilization will include annual rye grass (<i>Lolium multiflorum</i>) at a rate of 40 pounds per acre ("lbs/acre") (unless standing water is present) or appropriate mixes recommended by the landowner, state agency, or county conservation districts. The use of fertilizers will not be permitted. Mulch will only be used within wetlands as required by state agencies. Utilizing recommended seed mixes containing native plants will control the import of invasive and/or exotic plant species to the site. Erosion controls, including silt fence and/or staked hay bales, also will be installed to protect wetlands from sediment disturbed in adjacent uplands during construction. Post-construction, the disturbed areas will be monitored to ensure long-term stabilization of the Project areas.</p>
	<p>Question regarding how impacts to vernal pools will be avoided.</p>	<p>Detailed impact assessments are required by the U.S. Army Corps of Engineers ("USACE") New England District for proposed work within and adjacent to vernal pools. This will include an evaluation of impacts to the vernal pools, the vernal pool envelopes, and the critical terrestrial habitats. The process of identifying vernal pools, evaluating impacts, and developing procedures to avoid and minimize impacts to the extent practicable will continue as access to more parcels become available. Additional vernal pool surveys are scheduled for the spring of 2016, and the results of these surveys will be provided in supplemental filings as available.</p>

Issue	Summary of Comments	Response
Wetlands/Vernal Pools	<p>Comment requesting that the analysis of wetland impacts include a clear presentation of the following impacts to support future mitigation planning and permitting:</p> <ul style="list-style-type: none"> * Direct impacts (i.e., the placement of fill) to wetlands, streams, and vernal pools * Temporary impacts (i.e., alteration to wetlands that will grow back to existing form, such as cutting trees and the use of swamp mats for the construction process) to forested, shrub, and emergent plant communities. * Indirect impacts, including the permanent conversion of forested wetlands to scrub-shrub wetlands, permanent conversion of forested wetlands to emergent wetlands, removal of forested cover (upland or wetland) within 100 feet of any vernal pool, and removal of forested cover (upland or wetland) within 100 feet of any stream. 	<p>A summary of the construction impacts to wetlands is presented in Resource Report 2 (Table 2.3-11) included in the Environmental Report submitted with the November 20, 2015 certificate application. Construction of the Project pipeline facilities will temporarily alter approximately 486 acres of wetlands, of which approximately 73 acres of PFO and palustrine scrub-shrub ("PSS") wetlands will be permanently maintained post-construction in an emergent or low scrub-shrub vegetated cover type (see Table 2.3-11 in Resource Report 2 included in the Environmental Report submitted with the November 20, 2015 certificate application). Tennessee will provide a mitigation plan for these acreage impact estimates in coordination with the Pennsylvania Department of Environmental Protection ("PADEP"), New York State Department of Environmental Conservation ("NYSDEC"), Massachusetts Department of Environmental Protection ("MADEP"), New Hampshire Department of Environmental Services ("NHDES"), Connecticut Department of Energy and Environmental Protection ("CTDEEP"), and USACE requirements. Actual impacts to wetlands are likely to be less than these estimated values due to impacts generated from aerial imaging of the tree canopy, which may not result in the removal of all trees as estimated. Temporary wetland impacts may include soil disturbance, temporary alteration of hydrology, and loss of vegetation during construction. Upon completion of construction, topsoil, contour elevations, and hydrologic patterns will be restored, and all disturbed areas will be reseeded or replanted to promote the re-establishment of native hydrophytic vegetation. All TWS and ATWS areas will be restored to pre-construction grades and contours, and reseeded and/or replanted during restoration activities.</p>
	<p>Request that wetlands along Continental Boulevard in the Town of Merrimack be surveyed to ensure all potential plant, insect, and animal species of concern are noted.</p>	<p>All wetlands and waterbodies associated with the Project will be delineated and identified for potential threatened and endangered species as survey access is allowed.</p>
	<p>Comment requesting a discussion and description of the appropriate buffer zones to avoid or reduce indirect effects of construction to streams and wetlands.</p>	<p>Tennessee will comply with all state and federal mandated buffer zones by completion of and compliance with state and federal permitting.</p>
	<p>Comment requesting the identification of wetlands along the pipeline route that support rare and exemplary natural communities such as the wetlands, bogs, and fens of the Rensselaer Forest Tract, and Audubon Important Bird Area ("IBA"), and the specific mitigation measures to ensure that they will be protected from potential indirect and cumulative impacts.</p>	<p>All wetlands delineated as part of the Project are identified in Resource Report 2 included in the Environmental Report submitted with the November 20, 2015 certificate application. The Rensselaer Forest and IBAs are discussed in Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application.</p>

Issue	Summary of Comments	Response
Wetlands/Vernal Pools	Comment requesting a discussion of how wetland ecosystems will be protected from direct and indirect impacts associated with temporary and permanent access roads.	Impacts to wetland ecosystems are discussed in Resource Report 2 included in the Environmental Report submitted with the November 20, 2015 certificate application. All wetlands will be restored to their pre-construction grades, contours, and drainage patterns. As such, the permanent impacts on wetlands associated with the Project will consist predominately of a conversion of PFO wetlands to PSS or PEM wetland vegetation cover types. To minimize impacts on wetlands, Tennessee will implement the wetland construction BMPs described in Tennessee's Project-specific Plan and Procedures and the Project-specific ECPs for each state. Workspace is limited in wetlands to 75 feet in width, unless topographic conditions or other safety concerns require additional workspace. These site-specific areas will be identified and approved prior to construction.
	Comment requesting a discussion of the advantages and disadvantages with respect to wetland issues associated with each of the alternatives considered and the rationale for selecting pipeline alignments and compressor station locations with respect to potential impacts to wetland, stream, and vernal pool ecosystems. For all sections of the proposed pipeline that will be on a new alignment, the alternatives analysis should show how the alignment was designed to minimize aquatic impacts.	The Project alternatives analysis is provided in Resource Report 10 included in the Environmental Report submitted with the November 20, 2015 certificate application.
Resource Report 3: Fish, Wildlife, and Vegetation		
Rare Species	Comments expressing concerns regarding impacts to the federally-endangered dwarf wedgemussel in the Ashuelot River, including indirect impacts during and after construction because of disturbance to upstream tributaries.	During initial agency consultations conducted prior to field surveys, no federal or state listed mussels were identified by the New Hampshire Natural Diversity Database ("NHNDDB") or the New England U.S. Fish and Wildlife Service ("USFWS") Field Office in the Ashuelot River.
	Request for information about how and when rare, threatened, or endangered communities will be identified and how impacts to these and other natural communities will be mitigated.	Section 3.4 and Table 3.4-8 in Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application provide information on all federal and state listed species identified through Project consultations with appropriate agencies, and the current status of all survey efforts (i.e., whether they are complete, ongoing, or when they are scheduled to occur). Development of appropriate avoidance, minimization and mitigation measures is dependent upon identification of rare species and/or their habitats through implementation of species-specific field surveys. Once surveys are complete, Tennessee will work with federal and state agencies to develop these measures as needed.

Issue	Summary of Comments	Response
<p>Migratory Birds</p>	<p>Request for information regarding migratory species that may be negatively impacted by the proposed Project and how impacts will be mitigated.</p>	<p>Table 3.4-2 in Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application provides a comprehensive list of Birds of Conservation Concern, most of which are migratory species. Avoidance and minimization of potential impacts to migratory birds are discussed in Section 3.4.2.1.8, Section 3.2.2.6 and 3.2.2.9 (specifically in regards to interior forest impacts), and Section 3.2.2.7 of Resource Report 3. In addition, Tennessee is conducting surveys and/or habitat evaluations for state-listed bird species, grassland birds and other migratory birds based on federal and state correspondence requests. Avoidance, minimization and mitigation measure will be developed in consultation with the USFWS and state heritage programs as species presence and habitats are identified.</p>
	<p>Request for an analysis of the impact of compressor stations on the largest and most important flyway in the northeast for the twice-a-year migration of more than 10,000 raptors, including bald and golden eagles.</p>	<p>Despite the amount of research conducted on birds, migration ecology is poorly understood relative to other life stages; however, studies indicate that stopover habitat is critically important to migrating birds. Scientists have estimated that some species may spend up to 90% of their migration resting and foraging in stopover locations. These stopover locations typically consist of wetland and riparian habitats (Kreakie 2011, Pocewicz et al. 2013). The importance of wetlands and foraging areas vary with location. Wetlands and foraging areas closer to major streams are more likely to be used because of the tendency of wetland birds to travel along rivers. Wetland birds are unlikely to use high elevation wetlands during spring migration, because they may still be covered with snow or ice. Raptor species use thermals and updrafts to assist with migration and therefore tend to not be concentrated in stopover locations but rather along ridges and mountain ranges where the strongest updrafts are found. North-south oriented landscape features such as waterbodies and mountain ranges act as guidelines for raptor migration (Goodrich et al. 2008).</p> <p>Another critical habitat type for migratory birds is the interior forest. As discussed in Section 3.2.2.6 of Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application, interior forests are often discussed in terms of providing critical breeding and brood-rearing habitat for neotropical migratory songbirds, species that breed in temperate regions of North America and migrate to Central and South America and to the Caribbean to spend the winter (Rosenberg et al. 1999). Typical forest interior bird species include but are not limited to thrushes (veery, wood, hermit, and Swainson's thrush), scarlet tanager, cerulean warbler, prothonotary warbler, magnolia warbler, kinglets (ruby-crowned and golden-crowned) and ovenbirds. Fragmentation of forest increases the amount of edge, and forest interior species are forced to compete with other birds and animals that are better adapted to forest edges and early successional vegetation. Nest predation by blue jays, American crows, common grackles, squirrels, mice, snakes, and domestic pets, and nest parasitism by brown-headed cowbirds all increase with the amount of edge habitat (Askins et al. 2012; Davis 1997; NRCS 2002).</p>

Issue	Summary of Comments	Response
<p>Migratory Birds</p>		<p>In order to protect migratory birds, including raptors, Tennessee has co-located approximately 85% of the Project route with existing utility corridors and has sited aboveground facilities within previously disturbed locations or as close to the existing utility corridors as possible. This greatly reduces the effects of forest fragmentation; the amount of edge habitat created by forest cutting, minimizes the amount of forest interior reduction for each individual forest patch, and minimizes the amount of habitat conversion into open land cover types. Further, Tennessee has selected locations for the proposed aboveground facilities, including compressor stations, to be located outside of wetlands and waterbodies to the extent practicable. Impacts to interior forest dependent migratory birds as well as raptors will be reduced during the construction phase of the Project through surveys by qualified botanists and biologists, and through adherence to timing restrictions recommended by various agencies. Tennessee will continue to consult with regulatory agencies to develop methods to minimize impacts to migratory birds.</p> <p>Goodrich, L.J. and J.P. Smith. 2008. Raptor Migration in North America. State of North America's Birds of Prey. Nuttall Ornithological Club and American Ornithologists. Union Series in Ornithology No. 3. pp. 37-150. Cambridge, Massachusetts, and Washington, D.C. [TP-09]</p> <p>Kreakie, Betty J. and Timothy H. Keitt. 2012. Integration of Distance, Direction and Habitat into a Predictive Migratory Movement Model for Blue Winged Teal (<i>Anas discors</i>). Ecological Modelling. Volume 224, pp 25-32.</p> <p>Pocewicz A, Estes-Zumpf WA, Andersen MD, Copeland HE, Keinath DA, et al. 2013. Modeling the Distribution of Migratory Bird Stopovers to Inform Landscape-Scale Siting of Wind Development. PLoS ONE 8(10): e75363. doi:10.1371/journal.pone.0075363.</p>

Issue	Summary of Comments	Response
<p>Wildlife</p>	<p>Request for detailed information to determine the potential impact to existing wildlife population in and adjacent to construction activities and impacts to nearby wildlife corridors.</p>	<p>Numerous studies have documented anthropogenic effects on wildlife with responses and magnitude of effect being variable and dependent on type, duration, frequency, magnitude, location and timing (Steidl and Powell 2006). Erb et al. (2012) demonstrated negative effects of hunter presence on bobcat and black bear occupancy, and use of hiking trails on occupancy of black bears, while red fox and raccoon occupancy increased with trail use and hunting, respectively. Miller et al. (2001) identified effects of recreational activities including both on and off hiking trails used by humans, and humans with a leashed dog. Responses were also variable; however, activities occurring off trail tended to cause a greater flush (or alert) distance (i.e., the distance at which animals first responded to a human disturbance or threat) and greater distance moved for all four species tested, supporting the evidence that animals become habituated to activities that occur with high frequency and at the same location. Blumstein et al. (2005) demonstrated through simulation models of 150 bird species that larger bird species exhibited greater alert distances and moved farther away after being disturbed. When disturbances are repeated, this translated into greater temporal displacement (e.g., time to resume foraging behavior) and negatively impacted food consumption and fitness when birds were flushed from foraging sites (i.e., number of food items eaten was significantly reduced). In a comprehensive literature review for flight responses by ungulates (e.g., white-tailed deer, moose, elk, caribou), Stankowich (2008) found animals in open habitats and females or groups with young offspring exhibit greater flight responses than adult groups, and humans on foot had a greater effect than vehicles or other noises. Other studies have observed effects including energetic stresses (Bélanger and Bédard 1990), impacts to activity (Mann et al., 2002), and survival of young associated with abandonment (White and Thurow 1985) all stemming from anthropogenic influences.</p>

Issue	Summary of Comments	Response
<p>Wildlife</p>		<p>As previously described in Section 3.2.2.7 of Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application, construction of the Project may result in temporary displacement of wildlife from the construction area and other behavioral or physiological responses due to presence of humans and machinery as described above. However, impacts to wildlife will be minimized by limiting the construction period at any one particular location to the extent practicable, and by promptly restoring the construction site through procedures outlined in Tennessee’s Project-specific Plan and Procedures (Volume II, Appendix H) and Project state-specific ECPs (Volume II, Appendices J, K, L, M, and N). Most species of wildlife typically encountered in the Northeast will utilize a variety of habitats during their annual life-cycle (DeGraaf and Yamasaki 2001) including open grassland and scrub-shrub habitats commonly associated with pipeline easements. Even species such as interior forest birds have been documented to shift their habitat use to early-successional areas after nesting but before migration, that results in improved physiological condition (Stoleson 2013), and white-tailed deer will use these areas for a continuous supply of accessible browse (i.e., scrub-shrub and sapling habitats where deer can reach buds and soft plant tissues for winter sustenance; Section 3.2.2.4.7 of Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application). Therefore, once the corridor is restored and fully vegetated, habitat suitable for many species in the northeast is expected to be available.</p>

Issue	Summary of Comments	Response
<p>Wildlife</p>		<p>As described in Section 3.4 of Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application, Tennessee is conducting surveys for sensitive wildlife species (federal- and state-listed species) identified through consultation with federal and state agencies. These include bats, migratory birds, amphibians, reptiles and invertebrates; 10 state-listed threatened, endangered, or special concern species were identified as potentially occurring in the Pennsylvania section of the Project, nine in New York, 40 in Massachusetts, 24 in New Hampshire, and 25 in Connecticut, plus an additional seven federal listed species were identified by the USFWS. Development of appropriate avoidance, minimization and mitigation measures is dependent upon identification of rare species and/or their habitats through implementation of species-specific field surveys, and must be developed on a site-specific basis through consultation with the appropriate agencies. Once surveys are complete Tennessee will work with federal and state agencies to develop additional measures as needed.</p> <p>Time of year also plays an important role in how construction activities may impact wildlife. For example several species of bats in the northeast will use forested areas for roosting and maternal colony habitats during the spring and summer (DeGraaf and Yamasaki 2001). Similarly, some of these areas are used by species of migratory birds (i.e., interior forest birds, see Section 3.2.2.6 of Resource Report 3) during the springtime breeding period. As described in Section 3.4.2.1.2 of Resource Report 3, Tennessee has committed to winter tree clearing in areas identified as summer roosting and maternal colony habitats to avoid temporary impacts typically associated with construction activities. This will also avoid impacts to forest interior birds where these habitats overlap.</p>

Issue	Summary of Comments	Response
		<p>In contrast, eastern box turtles will use forested upland areas almost exclusively for winter hibernation habitats. This species has been identified as potentially occurring within the Project vicinity in Massachusetts (French 2015) and Connecticut (McKay 2015). Tennessee plans to conduct field surveys for this species in 2016 and confirm presence-absence. In areas that are identified as bat roosting and maternal colony habitats, and eastern box turtle habitat, winter tree clearing would result in a conflict of timing restrictions (i.e., tree clearing in box turtle habitat is generally restricted to their active period, approximately April 1 through October 31). Conflicts such as this, should they occur, will require consultation with the USFWS and state heritage programs to develop further avoidance and minimization measures. These consultations will occur following completion of species-specific presence-absence and habitat surveys. Spring is also an important time period for vernal pool breeding amphibians. These are species that live primarily in forested upland habitats and migrate to vernal pools (temporarily flooded aquatic breeding sites) in the early spring, where they reside for several weeks before returning to non-breeding habitats (Klemens 1993). Temporary impacts can be avoided by limiting work within and adjacent to vernal pools during the spring breeding season to the extent practicable. Impacts to non-breeding forest habitat can be minimized by limiting the amount of tree clearing within 750 feet of a vernal pool to the extent practicable (Calhoun and Klemens 2002). As described in Section 3.3.2 of Resource Report 3, Tennessee biologists are conducting vernal pool surveys and following survey and documentation procedures outlined by the USACE – New England District, Vernal Pool Assessment Guidelines. Following completion of surveys Tennessee will assess vernal pool impacts in consultation with federal and state agencies.</p>
Fisheries	<p>Comments expressing concerns regarding the pipeline crossing headwater streams that provide spawning habitat for native species and suggesting that the timing of the disturbance will affect the success or failure of the spawn during the construction year.</p>	<p>Tennessee has consulted with state fisheries biologists and will implement timing restrictions recommended for avoidance of spawning periods for coldwater fisheries (Section 3.1.3 of Resource Report 3).</p>

Issue	Summary of Comments	Response
Sensitive Habitats	Request for an analysis of long-term effect that the pipeline will have on the Squannassit Area of Critical Environmental Concern ("ACEC").	<p>The Squannassit Area of Critical Environmental Concern ("ACEC") is approximately 37,450 acres in size and encompasses portions of nine towns within the Nashua River Watershed. Approximately 40 percent is located in Townsend, Massachusetts alone (DCR 2015). This ACEC is designated as such for its extensive high and medium yield aquifers systems (approximately 17% of the ACEC), Priority Habitats ("PH") for 23 state-listed species, 131 state Certified Vernal Pools ("CVP"), and extensive wetlands, forestlands, lakes, ponds, rivers and streams, and areas of BioMap2 Core Habitats (DCR 2015).</p> <p>The Project's Fitchburg Lateral intersects approximately 6.4 miles of the Squannassit ACEC. Based on LIDAR data, the Project will cross roughly 2.2 miles of wetland and 15 streams. The Natural Heritage and Endangered Species Program ("NHESP") has identified three state-listed species associated with the mapped PH intersected by the Project (French 2015a, 2015b, Schluter 2015) and coldwater fisheries (Buckley 2015). Based on MassGIS data, the nearest CVP is approximately 0.12 miles from the Project construction limits within the ACEC.</p> <p>Impacts to these different habitat features have been minimized to the extent practicable by co-locating the Project with an existing utility corridor through the entire ACEC. Tennessee will minimize short and long-term impacts to wetlands and waterbodies by adhering to Project-specific Plan and Procedures (Volume II, Appendix H of the certificate application) and Project state-specific ECPs (Volume II, Appendices J, K, L, M, and N of the certificate application) for construction and restoration. Before long-term impacts can be assessed to state-listed species and vernal pools, their presence and spatial extent must be determined through implementation of species-specific surveys and habitat evaluations within the Project limits. Tennessee began vernal pool surveys in 2015 along the Fitchburg Lateral where access was available, with additional surveys planned for vernal pools and rare species during 2016. Impact avoidance, minimization and mitigation measures will be developed as needed through consultation with the NHESP following completion of vernal pool and state-listed species surveys.</p> <p>DCR. 2015. Squannassit Area of Critical Environmental Concern (ACEC). Available URL: http://www.mass.gov/eea/docs/dcr/stewardship/acec/acecs/squsit.pdf. [Accessed December 4, 2015].</p>
	Request for an analysis of long-term effect that the pipeline will have on Priority Habitat of the Massachusetts Endangered Species Act.	<p>Conducting this analysis is dependent upon identification of rare species and/or their habitats through implementation of species-specific field surveys and habitat evaluations. Once surveys are complete, Tennessee will work with the NHESP to assess impacts to rare species habitats (including both short- and long-term impacts) and development of avoidance, minimization and mitigation measures that will result in a long-term net benefit to the impacted species as described in the Massachusetts Endangered Species Act Regulations (321 CMR 10.00).</p>

Issue	Summary of Comments	Response
Sensitive Habitats	Request an analysis of the effects of construction on the ecological integrity, vegetation, threatened/endangered species, and water quality as the Project runs through Rhododendron State Park and Little Monadnock.	<p>Based on consultation with the New Hampshire Fish and Game Department (Cairns 2015), there are no threatened/endangered species in the vicinity of the Project in this area. However, as described in Section 3.3.2.4.1 of Resource Report 3 of the Environmental Report submitted with the November 20, 2015 certificate application, there is an Emergent Marsh - Shrub Swamp System mapped within 100 feet of the Project construction workspace. Field delineations have been completed in this area to determine the precise extent of any wetlands or watercourses that occur within the Project corridor and may be connected with this community system. Surveys by qualified botanists planned for 2016 will determine the actual extent of this community system and whether or not it extends into wetlands within the currently proposed limits of work.</p> <p>Impacts to wetlands will be minimized by implementation of Tennessee's Project-specific Plan and Procedures (Volume II, Appendix H of the certificate application) and Project state-specific ECPs (Volume II, Appendices J, K, L, M, and N of the certificate application), which include BMPs for protection of wetland resource areas during construction and prompt restoration of construction sites to prevent post-construction impacts.</p>
	Question regarding will the existing right-of-way be expanded where it crosses the exemplary red maple - sensitive fern swamp?	Construction of the Project through this area will require widening of the existing ROW by 75 feet for construction (temporary) and 50 feet of the 75 feet will be used for operations (permanent easement).
	Request for an analysis of the effects of clear cutting near rare and exemplary natural communities.	Surveys for vernal pools and other natural community types were conducted in 2015 and will continue in 2016 as access allows. Rare or exemplary natural communities are being avoided to the extent practicable and Tennessee has already adjusted the Project alignment in a few locations to avoid large or unique examples of specific natural communities. For communities that cannot be avoided, Tennessee will consult with appropriate regulatory agencies to assess impacts and to identify minimization and mitigation measures as needed. Clearing of vegetation near natural communities could affect features of the micro-environment such as amount of sunlight and evapotranspiration in areas of the community near the clearing, which could affect plant species composition and densities. In addition, removal of a natural vegetation buffer adjacent to a rare natural community could open the area up to invasive plants. These types of impacts would likely have a greater effect on communities that occupy a small discrete location. Additional discussion of potential effects to vegetation communities from Project development can be found in Section 3.3.3 of Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application.

Issue	Summary of Comments	Response
Vegetation	<p>Comment requesting additional information regarding long-term ROW maintenance techniques, including an analysis of the effect of maintenance techniques on plant life and wildlife habitat and whether or not herbicides will be used and whether specific buffer zones will be established around wetlands where herbicide application would be prohibited. Additionally, the analysis should discuss the potential for the introduction of invasive species and methods to control their spread over the life of the Project.</p>	<p>Long-term maintenance of the ROW is described in Tennessee’s Project-specific Plan and Procedures (Volume II, Appendix H of the certificate application) and Project state-specific ECPs (Volume II, Appendices J, K, L, M, and N of the certificate application). Also, as discussed in Section 3.3.3 of Resource Report 3 included in the Environmental Report submitted with the November 20, 2015 certificate application, new areas permanently maintained during operation of the Project facilities will be kept in an herbaceous/early successional stage of vegetation. Tennessee will accomplish this by conducting routine vegetation maintenance along the ROW primarily through mechanical means (e.g., mowing) on a frequency of approximately once every three years. Tennessee does not typically include the use of herbicides in their maintenance programs. Manual application of herbicides may be used in specific circumstances to control poisonous plants, such as poison ivy or as part of an approved Invasive Species Management Plan. In these limited circumstances all herbicide use will be applied as allowed by the applicable jurisdictional agencies and with landowner approval. Tennessee is in the process of conducting field surveys to identify occurrences of invasive species within the Project ROW and has prepared state-specific Invasive Species Management Plans (“ISMPs”) for all construction activities associated with the Project.</p> <p>As discussed in Sections 3.2.2.6, 3.2.2.9 and 3.4.2.1.8 of Resource Report 3 (specifically in regards migratory birds, and interior forest birds), Sections 3.2.2.7 and 3.2.2.4.7 of Resource Report 3 (in regards to general wildlife and white-tailed deer) areas managed as open grassland and scrub-shrub have documented numerous benefits for local wildlife including invertebrates (pollinators), birds (interior and grassland/edge species) and large and small mammals.</p>
	<p>Request for an analysis of long-term effect that the pipeline will have on interior forest cores.</p>	<p>Tennessee has minimized impacts to interior forest habitats by co-locating approximately 85 percent of the total Project pipeline to follow existing utility line ROWs and gas line easements. Impacts to forest interiors are described and analyzed in Section 3.2.2.6 of Resource Report 3. Because the Project ROW will be permanently maintained as herbaceous/early successional stage of vegetation, impacts to forest interior as described in Section 3.2.2.6 of Resource Report 3 are permanent. That is, forest tracts that were contiguous prior to construction of the Project will be permanently divided into two separate and smaller forest interior patches, and there will be permanently increased edge effect associated with the resultant interior forest patches.</p>

Issue	Summary of Comments	Response
Vegetation	Request for a tree removal plan that demonstrates that tree removal will be minimized and that BMPs will be used. The plan should include an inventory of species and size classes, location of critical wildlife habitats, notable areas, soil types, and goals and objectives and must include sound forest management to keep forest ecosystems healthy and resilient.	Tennessee will clear all trees within the approved construction workspace to allow for adequate construction room and for safety purposes. In those instances where replanting of trees is necessary, Tennessee will plant with native species that resemble the species assemblage along the right of way. Critical wildlife areas have been identified in Resource Reports 3 and 8, included in the Environmental Report submitted with the November 20, 2015 certificate application, and replanting of those areas will be in consultation with the appropriate regulatory agency. All replanting activities will follow accepted forestry management practices.
Invasive Species	Comments expressing concern over pipeline corridors providing a gateway for the spread of invasive species.	Tennessee is in the process of conducting field surveys to identify occurrences of invasive species within the Project ROW and has prepared state-specific ISMPs for all construction activities associated with the Project. The ISMPs can be found as Attachment 9 of the Project-specific ECPs for each state that were included in the Environmental Report. These ISMPs are specific to revegetation of the ROW immediately following construction of the pipeline and aboveground facilities, as well as long-term post-construction monitoring of the ROW as required by applicable federal and state agencies. Post-construction monitoring of invasive plant species will be conducted for a period of 3 years concurrent with upland and wetland restoration success monitoring. Monitoring reports detailing the success of restoration will identify invasive plant species' locations and densities, which will be used to determine if species-specific management measures are necessary. Relative density of invasive species found on the ROW will be compared to the off-ROW densities and if on ROW density is significantly greater than the adjacent off-ROW plant community, Tennessee will develop a plan to address the invasive species which may include mechanical removal, biological treatments, or if requested by the landowner or land managing agency, and in accordance with regulatory requirements, spot treatment by herbicides.
Invasive Species	Question regarding prevention of the spread of invasive species other than with herbicides.	As discussed in the Project-specific ECPs developed for each state included in the Environmental Report, it is not Tennessee's policy to use herbicides during regular ROW maintenance. Tennessee will evaluate specific areas following its ISMPs which may include mechanical removal or biological treatments. If herbicides are needed to control invasive species, it will be applied in accordance with all applicable state and federal regulations and only with landowner permission.
Resource Report 4: Cultural Resources		
Historic and Archaeological Resources	Request for an inventory of all historical assets within and adjacent to the Project areas, including how historical sites will be protected during construction.	Tennessee is conducting cultural resource surveys to identify historic properties in the area of potential effect ("APE" or Project area). Tennessee and its contractors will follow all applicable cultural resource laws regarding effects to historic properties in the APE. Section 4.1 of Resource Report 4 included with the Environmental Report submitted with the November 20, 2015 certificate application outlines the Section 106 compliance process being followed by Tennessee for the Project.

Issue	Summary of Comments	Response
Historic and Archaeological Resources	Request for the identification of all stone walls within and adjacent to the Project area, including a mitigation plan to ensure that they are not damaged by construction activities.	Tennessee's contractors are recording the locations of stone walls in the APE. Mitigation/treatment plans for significant historical stone walls in the APE are being coordinated with the appropriate state historic preservation offices, as required.
	Request that Tennessee address potential impacts to the following historic resources in Merrimack: Olde Kings Highway and Spaulding Foundation. Additionally, Tennessee should conduct an extensive historical on-the-ground survey of the land and riverbank along the Merrimack River.	Surveys in New Hampshire cannot be conducted until the Project Area Form has been reviewed and approved by the Division of Historical Resources. Upon acceptance of this document, Tennessee will coordinate with the New Hampshire Division of Historical Resources, Department of Cultural Resources ("NHDHR") to confirm areas for field survey, which will likely include Merrimack.
	Request for transportation routes for vehicles and equipment within the proximity of any historic features, including preservation or maintenance strategies to ensure that their structural integrity is maintained.	Preservation and maintenance strategies for any historic features will be conducted in accordance with what Tennessee proposes to governing consulting agencies. For culturally sensitive areas, only non-wooded vegetation areas will be temporarily occupied for work space. For these temporary work space areas, if they cannot be avoided, they will be protected with the installation of protective materials and removed upon completion of the construction.
Cultural Resources	Question regarding research about the documented Native American settlements, meeting sites, and artifacts in the geological substrates of Pulpit Falls.	Tennessee's cultural resource consultant has conducted research at each applicable state historic preservation office to identify the locations of documented cultural sites and resources and their locations relative to the proposed Project impacts. The location of Pulpit Falls is located outside of the APE based on the current Project alignment.
Tribal Coordination	Recommendation that all tribes in the impacted states be invited as a consulting party.	As the lead federal agency, the Commission, not Tennessee, is responsible for government-to-government consultation with federally recognized Native American tribes under Section 106 of the National Historic Preservation Act. To date, the Commission has invited more than 20 federally recognized Native American Tribes to consult on the Project. In addition, to date, four Native American Summits have been conducted to discuss native American concerns. The concerns discussed during the summits have been evaluated and incorporated into Project documents, as applicable.

Issue	Summary of Comments	Response
Resource Report 5: Socioeconomics		
Property Values and Insurance Rates	Comments from property owners living near the preferred pipeline route, near the proposed laterals, and new the new compressor station locations expressing concerns about the NED Project's effect on the value of their homes and property.	<p>Tennessee is not aware of any instances of a decrease to property value or the inability of a homeowner to obtain a mortgage for a property in the vicinity of a compressor station. There are dozens of existing compressor stations along Tennessee's existing system in the northeast U.S. and many individuals have bought, sold, and built homes immediately in the vicinity of compressor stations. Additionally, there are an estimated over 1,200 mainline compressor stations nationwide (U.S. Energy Information Administration, Office of Oil and Gas) and no research has demonstrated property value decreases in the vicinity of a compressor station. Please see the following studies for supporting information on the correlation between property values and the presence of pipelines:</p> <ul style="list-style-type: none"> • LPC Commercial Services, Inc., "A Study of Natural Gas Pipelines and Residential Property Values." (2015) • Diskin, Barry A., PH.D., Jack P. Friedman, PH.D, Spero C. Peppas, PH.D, and Stephanie R. Peppas. "The Effect of Natural Gas Pipelines on Residential Values." Right of Way (2011) • Fruits, E., "Natural Gas Pipelines and Residential Property Values: Evidence from Clackamas and Washington Counties." (2008). • The Interstate Natural Gas Association of America ("INGAA") Foundation, Inc., "Natural Gas Pipeline Impact Study." (2001) • Kinnard, Williams N., Jr., Sue Ann Dickey, and Mary Beth Geckler. "Natural Gas Pipeline Impact on Residential Property Values: An Empirical Study of Two Market Areas." Right of Way (1994) • Wilde, Louis, Christopher Loos, and Jack Williamson. "Pipelines and Property Values: An Eclectic Review of the Literature." Journal of Real Estate Literature 20.2 (2012)

Issue	Summary of Comments	Response
<p>Property Values and Insurance Rates</p>	<p>Request for a study of all homes within 1/4 mile of natural gas pipelines in the last 10 years and the changes to resale value before and after the pipelines.</p>	<p>As part of a recent study commissioned by Tennessee, “A Study of Natural Gas Pipelines and Residential Property Values”, Steven R. Foster with LPC Commercial Services measured the impact of a high pressure natural gas transmission pipeline (pipeline) on residential property values. The study’s hypothesis is that if these pipelines impact residential property values, then the most impacted properties should be those properties that are both encumbered by a pipeline easement and where a pipeline is located in close proximity to the dwelling. Since thousands of miles of pipelines crisscross the United States, including hundreds of miles of pipeline in New England, any impact of pipelines on residential property values, land use or real estate tax revenue should therefore be readily measurable from available market data. The study relies on real estate appraisal methodology and techniques to analyze actual market transactions to measure the impact of pipelines on residential values. The report also examined the impact of pipelines on land use patterns, sales activity, and real estate tax revenue. Numerous residential properties that are located in close proximity to pipelines, and numerous transactions involving properties located in close proximity to the pipeline and other similar properties located greater distances from these pipelines were available for study. A significant number of residential property transactions were examined in completing this study, spanning a 35-year period (1980-2015) and a wide geographical area, which were intended to incorporate different economic and real estate market conditions, locations, and residential property types in southern New Hampshire and eastern Massachusetts.</p> <p>The analysis completed for the study indicates that proximity to a pipeline does not have a measurable, systematic impact on land use or residential property values. Among other things, the study found that there was not a measurable impact on land use patterns, as land use patterns along existing pipelines were found to be similar to other areas. In addition, the transaction data that was studied does not support that residential properties that are in close proximity to a pipeline (even as close as 25 feet), sell more slowly or for lower prices than similar houses in the same development that are located greater distances from the pipeline.</p> <p>These conclusions are supported by other studies and literature, and by interviews with market participants familiar with developing, marketing, and valuing properties impacted by pipelines (LPC Commercial Services, Inc. 2015).</p>

Issue	Summary of Comments	Response
Employment	Request for an economic impact study reporting how the NED Project will create new jobs (direct and indirect) for southwest region residents. Include a plan for recruiting workers from the region and any skills training opportunities that will be made available to train needed workers.	Tennessee has entered into memorandums of understanding with local unions for the construction of the Project. Tennessee estimates that approximately 50 percent of the work forces will be local hires. As a point of information, there is union training facility located in Hopkinton, Massachusetts. In addition to employment opportunities related to construction of the Project facilities, Tennessee will be hiring permanent employees for the operations and maintenance of the Project. The number of new positions will be based on the final design of the Project facilities. The current projection is that Tennessee will hire five new employees for the proposed compressor station near New Ipswich, New Hampshire. There will also be a total of five additional employees hired for the proposed compressor stations near the Massachusetts/New Hampshire border east and west of the New Ipswich compressor station.
Traffic and Road Impacts	Request for the identification of the location and duration of road closures and other disruptive activities during the construction process. Include a schedule of Project development in each town along the proposed route and measures to be taken to mitigate potential losses and/or disruptions of revenue and employment as a result of the NED Project.	These items will be identified and addressed in the traffic management plan that will be developed by Tennessee and included as part of the implementation plan.
	Concerns regarding Project-related traffic damaging municipal bridges during and after pipeline construction.	Tennessee will document the pre- and post-construction condition of the roads and bridges used for transportation of Project equipment and materials. After construction, Tennessee will work with the appropriate governing body to address any damage to roads and bridges caused by Project activities.
	Request that Tennessee use construction techniques across all roadways in New Hampshire, including all unmaintained Class IV roads, which will account for the heavy loads presented by logging trucks.	Tennessee will consult with local officials and agencies to design appropriate crossings depending on the anticipated Project use of roadways.
Environmental Justice	Concerns about the NED Project's impacts on Environmental Justice communities, including the low-income, rural communities in portions of western Massachusetts.	Section 5.9.2 of Resource Report 5 included in the Environmental Report submitted with the November 20, 2015 certificate application provides an Environmental Justice analysis for the Project area.
	Request for a clear description of how the NED Project is fully compliant with Executive Order 12898 with a purpose to focus federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goals of achieving environmental protection for all communities.	As discussed in Section 5.9.1 of Resource Report 5, the requirement for an Environmental Justice analysis as part of an environmental impact review process originated with the establishment of Executive Order 12898. Section 5.9.2 of Resource Report 5 provides the Environmental Justice analysis for the Project area. Section 5.11.2.9 of Resource Report 5 provides a cumulative impacts evaluation for Environmental Justice.

Issue	Summary of Comments	Response
Environmental Justice	Suggestion that census tract level data be used to determine the presence of low-income and minority populations in the Project area that may be potentially impacted by the Project. Additionally, describe the outreach and public involvement conducted to all other communities that could be affected by the Project since rural communities may be among the most vulnerable to health risks associated with the Project.	<p>The U.S. Environmental Protection Agency ("USEPA") serves as the coordinating agency for Environmental Justice for all federal government agencies. Tennessee has responded to the USEPA's request of May 15, 2015 regarding revising the analysis to utilize data at the municipal level. Sections 5.9.1 and 5.9.2 of Resource Report 5 include the revised Environmental Justice analysis.</p> <p>Tennessee has implemented a robust public outreach effort, which is detailed in the Public Participation Plan (Volume II, Appendix D of the November 20, 2015 certificate application) and summarized in Section 1.8 of Resource Report 1. The Commission has also conducted numerous scoping meetings to gather public comments during the pre-filing process for the Project (Docket No. PF14-22-000) and has gathered and will continue to gather written comments during the pre-filing and certificate processes for the Project.</p>
General Socioeconomics	<p>Concern regarding the proposed pipeline route proximity to several commercial and retail properties in the Town of Merrimack since it's estimated that these properties employ over 10,000 people and the impacts to these valuable commercial and retail properties would decrease employment opportunities and tax revenue to the Town.</p> <p>Request for an estimate of assessed value of the proposed NED Project through each town and the anticipated short, intermediate, and long term impact on the town wide property assessment.</p> <p>Request for identification of potential impacts to travel and other disruptions that could potentially impact seasonal tourism activities, including Spring maple sap harvesting, kayak and white water rafting, summer boating, fishing, hiking, biking, festivals, holiday activities, fall foliage tours, harvest festivals, town wide events, hunting seasons, winter ski season, snowmobiling, ice fishing, and holiday celebrations, as well as measures taken to mitigate potential losses and/or disruptions to the activities and associated revenue and employment.</p> <p>Request for a detailed analysis of the tax revenue impacts as a result of the construction of the pipeline, including the methodology utilized for developing the revenue figures.</p>	<p>Tennessee has been and will be meeting with businesses located along the newly proposed route through Merrimack, a process that has already resulted in two adjustments to the route to accommodate requests.</p> <p>Construction and operation of the Project will have beneficial impacts on local property tax revenue in the areas impacted by the Project, as set forth in Table 5.10-1 of Resource Report 5. Payroll taxes will also be collected from the workers employed on the Project. Tennessee anticipates that the total payroll for the Project will be approximately \$1,532,293,796 during the construction phase. This assumes that 50 percent of the Project workers will be local (earning \$766,146,898 as stated in Table 5.10-2 of Resource Report 5) and 50 percent will be non-local, earning approximately the same amount.</p> <p>Section 5.6 of Resource Report 5 identifies existing conditions, economic effects and construction, and operations effects and mitigation relative to the Project Area. Section 5.11.2.6 of Resource Report 5 also discusses effects of Project implementation on recreation and tourism.</p> <p>Tax revenue information is included as Attachment 1 to this response matrix.</p>

Issue	Summary of Comments	Response
General Socioeconomics	Request that Tennessee provide all landowners with the right of first refusal for any cut trees on their property in excess of three inches in diameter. If the landowner wants the trees, Tennessee should coordinate the location for piling of de-limbed trees with the landowner prior to the cutting of trees.	Tennessee will engage all directly affected landowners in good faith negotiations for the acquisition of easement rights and settlement of damages resulting from the Project. During these negotiations, Tennessee will include discussions regarding landowner's timber.
Resource Report 6: Geological Resources		
Earthquakes	Comment stating that multiple fault lines exist in the Project area that periodically experience seismic activity. What steps will be taken by Tennessee should there be an event related to seismic occurrence?	The Project design will take into account the environmental conditions that exist in the Project area, consistent with the requirements of the USDOT's regulations, 49 CFR Part 192, and American Society of Mechanical Engineers ("ASME") B31.8 standards. Seismic activity in the Project area is addressed in Resource Report 6 of the Environmental Report submitted with the November 20, 2015 certificate application. Tennessee operations personnel would monitor pressures during a seismic event and immediately following the event would complete field reconnaissance to observe for any earth movement related to the event.
	Request for information about the Project that indicates its ability to withstand earthquakes, including construction practices.	The Project design will take into account the environmental conditions that exist in the Project area, consistent with the requirements of the USDOT regulations, 49 CFR Part 192 regulations and ASME B31.8 standards.
Blasting	Request for the consideration of the impact of blasting through ledge on public and private wells.	<p>Tennessee does not expect blasting activity to affect well structure or integrity. United States Bureau of Mines ("USBM") RI 8507 (1980) guidelines for blasting activity establish a 2 inch per second (ips) limit on peak particle velocity ("PPV") to prevent thin, marginally visible cosmetic cracking in delicate materials such as sheetrock or plaster. Other materials, like the concrete or masonry used in well construction, have much higher thresholds for potential damage. By limiting PPV according to the guidelines set forth in RI 8507, damage to wells is not likely or expected.</p> <p>Furthermore, Tennessee will utilize blasting inspectors to monitor the construction contractor's charge designs and predicted PPVs to ensure compliance with the Project-specific ECPs for each state and site-specific Blasting Plans included in the Environmental Report submitted with the November 20, 2015 certificate application. Actual PPVs will be measured by seismograph to ensure PPVs do not exceed regulatory limits. Tennessee will monitor water quality from drinking water wells and aquifers within 200 feet of the construction workspace along the proposed ROW as described in Resource Reports 1 and 2.</p>

Issue	Summary of Comments	Response
Blasting	Request that Tennessee analyze tunneling in New Hampshire as an alternative to blasting.	Tennessee will be using the Horizontal Directional Drilling method to cross the Everett Turnpike as well as the Souhegan and Merrimack Rivers. Most New Hampshire Department of Transportation ("NHDOT") roads are currently planned to be bored. Tunneling limits the company's ability to access the pipe to perform maintenance and repair and is therefore not a technology that can be used over large distances. In addition, tunneling methods present other constraints that limit their use for natural gas pipeline Projects. These limitations include the very large diameters (in comparison to the proposed diameters of the Project pipeline) that are necessary to excavate the ground conditions and install initial water tight support or liners systems, difficulty in following the proposed route due to an inability to construct sharp bends to follow the proposed route, inability to handle mixed or changing ground conditions, increased settlement risks, increased road traffic for hauling of materials and removal of spoil due to a much greater volume of excavation, and increased construction duration due to much slower production rates.
Resource Report 7: Soils		
Soils	Request for a soil analysis along the length of the proposed pipeline that highlights areas with important farmland soils.	Please refer to Section 7.3 and Tables 7.1-1 thru 7.4-1b of Resource Report 7 included in the Environmental Report submitted with the November 20, 2015 certificate application.
Resource Report 8: Land Use, Recreation, and Aesthetics		
Agriculture	Request for an assessment of the long-term impact on crop yield from soil disturbance and increased ground temperature in farmlands adjacent to the pipeline.	<p>Kinder Morgan operates approximately 84,000 miles of pipeline throughout the United States, a portion of which are located in rural agricultural areas with productive farms. Tennessee will utilize soil-segregation methods during construction to ensure the ground is returned to as close to its previous state as possible. Farming can continue on property above the pipeline following construction. During the survey period, Tennessee will meet with landowners who actively farm their properties to account for existing drainage tiles, irrigation systems, and what type of equipment the pipeline's presence will need to be compatible with; the route and depth the pipeline is buried can be adjusted to accommodate these factors.</p> <p>Through the acquisition process, Tennessee will work with each individual farmer to identify the crops grown on each property. Through negotiations with the farmer and the local agricultural extension office, Tennessee will compensate the landowner for all crop damage for the current year and future years, depending upon the crop produced.</p>

Issue	Summary of Comments	Response
Residential Properties and Schools	<p>Concern over the pipeline's proximity to the Peabody Independence Greenway and impacts to walkers, joggers, cyclists, and wildlife enthusiasts during construction.</p>	<p>The current pipeline route is planned to cross the Peabody Independence Greenway and will be co-located with the existing power transmission corridor. Tennessee has prepared a General Trail Crossing Plan ("Crossing Plan") in anticipation of the Project crossing trails in the Commonwealth of Massachusetts. The purpose of this Crossing Plan is to minimize adverse effects to trails and the environment, maintain the trail experience for users to the extent practicable, maintain the safety of users during construction, and facilitate coordination with stakeholders throughout the regulatory process. Tennessee believes that the impacts to this trail will be temporary and limited to the construction period. It does not anticipate a permanent change in the public being able to use the land as it is used currently by walkers, joggers, cyclists, and wildlife enthusiasts following completion of construction. However, Tennessee will continue to consult with the State to ensure the crossing plan meets the Project needs as well as the public needs to protect the trail.</p>
	<p>Concern regarding the proposed pipeline route proximity to the Thornton's Ferry Elementary School Building (approximately 1100 feet from the school and 1000 feet from the playground) and proximity to the South Merrimack Christian Academy (approximately 750 feet from the school) in the Town of Merrimack.</p>	<p>Tennessee is committed to public safety, protection of the environment, and operation of its facilities in compliance with all applicable rules and regulations. The natural gas pipelines fall under the regulatory oversight of the U.S. Department of Transportation ("USDOT's") Pipeline and Hazardous Materials Safety Administration ("PHMSA"). Tennessee has an outstanding safety program that is in compliance with all applicable safety regulations. Tennessee outperforms its peers on a majority of safety and operational measures, and our safety record is posted online: http://www.kindermorgan.com/pages/ehs/ehs_performance/default.aspx.</p>

Issue	Summary of Comments	Response
<p>Residential Properties and Schools</p>	<p>Request for an analysis of the impact of the compressor station on the Lukas Community, which provides the required tranquil environment for 20 developmentally disabled adults, many of whom have lived there for decades.</p>	<p>This community in Temple, New Hampshire is located approximately two miles from the nearest compressor station. Tennessee is committed to public safety, protection of the environment, and operation of its facilities in compliance with all applicable rules and regulations. The Project facilities, along with Tennessee's existing facilities, fall under the regulatory oversight of the USDOT's PHMSA. Tennessee has an outstanding safety program that is in compliance with all applicable safety regulations. Tennessee outperforms its peers on a majority of safety and operational measures, and our safety record is posted online: http://www.kindermorgan.com/pages/ehs/ehs_performance/default.aspx.</p> <p>Tennessee uses state-of-the-art, automated emergency detection systems, including ultraviolet/infrared detectors, gas detectors, and rate-of-rise heat detectors mounted at various points inside a compressor building. Data from these detection systems are fed into the compressor station computer system which will, in turn, shut down compressor station operations and isolate the compressor station in an emergency situation. Tennessee's security program employs security measures consistent with Transportation Security Administration's Pipeline Security Guidelines. Compressor station operations are monitored continuously (24/ 7 / 365) in Tennessee's Gas Control Center in Houston, Texas, and operations personnel typically staff compressor stations Monday through Friday during normal business hours. Compressor stations may be manned full-time (24 /7) during significant weather events, such as snowstorms.</p>

Issue	Summary of Comments	Response
<p>Residential Properties and Schools</p>	<p>Concern regarding the proposed pipeline route proximity (200 to 300 feet) to the Whittier Place, Camp Sargent Acres, Tinker Road, and Thornton Road West neighborhoods in the Town of Merrimack. Other impacted neighborhoods include Cambridge Drive/Wethersfield, Holts Landing, Castleton Ridge, and Eric and Greenleaf Streets.</p>	<p>Temporary construction impacts on residential areas could include inconvenience caused by noise and dust generated by construction equipment, personnel, and trenching of roads or driveways; ground disturbance of lawns; removal of trees, landscaped shrubs, or other vegetative screening between residences; potential damage to existing septic systems or wells; and removal of aboveground structures such as fences, sheds, or trailers from the ROW. Tennessee will make every effort to ensure that construction activities minimize adverse impacts to residential properties and that restoration is prompt and thorough. Furthermore, Tennessee has developed Residential Construction Plans that will be adhered to during construction (see Appendix P of the certificate application filed with the Commission on November 20, 2015). These plans are subject to Commission approval.</p> <p>Throughout construction, traffic lanes and access to homes will be maintained, except for the brief periods essential for laying the new pipeline. The construction contractor will erect temporary safety fences at the edge of the construction ROW for a distance of 100 feet on either side of any residence. Tennessee may use techniques such as stovepipe and drag section construction in order to minimize the impacts of construction in residential areas on a site-specific basis. Landowners whose access to their property will be affected by construction will receive pre-construction notification either in person or via phone communications from Tennessee's land agents.</p>

Issue	Summary of Comments	Response
Commercial Properties	Concern over the proposed re-route of the pipeline through the FMR, LLC's Merrimack Campus, which could impact computer servers and other sensitive equipment from blasting or other construction activities and/or disrupt operations.	<p>In the November 20, 2015 certificate application, Tennessee noted that it has adopted a re-route through the FMR LLC's Merrimack Campus, with additional data on that re-route to be provided in a supplemental filing to be submitted by the end of April 2016. Project-related ground disturbance throughout the Project area, including this property, will be limited to the construction ROW, additional workspace areas, contractor yards, borrow and disposal areas, access road ("ARs"), and other areas approved in the certificate order. Project-related ground disturbing activities outside these certificated areas, except those needed to comply with Tennessee's Project-specific Plan and Procedures (e.g., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs, etc.) will require approval from the Commission, other applicable agencies, and the landowners.</p> <p>Before a decision is made to blast due to shallow bedrock, Tennessee's construction contractor will investigate other rock excavation techniques. If necessary, blasting will be performed by registered blasters and monitored by blasting inspectors. The construction contractor will develop site-specific blasting plans and procedures, which will include, but are not limited to: notification requirements, controls to prevent and/or minimize fly-rock, and procedures to minimize environmental impacts. Tennessee has developed a Project Blasting Management Plan, which will be subject to approval by the applicable regulatory agency prior to implementation and will enhance safety and minimize damage to adjacent areas and structures.</p>
Recreation Areas and Conservation Land	Concerns about potential adverse impacts to the Wintonbury Land Trust's Speer Preserve in Bloomfield, Connecticut.	Throughout the development of the Project, Tennessee has conducted an extensive needs and alternative routing analysis for the Project, which includes evaluation of pipeline routing options based on regional topography, environmental considerations, population density, existing land usage, construction safety, and feasibility considerations. Pipelines can and do cross parks and conservation areas. Pipelines are a compatible use for conservation areas as they restrict development on the permanent easement. Disturbance through these areas may be mitigated by selective routing and minimization of workspace where possible. Restoration after construction is tailored to these areas by using compatible seed mixes consisting of native grasses and the planting of trees in temporary workspace areas. Tennessee will work with the Wintonbury Land Trust managers to coordinate construction and restoration activities.

Issue	Summary of Comments	Response
<p>Recreation Areas and Conservation Land</p>	<p>Concerns about the multiple crossings of the New England National Scenic Trail.</p>	<p>Tennessee has prepared specific New England National Scenic Trail Crossing Plans (see the Project-specific ECPs for Connecticut and Massachusetts - Volume II, Appendix N, Plan 3-1 and Volume II, Appendix L, Section 3.2 of the certificate application) in anticipation of the Project crossing this trail. The Crossing Plans serve to establish protocols to protect recreational users during construction; avoid and minimize impacts to the trails; and to preserve their integrity and the user experience. During construction, Tennessee will utilize the ROW, as well as temporary AR NED-TAR-S-0100 (TAR-0100) in Connecticut and AR NED-TAR-H-2000 (TAR-2000) in Massachusetts, to access the trail crossing locations. During construction, Tennessee will use signs and safety/exclusion fencing to cordon off the access road area from the trail to allow hikers safe passage along the access road area and across the construction ROW.</p> <p>To minimize the potential for the unanticipated discovery of cultural resources, Tennessee will conduct a detailed archaeological reconnaissance of the proposed Project area at the New England National Scenic Trail crossings, once site access is granted.</p> <p>Tennessee believes that the impacts to this trail will be temporary and limited to the construction period. It does not anticipate a permanent change in the public being able to use the land as it is used currently by hikers and wildlife enthusiasts following completion of construction. Prior to construction, all trail crossing plans will be approved by the applicable regulating agency.</p>

Issue	Summary of Comments	Response
Recreation Areas and Conservation Land	Request for an analysis of long-term effect that the pipeline will have on Article 97 protected open space.	<p>As discussed in Section 8.3.3.2.3 of Resource Report 8 included in the Environmental Report submitted with the November 20, 2015 certificate application, Tennessee has, to the maximum extent practicable and feasible, routed the Project to avoid Article 97 lands. In areas where Tennessee is unable to avoid crossing Article 97 lands, Tennessee has sought to co-locate the Project's pipeline with existing utility corridors that cross those lands in order to minimize impacts to Article 97 lands. Tennessee has conducted meetings with the State of Massachusetts to discuss the limitation of the Article 97 lands, and will continue to coordinate until the permitting process is complete.</p> <p>The Massachusetts Environmental Policy Act ("MEPA") requires that state agencies use "all practicable means and measures to minimize damage to the environment," and applies to Projects that require state action (i.e., state permit, state agency funding, or land transfer from a state agency) and meet or exceed a related thresholds as defined in the MEPA regulations (301 CMR 11.00 et seq.). Project proponents subject to MEPA review need to prepare an alternatives evaluation, which evaluates the feasibility of implementing alternatives and compares the environmental impacts of a preferred Project to other potentially feasible Projects. More specifically, the purpose of this evaluation is to demonstrate that the preferred Project as proposed avoids, minimizes and mitigates "Damage to the Environment" to the maximum extent feasible, including those to Article 97 lands. It is expected that MEPA documents for the Project will present a thorough review of alternatives that avoid Article 97 lands and other sensitive receptors to the maximum extent practicable, and that any disposition of Article 97 lands will be evaluated and determined to meet the policy conditions identified above.</p>
	Request that Tennessee review the current draft of the Comprehensive Conservation Plan and EIS of the Silvio O'Conte National Wildlife Refuge, specifically the area noted as the Sprague Brook Conservation Focal Area as the proposed pipeline route passes through the area in question and this area is one of the key focal areas of interest for the Refuge for conservation and protection.	Tennessee does not traverse the Silvio O'Conte NWR. At its closest location, the NWR is approximately 980 feet from a contractor yard that may be used during construction. Thus, no impacts to the NWR will occur.
	Concern about the proposed pipeline route traversing directly across Town of Merrimack Conservation property. Some of the conservation properties include deed restrictions limiting change of use.	Pipelines can and do cross parks and conservation areas. Pipelines are a compatible use for conservation areas as they restrict development on the permanent easement. Disturbance through these areas can be mitigated by selective routing and minimizing workspace where possible. Restoration after construction is tailored to these areas by using compatible seed mixes consisting of native grasses. Tennessee will work with the park/conservation managers to coordinate construction and restoration activities. The new route in Merrimack crosses one conservation property adjacent to Highway 101A. The previous route crossed multiple conservation lands in Amherst and Merrimack including Horse Hill Nature Preserve, Gilmore Hill Memorial Forest, Horseshoe Fish and Game Club Land.

Issue	Summary of Comments	Response
Recreation Areas and Conservation Land	Concerns regarding impacts to the Town of Lenox's Kennedy Park since the pipeline would use the park's main access trail.	The Project is not within 0.25 mile of this park or the Town of Lenox. Because the pipeline and its associated workspace are not located within the Town of Lenox, there will not be any direct impacts from Project construction or operation.
	Concerns regarding impacts to Massachusetts Audubon Pleasant Valley Sanctuary.	The Project is not located within this sanctuary, which is located in the Town of Lenox. Because the pipeline and its associated workspace are not located within the Town of Lenox, there will not be any direct impacts from Project construction or operation.
	Request for the identification of all all-terrain vehicle ("ATV")/snowmobile trails within or near the Project corridor and all access roads.	In the process of planning for the location of ARs for the Project, Tennessee has located as many of the ARs as possible along existing roads that were previously utilized as construction ARs for other Projects, along agricultural roads, along existing logging roads, along utility service roads, and along existing ATV trails. ARs that are in the vicinity of public lands and recreational areas are identified in Table 8.3-3 of Resource Report 8 included in the Environmental Report submitted with the November 20, 2015 certificate application. While Resource Report 8 identifies some public lands and recreational areas that are in the Project area and allow ATV access, Tennessee is in the process of compiling a full inventory of trails specifically for ATV use. This inventory will be provided in a supplemental filing anticipated to be submitted by the end of April 2016.
	Request for a description of the impact of construction activities during peak recreation area usage times in parks/recreation areas and methods to mitigate effects experienced by visitors.	Tennessee recognizes that hiking trails are highly utilized by the public for recreational purposes. As a result, Tennessee will minimize disruption to trail use by maintaining access during construction to the extent practicable. Based on the construction activity, Tennessee will maintain access to all trails (i.e., allow unescorted access during site preparation, periods of inactivity, and post-construction monitoring activities, using signs and construction exclusion fencing to demarcate any trails and allow safe, unescorted passage through the work area; and provide escorted access by safety personnel during construction activities utilizing heavy equipment operation; or when available, Tennessee will temporarily divert hiker traffic to available public looping trails as an alternate route during discrete periods or during construction activities utilizing heavy equipment operation).
	Recommendation for an assessment of how the NED Project will resolve conflicts with conservation priorities, management strategies, and other aspects of local natural resource inventories.	Tennessee will work to resolve conservation priorities, management strategies, and other aspects of local natural resource inventories on a case by case basis, with regard to requirements specified in the relevant conservation deed/restriction and with the applicable regulating agency.

Issue	Summary of Comments	Response
Recreation Areas and Conservation Land	Request for a plan for preserving trail conditions on recreational corridors.	Tennessee has prepared a General Trail Crossing Plan ("Crossing Plan") in anticipation of the Project crossing hiking trails. The Crossing Plan serves to establish protocols to protect recreational users during construction; avoid and minimize impacts to the trails; and to preserve their integrity and the user experience. See the Project-specific ECPs for each state (Volume II, Appendices J, K, L, M, and N of the certificate application). These plans will be approved by regulating agencies, as well as the Commission, prior to construction.
	Request for a mitigation plan for impacts to parks and other recreation/conservation areas.	Tennessee continues to work with applicable state and federal agencies to identify mitigation measures that will be used in parks and other recreational/conservation areas. This task is ongoing, concluding when the applicable permit has been issued by the regulatory agency. Tennessee anticipates that one overall mitigation plan will incorporate multiple specific plans for different areas, as each area is unique and will require area-specific mitigation.
Other Special Land Uses	Concern regarding the proposed pipeline route proximity to the Community Hospice House facility off Continental Boulevard in the Town of Merrimack.	This property is within 0.25 mile of the Project; however, it is not crossed by the pipeline or any other appurtenant facility. Tennessee is committed to public safety, protection of the environment, and operation of its facilities in compliance with all applicable rules and regulations. The natural gas pipelines fall under the regulatory oversight of the USDOT's PHMSA. Tennessee has an outstanding safety program that is in compliance with all applicable safety regulations. Tennessee outperforms its peers on a majority of safety and operational measures, and our safety record is posted online: http://www.kindermorgan.com/pages/ehs/ehs_performance/default.aspx .
	Request that Tennessee provide a compensation plan for the full or partial loss of income from sugar bush, orchard, and forest resources as a result of both temporary and permanent pipeline construction activities.	During ROW negotiations, Tennessee will work closely with each directly affected landowner to determine construction-related impacts to annual or perennial agricultural crops (including Sugar Bush, forest resources and other orchard/based crops) as a result of the Project. Each occurrence of crop damage will be handled individually through consultation with the affected landowner and the local agricultural extension offices. As determined through the referenced consultations, Tennessee will appropriately compensate for loss of perennial crop production for future growing seasons until the crop returns to pre-construction yields.
Visual Resources	Request that a viewshed analysis be required for potential impacts to the Notchview Reservation. The analysis should use tree cover and building and lighting specifics and should consider that the bulk of the visitors to the Notchview Reservation, a Nordic ski destination, are in the winter.	Tennessee has performed a viewshed analysis for the Notchview Reservation, which is included as Attachment 2 to this response matrix.

Issue	Summary of Comments	Response
Visual Resources	Request for a plan describing how historical sites and resources in the vicinity of the Project will be visually screened from the Project.	Tennessee will develop such a plan in consultation with the individual State Historic Preservation Office ("SHPOs") and applicable Tribal Historic Preservation Offices ("THPOs"). At this time, these agencies have only received initial Phase I reports. Furthermore, not all areas of the pipeline ROW have been surveyed, thus precluding a complete plan at this time. Tennessee anticipates that if visual plans are needed, there will be multiple plans, as one generic plan may not be applicable across the Project area.
	Request for additional information regarding impacts to abutting properties from the equipment and lighting at compressor stations.	The new compressor stations will be designed to meet the Commission's 55 dba Ldn noise standard at the nearest noise sensitive areas ("NSA"). NSAs include homes, hospitals, schools, and campgrounds. Lighting standards will be placed throughout the compressor station yard but these lights throughout the compressor station yard will be turned off at night to avoid light pollution. At night, for safety purposes, lights will be illuminated above building door exits, and some additional lights will be mounted on each building (these lights will have domed shading to avoid light pollution). Low glare lights will be installed at the station gate to illuminate entry to the facility. Where practical, trees and shrubbery will be left in place to shield the compressor station and its equipment from public view. A six foot chain link fence with three strand barbed wire will be installed around the perimeter of the permanently disturbed acreage for security purposes.
	Request for a plan describing how Tennessee will preserve viewsheds both during and after construction.	Tennessee will perform, where appropriate and in consultation with state/federal agencies, a viewshed analysis for specifically requested locations.
Town Plans and Zoning	Comment stating that the proposed pipeline route through Lenox is not compatible with existing planning or management efforts, including the following: * The Lenox Comprehensive Master Plan (1999) * The Lenox Community Dialogues (2006) * The Lenox Open Space and Recreation Plan (2013, Approved 2015) * The Lenox Watershed Forestry Management Plan (2015)	The Project is not located within the Town of Lenox. Because the pipeline and its associated workspace are not within the Town of Lenox, there will not be any direct impacts from construction or operation of the Project.

Issue	Summary of Comments	Response
Town Plans and Zoning	Provide a description of how the NED Project can be implemented in such a way as to respect the sentiments and policy directions outlined in the <i>Monadnock Region Future</i> , the regional plan for Southwest New Hampshire. Include a discussion of the positive impacts of the Project and how these can be balanced against the negative impacts to the benefit of southwest New Hampshire.	<p><u>Community Vitality</u>: The Project is compatible with the Monadnock Region Future regional plan as the Project has the potential to provide less expensive and less polluting energy.</p> <p><u>Economic Prosperity</u>: The Project is compatible with the regional plan as it will provide opportunities for local and emerging business as well as workforce development and professional growth.</p> <p><u>Stewardship</u>: Pipelines are a compatible use for conservation areas as they restrict development on the permanent easement. Disturbance through these areas can be mitigated by selective routing and minimizing workspace where possible. Restoration after construction is tailored to these areas by using compatible seed mixes consisting of native grasses.</p> <p><u>Preparedness</u>: In the unlikely event of a pipeline emergency, pipeline operations personnel are extensively trained to respond. The USDOT's PHMSA mandates certain basic areas of competency for pipeline operations employees, and Tennessee provides extensive additional training. Tennessee conducts annual meetings with first responders, local officials and contractors in all counties, cities and towns where it operates, and will continue this process in any locality where facilities will be installed as part of the Project. Tennessee's local employees who operate the Tennessee system facilities attend these meetings to answer questions and provide additional information related to emergency response, safety and local contact information. These employees serve on the Local Emergency Planning Committee and regularly attend meetings within the counties where they live. As the Project is constructed, placed in service and operated as part of the Tennessee system, Tennessee will continue all of these activities in counties where its facilities are located, and will begin those activities in counties where new facilities are added.</p>
	Request for information regarding how the proposed Project is or is not in compliance with local land use regulations, including town master plans.	Based on input from community stakeholders, the NED Project path has been adjusted several times, resulting in approximately 91 percent of the NED Project Market Path Component mainline path from Wright, New York to Dracut, Massachusetts being co-located with existing utility corridors, (i.e., areas already containing power transmission lines), to minimize possible impacts on nearby towns and comply with Master Plans and Zoning Ordinances. Additionally, Tennessee will apply for, and obtain, applicable federal, state, and local permits and authorizations to be compliant with existing regulations. All construction, operation, and maintenance of the Project will be conducted in accordance with Tennessee's specifications and all applicable federal, state, and local permit requirements.

Issue	Summary of Comments	Response
Rural Character	Request for specific information indicating how the Project can be constructed and maintained while respecting the long term efforts of communities in Southwest New Hampshire to provide for orderly development, protecting the environment, and maintaining rural character. Indicate specific measures and actions to address these concerns.	After constructing the pipeline, Tennessee will restore the ROW as required by, and in accordance with, the conditions imposed by the Commission in its certificate order, as well as other state requirements. Tennessee will be responsible for maintenance of the ROW on an ongoing basis. For the majority of its system, Tennessee maintains its easements by mechanical means (e.g. tractor with mower or bush hog). In some instances, as approved by landowners and regulatory agencies, herbicides may be applied in certain locations (typically at compressor stations or above-ground sites such as valves, pig launchers or pig receivers).
Resource Report 9: Air and Noise		
Air Quality	Comments regarding Tennessee's plans and proposals to address and reduce methane emissions, including opportunities to implement new and state-of-the-art methane emission reduction technologies during pipeline and new compressor station construction, as well as during operation and maintenance.	Tennessee will follow applicable best industry practices to reduce methane emissions. Reduction measures include the use of highly efficient turbine technology, dry seal compressors, and air-actuated pneumatic actuators. Tennessee is a member of USEPA's Natural Gas Star program and will adopt emission reduction measures that are technically feasible during operation and maintenance of the pipeline and compressor stations. Additionally, Tennessee is required to comply with all the applicable USEPA emission standards.
	Comments encouraging Tennessee to commit to the use of newer vintage diesel engines for construction equipment where possible. Additionally, encouraging Tennessee to require diesel retrofits were practicable, require the use of cleaner fuels, and institute idle reduction measures to minimize emissions from diesel construction equipment.	Tennessee will endeavor to use the newest equipment available from construction subcontractors and review the use of cleaner fuels and retrofits in order to minimize air emissions. Measures for equipment idling will be implemented based on the state regulations and anti-idling laws.
	Comment requesting an assessment of the air quality impacts associated with additional natural gas supplies in the region and their potential to offset the combustion of other fossil fuels in both the heating and electric power generation sectors.	Cumulative impacts for the Project construction and operational phases, including consideration of other natural gas pipeline Projects, are addressed in Section 9.2.7 of Resource Report 9 included with the Environmental Report submitted with the November 20, 2015 certificate application. The Project will have ancillary environmental benefits by reducing the region's reliance on coal and oil-fired power plants and use of home heating oil with the added benefit of reducing greenhouse gas emissions. These benefits and are discussed in greater detail in Section 10.1.2 (Energy alternatives) of Resource Report 10 included in the Environmental Report submitted with the November 20, 2015 certificate application.

Issue	Summary of Comments	Response
Air Quality	Request for a detailed description of the state air quality permitting or other state air quality emission regulations, especially opportunities for public involvement regarding siting, and mitigation for impacts associated with operations of the compressor station facilities.	<p>Detailed descriptions of federal and state air regulations are provided in Section 9.1.2 of Resource Report 9 included in the Environmental Report submitted with the November 20, 2015 certificate application. Air emissions and air quality impacts of the compressor stations are discussed in Section 9.1.3 of Resource Report 9, while mitigation measures are discussed in Section 9.1.4 of Resource Report 9. The proposed compressor stations all require minor permits. The Commission's review and state regulatory agencies' air permitting processes allow public participation.</p> <ul style="list-style-type: none"> - The Commission's certificate application process allows individuals or entities to file a motion or notice to intervene in the certificate proceeding and/or or to file comments in the proceeding without filing to intervene. - In Pennsylvania, there is a 30-day public comment period following issuance of the draft plan approval by the Pennsylvania Department of Environmental Protection ("PADEP"). The PADEP may hold a public hearing if they feel it is warranted based on public comments received. - In New York and Massachusetts, there is no public comment period for minor air permit applications. The New York State Department of Environmental Conservation or the Massachusetts Department of Environmental Protection may hold a public hearing for minor permit applications if they feel it is warranted based on public interest. - In Massachusetts, public hearings will be conducted for the entire pipeline Project in Massachusetts through the MEPA process. - In New Hampshire, the New Hampshire Department of Environmental Services ("NHDES") provides a copy of the application to the affected towns (in this case, New Ipswich) for public display/review. There is a 30-day public comment period once a draft permit is issued by the NHDES. The NHDES may hold a public hearing if they feel it is warranted based on public comments received.
	Question regarding what percentage of the particulate matter emitted by the blowdowns will be radioactive.	<p>Blowdowns (or venting) involve the release of natural gas from compressor station components, and do not emit particulate matter. Blowdowns may have trace levels of naturally occurring radon in natural gas. A study published by the PADEP in January 2015 concluded that "there is little or limited potential for radiation exposure to workers and the public from the development, completion, production, transmission, processing, storage, and end use of natural gas." Accordingly, emissions from combustion or blowdown releases at a compressor station are negligible and any trace amounts of radon that may be emitted do not negatively impact public health or vegetation.</p> <p>http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-105822/PA-DEP-TENORM-Study_Report_Rev_0_01-15-2015.pdf</p>
	Request for details of substances present in the gas that may become airborne during maintenance activities.	Details on the natural gas composition are provided in the air permit applications included as attachments to Resource Report 9 in the Environmental Report submitted with the November 20, 2015 certificate application.

Issue	Summary of Comments	Response
Noise	Comments expressing concerns about noise impacts on residences from pipeline construction, operation, and maintenance, including blowdown and other noise impacts from the compressor stations.	Construction noise is addressed in Section 9.2.4 of Resource Report 9. Compressor Station operation noise is addressed in Section 9.2.2 of Resource Report 9. Meter and Regulation Station operation noise impacts and mitigation is addressed in Section 9.2.3.2 of Resource Report 9. Blowdown (venting) noise is addressed in 9.2.6 of Resource Report 9.
	Concerns regarding the Mid Station 4 compressor station in New Ipswich because it will result in elevated noise levels disruptive to residents, tourists, recreational users, and wildlife.	Noise impacts from Market Path Mid Station 4 are summarized in Sections 9.2.2.10 (Operations), 9.2.4 (Construction), and 9.2.6 (Venting) of Resource Report 9, and detailed in Attachment 9m to Resource Report 9.
Climate Change and Greenhouse Gases	Recommendation that Tennessee use the CEQ's December 2014 revised draft guidance for Federal agencies' consideration of GHG emissions and climate change impacts in National Environmental Policy Act ("NEPA") to help outline the framework for the analysis of these issues. The assessment should include an estimate of the GHG emissions associated with the Project, qualitatively describe relevant climate change impacts, and analyze reasonable alternatives and/or practicable mitigation measures to reduce Project-related GHG emissions.	GHG emissions for both construction and operational phases of the Project have been estimated and are documented in Resource Report 9 (Section 9.1.3). Mitigation measures during operations are also documented in Resource Report 9 (Section 9.1.4.3). The emissions estimation methodology used was consistent with other recent Commission certificate applications and accepted by the USEPA and state agencies. The USEPA has established emissions limits for reporting and control of GHG emissions associated with the operation of the compressor stations and the facilities must comply with all applicable portions of these regulations. The Project facilities will each have GHG emissions levels below federal major-source thresholds. Although the Project emissions may have a short-term contribution to the amount of atmospheric GHGs, the Project will have ancillary environmental benefits by reducing the region's reliance on coal and oil-fired power plants thereby reducing GHG emissions.
Resource Report 10: Alternatives		
Route Alternatives	Comment requesting pipeline alignment alternatives that avoid crossing state-defined source or municipality-defined water protection areas, including WHPAs.	Tennessee has compiled information on water protection areas and WHPAs through a combination of consultations with state and local agencies and private landowners. Tennessee will follow the Project-specific Plan and Procedures (which incorporate the Commission's Plan and Procedures) and will work with state and local agencies to avoid, reduce, and/or mitigate potential impacts on water protection areas and WHPAs.

Issue	Summary of Comments	Response
Route Alternatives	<p>Comment requesting pipeline alignment alternatives that avoid crossing conservation land purchased for the protection of drinking water resources and other natural resource protection areas, such as conservation land purchased by the New Hampshire Conservation Land Stewardship Program and the New Hampshire Drinking Water Revolving Fund.</p> <p>Request that alternative routes that are co-located along existing highway ROWs such as Route 2, Route 31, or Interstate 90, or along existing gas pipeline systems are prioritized for study as the preferred pipeline and lateral routes rather than "greenfield" settings or transmission lines that cross environmentally sensitive areas.</p>	<p>The original (March 2015) route crossed six parcels of Land Conservation Investment Program ("LCIP") lands in Amherst, Mason, Troy and Richmond. The re-route in Amherst and Merrimack eliminated the crossing of the Scott Parcel in Amherst. Alternative routes were evaluated for the Doonan, Spaulding Brook Conservation Areas in Mason, as well as the conservation lands in Richmond and Troy adjacent to Rhododendron State Park. All of the alternatives evaluated would have resulted in greater impacts than the route proposed in the certificate application which is co-located with an existing powerline easement in those areas. Tennessee is not aware of any lands that the current route crosses that were purchased with the New Hampshire Drinking Water Revolving Fund. Tennessee will utilize the BMPs outlined in Tennessee's Project-specific Plan and Procedures (which incorporate the Commission's Plan and Procedures) and the Project-specific ECP for New Hampshire, including the Spill Prevention and Response Plan and Blasting Management Plan, to avoid and minimize adverse effects to drinking water sources and groundwater quality and supply.</p> <p>Additionally, to ensure compliance with Tennessee's BMPs proposed for the Project, Environmental Inspectors will be employed during construction to ensure Tennessee's BMPs are implemented and that the Project complies with applicable regulatory permits and approval conditions. Tennessee and its contractors will adhere to practices including specifications for erosion control devices, trench breakers and dewatering, as well as restrictions on refueling and storage of hazardous substances. Furthermore, to minimize the potential for groundwater dislocation in the event that blasting is required, blasting/removal of bedrock will be conducted only to the depth necessary to install the pipeline and charges will be limited to the minimum number and force necessary to fracture or loosen rock to the desired depth. Explosive products will be selected that have the appropriate water resistance for the site conditions to minimize the potential for hazardous effect of the product on the groundwater. Tennessee anticipates that implementation of its BMPs will allow for construction and operation of the Project without adversely affecting groundwater water quality or supply, any public watershed, or potable surface water supply areas in the Project area.</p> <p>These alternative routes have been previously investigated and will be addressed in Tennessee's responses to the Commission's December 8, 2015 data request.</p>
Route Alternatives	Request that a complete and thorough analysis of a "Highway Alternative" for both within the highway ROW and adjacent to the highway ROW be conducted in New York.	This analysis is ongoing and will be completed by the end of January 2015. Updated information will be provided to the Commission in a supplemental filing to be submitted in April 2016.

Issue	Summary of Comments	Response
Other Alternatives	Comment suggesting that alternatives include other currently proposed pipeline expansion Projects in the region, existing infrastructure, or alternative sources of energy (including renewable sources such as wind and solar).	For discussion of these topics, please see Resource Report 10 included in the Environmental Report submitted with Tennessee’s certificate application. Alternative sources of energy, such as wind and solar, are discussed in Section 10.1.2 of Resource Report 10. A discussion of existing infrastructure is located in Section 10.2.1 of Resource Report 10. A discussion of other currently proposed pipeline expansion Projects is located in Section 10.2.2 of Resource Report 10.
	Comments requesting a complete analysis of the No-Action Alternative.	For discussion of this topic, please see Section 10.1 of Resource Report 10.
	Request that Tennessee quantify the contribution to supply that would result from fixing natural gas pipeline leaks throughout the existing distribution system.	Tennessee provides for ongoing maintenance of its pipelines with a goal of 0% loss from leaks. The pipelines are operated and maintained with materials to meet applicable air regulations which minimize such losses to the maximum extent practicable. Because Tennessee operates to reduce losses to the maximum extent practicable within regulations, achievable returns would be de minimus in comparison to the need fulfilled by the Project.
Resource Report 11: Reliability and Safety		
General Safety	Comments expressing concerns over potential strain on already limited first responses resources in rural areas.	<p>Tennessee communicates annually with first responders, local officials, and contractors in all counties, cities and towns where it operates, and will continue this process in any locality where a pipeline is installed as part of the Project. Annually, Tennessee’s local employees contact local emergency responders to answer questions and provide additional information related to emergency response, safety, and local contact information. As the Project is constructed, placed in-service and operated as part of the Tennessee system, Tennessee will continue all of these activities in counties where its facilities are located, and will begin those activities in counties where new facilities are added.</p> <p>The meetings held in communities along the Tennessee system, provide first responders with information about responding to a natural gas incident. In addition, Tennessee periodically conducts mock emergency drills with local responders and upon request we hold open houses at its facilities to better familiarize first responders with Tennessee’s equipment and facilities. Tennessee’s personnel have access to pipeline emergency training materials and, if requested, can provide workshops or training for first responders.</p> <p>Tennessee will provide free training to local emergency personnel along the route prior to the pipelines going into service.</p>

Issue	Summary of Comments	Response
General Safety		<p>The initial and requested follow up training consists of the following:</p> <ul style="list-style-type: none"> • Overview of Pipeline Facilities and Operations • Tour of Facilities (applicable to what is in area) • Properties of Natural Gas • Responding to a pipeline emergency • Communication during an emergency (Incident Command Structure or ICS) <p>Tennessee will continue to make contact with applicable emergency responders each year to make sure that the contact information is accurate, answer any questions that they may have and offer follow up training as needed.</p>
	<p>Comments expressing concerns over potential injuries or fatalities due to people falling into open trenches.</p>	<p>Tennessee will follow all federal and state regulatory safety measures as they apply to egress to and from exposed open trenches. Tennessee will also use safety fencing and road barriers to limit the access of the public to open trenches during the course of construction. All of these safety measures will be outlined in the construction safety plans developed and included as part of the implementation plan to be submitted prior to the start of construction.</p>
	<p>Request that Tennessee provide a specific emergency management plan for any event occurring as a result of the construction or accident related to the pipeline once completed, as well as a plan for security along the route.</p>	<p>See Section 11.2 of Resource Report 11 included in the Environmental Report submitted with the November 20, 2015 certificate application for the emergency response plan.</p>

Issue	Summary of Comments	Response
General Safety	Request for a security plan that discusses potential security challenges and threats, as well as mitigation strategies.	<p>All compressor and meter stations along the pipeline route are monitored from the 24-hour control center in Houston, Texas through a Supervisory Control and Data Acquisition ("SCADA") system. The operators in the control center are able to start and stop equipment, make pressure and volume adjustments, and start and stop the pipelines individually and as a system. The pipelines are operated in accordance with Tennessee operating procedures that meet or exceed the requirements of the USDOT's PHMSA, 49 CFR Part 192.</p> <p>As part of the proposed pipeline design, Tennessee will be using remote controlled valves ("RCVs") and each main line valve ("MLV") will be automatically closing. Valve spacing is determined by many factors but minimum spacing is defined in DOT regulations, 49 CFR Part 192. In areas of low population density (defined as Class 1), valves may be located up to 20 miles apart. In areas of medium population density (defined as Class 2), valves may be located up to 15 miles apart. In areas of high population density (defined as Class 3), valves may be located up to 8 miles apart. The locations of the RCVs are being determined as part of the route evaluation, including the area classifications. All RCVs installed can be locally operated manually. All RCV sites will be fenced and locked to prevent vandalism and impact from off road vehicles.</p> <p>Please refer to the Resource Report 1 (General Project Description) and Resource Report No. 11 (Reliability and Safety) included in the Environmental Report submitted with the November 20, 2015 certificate application for further information regarding valve locations.</p>
Leaks and Explosions	<p>FERC should evaluate Tennessee Gas's current and proposed methods and schedules for identifying and repairing leaks from its existing pipeline infrastructure and from the new pipeline and laterals proposed for the NED Project.</p> <p>Any CPCN for the NED Project should require that Tennessee Gas's pipeline leak monitoring schedules and methodology utilize state-of-the-art leak detection and repair technology, including infrared camera technology to the greatest extent possible.</p>	<p>The requirements for patrolling and leakage surveys are set forth by the USDOT. Tennessee exceeds the USDOT's requirements and its pipelines are inspected at least 26 times a year by air, vehicle or foot. On Tennessee's existing system, the company currently performs aerial patrols every other week from April through October and once per month from November through March. These patrols look for ongoing construction activities near the pipeline, signs of any leaks (i.e. dead vegetation), signs of ground disturbance, exposed pipe and any other hazard that could affect the pipeline. Tennessee closely monitors pipeline operations, including line pressure and surveillance of the pipeline to detect leaks and protect against third-party damage. Tennessee also uses state-of-the-art, in-line inspection tools, known as smart pigs, to periodically internally inspect the pipeline in accordance with DOT regulations, 49 CFR Part 192.</p>

Issue	Summary of Comments	Response
<p>Decommissioning</p>	<p>Request for additional information regarding potential abandonment of the Project including the pipeline and compressor stations.</p>	<p>In the event that Tennessee seeks to abandon any portion of the Project, Tennessee would in the first instance seek such authorization from the Commission. Depending on the facilities to be abandoned, Tennessee may be required (1) to file an application to abandon facilities pursuant to Section 7(b) of the Natural Gas Act ("NGA") and Section 157.18 of the Commission's regulations, 18 C.F.R. § 157.18; (2) to file a prior notice application under blanket certificate authority pursuant to Sections 157.205, 157.206, and 157.216 of the Commission's regulations, 18 C.F.R. §§ 157.205, 157.206, and 157.216, or (c) abandon facilities pursuant to automatic authority under Tennessee's blanket certificate and Sections 157.206 and 157.216 of the Commission's regulations, 18 C.F.R. §§ 157.206 and 157.216. As part of this process, the Commission may require certain input from other federal and state regulatory agencies. Tennessee may abandon facilities, pursuant to the appropriate Commission authorization, by removing the facilities from service and either leaving the facilities in-place (for mainline pipeline and laterals) or removing facilities, as determined appropriate. In addition, Tennessee may abandon the certificated facilities by sale to another entity under NGA Section 7(b) and the above-identified Commission regulations, as applicable.</p> <p>Assuming that the Commission issues a certificate order to construct the Project and that the Project is constructed and placed in-service, Tennessee may determine at some point in the future that all or a portion of the Project certificated facilities are to be abandoned (in-place or by removal) as such facilities are no longer used and useful for interstate natural gas transportation service. In addition, Tennessee may determine that all or a portion of the certificated facilities are to be abandoned by sale to another entity (facilities to remain in service). Tennessee will seek and receive the appropriate abandonment authorization from the Commission (under the statutes or regulations identified above or any successor statutes or regulations applicable at that time) before taking any action to abandon facilities.</p> <p>Abandonment Plan (In-Place for Pipeline Facilities and by Removal for Aboveground Facilities)</p> <p>If Tennessee determines that the pipeline facilities (mainline pipeline and laterals) are to be abandoned in place and aboveground facilities are to be abandoned by removal, then, after receipt of appropriate regulatory approvals, Tennessee would take the following actions to abandon the pipeline facilities in place and the aboveground facilities by removal:</p> <ul style="list-style-type: none"> • Excavate ends and blowdown mainline pipeline and laterals. • At MLV locations, excavate, and remove each valve. Cap pipe on both ends and install pressure gages. The valve, gravel, fence will be removed and the site vegetated as specified by the landowner. • Fill pipelines with nitrogen or inert material.

Issue	Summary of Comments	Response
		<ul style="list-style-type: none"> • At pig launcher and receiver locations, all aboveground facilities, out-buildings, and concrete foundations and footers at the site will be removed. Cap pipe and install pressure gages. Gravel, chain-link security fencing will be removed and the site vegetated with native grasses. • At compressor stations, all aboveground facilities, out-buildings, and concrete foundations and footers at the site will be removed. Electrical transformers will be removed. Gravel, pavement, chain-link security fencing will be removed and the site vegetated with native grasses (Tennessee is the landowner). • At meter stations, all aboveground facilities, out-buildings, and concrete foundations and footers at the site will be removed. Cap pipe on inlet and outlet and install pressure gages. Electrical transformers will be removed. Gravel, pavement, chain-link security fencing will be removed and the site vegetated with native grasses (Tennessee is the landowner). <p>The abandonment plan outlined above presumes that all Project certificated facilities would be abandoned at the same time; this plan would be modified if only a portion of the Project certificated facilities would be abandoned.</p> <p>Abandonment Plan (by Sale) In the event that all or a portion of the Project facilities would be abandoned by sale to a third-party, the Project facilities to be abandoned by sale, after receipt of appropriate regulatory approvals, would be disconnected at the point of the last mainline distribution point and blown down before the Project facilities are transferred to the new owner.</p> <p>SCHEDULE AND CONSTRUCTION PROCEDURES Including regulatory approvals, the entire process from approval to decommissioning could take from 1 to 2 years.</p>
<p>Pipeline Standards and Inspections</p>	<p>Concerns regarding why a lesser grade of steel will be used in rural areas.</p>	<p>Today's high-strength carbon steel pipelines are the strongest available. A design safety factor is always incorporated into the pipeline design and is in fact required by the USDOT. The design factor that is used to determine the pipe wall thickness is based on the population density of the areas adjacent to the pipeline. It is an expression of the Maximum Allowable Operating Pressure ("MAOP") of the pipeline as a percentage of the 100 percent specified Minimum Yield Strength ("SMYS") of the pipe. The design factor for the Project ranges from .72 for the least populated areas (class 1) to 0.5 for the most densely populated areas (class 3). This means that for Class 1 Areas, the MAOP will be limited to 72 percent of the SMYS and for the Class 3 Areas the MAOP will be limited to 50 percent of the SMYS.</p>

Issue	Summary of Comments	Response
Public Health	Comments expressing concerns about air emissions and the impact to public health for those near the compressor stations.	The USEPA promulgated the National Ambient Air Quality Standards ("NAAQS") to protect human health and welfare. The NAAQS include primary standards, which are designed to protect human health, including the health of sensitive subpopulations such as children, elderly and those with chronic respiratory problems. The NAAQS also include secondary standards designed to protect public welfare, including economic interests, visibility, odor, vegetation, animal species, and other concerns not related to human health. As documented in Resource Report 9 (Section 9.1.3), dispersion modeling was conducted for all of the Project compressor stations and demonstrated in all cases air quality impacts complied with the NAAQS. The NAAQS analysis considered cumulative impacts as well.
	Request for an identification and assessment of environmental health and safety risks that may disproportionately affect children since children can be more susceptible to noise levels, mobile source air pollution, construction dust, and chemicals associated with building and construction materials. This assessment should address the potential direct, indirect, and cumulative impacts of the proposed Project on children's health, including consideration of prenatal exposures (i.e., exposures that may be experienced by pregnant women).	As noted in the response to the previous comment, dispersion modeling and cumulative analysis was conducted and demonstrates that the Project will comply with the NAAQS which were designed by USEPA to protect human health, including the health of sensitive subpopulations such as children, elderly and those with chronic respiratory problems.
	Recommendation for a discussion and analysis of the potential health impacts to host communities from compressor station emissions. If Project-specific information is not available, recommendation that a compressor station monitoring plan be prepared to assess emissions from Project compressor stations along the route to address citizen concerns regarding facility emissions over the life of the Project.	As noted in the response to the previous comments, dispersion modeling and cumulative analysis was conducted and demonstrates that the Project will comply with the NAAQS which were designed by USEPA to protect human health, including the health of sensitive subpopulations such as children, elderly and those with chronic respiratory problems.

Issue	Summary of Comments	Response
<p>Public Health</p>	<p>Request for an assessment of the potential health impacts that may occur from exposure to fumes, smoke, materials, and chemicals that may be released into the environment during an emergency situation or equipment failure requiring the assistance of local responders. Additionally, describe the means of testing and treating personnel exposed to contamination from any hazardous substances and the means for monitoring long term health effects.</p>	<p>There will be minimal hazardous materials stored on site of the Project compressor stations. Materials that may be stored at the compressor stations include products such as lube oil, glycol, and anti-freeze. These materials will be stored in tanks that are either double walled or placed in secondary containment to minimize the chance of spills and thus exposure.</p> <p>The chance of emergencies would be remote since many safeguards are in place and the pipeline is subject to safety compliance, preventative maintenance, and inspections mandated by the USDOT's PHMSA. Potential health impacts from exposure to such hazardous materials or from products of any emergency situation would depend on the type and severity of the emergency or failure. Given the expected minimal quantities of hazardous materials on site of the compressor stations and the composition of natural gas, any long term or short term health impacts would be expected to be minimal.</p> <p>Tennessee communicates regularly with first responders, local officials, and contractors in all counties, cities and towns where it operates, and will continue this process in any locality where a pipeline is installed as part of the Project. Annually, Tennessee's local employees contact local emergency responders to answer questions and provide additional information related to emergency response, safety and local contact information. As the Project is constructed, placed in-service and operated as part of the Tennessee system, Tennessee will continue all of these activities in counties where its facilities are located, and will begin those activities in counties where new facilities are added.</p> <p>The meetings held in communities along the Tennessee system provide first responders with information about responding to a natural gas incident. In addition, Tennessee periodically conducts mock emergency drills with local responders and, upon request, will hold open houses at its facilities to better familiarize first responders with Tennessee's equipment and facilities. Tennessee's personnel have access to pipeline emergency training materials and, if requested, can provide workshops or training for first responders.</p>
	<p>Recommendation for an assessment of potential health impacts stemming from construction and operation of the proposed Project, including direct, indirect, and cumulative environmental, human health, sociocultural, and economic impacts of the proposed pipeline and associated infrastructure such as compressor stations.</p>	<p>Potential health impacts from the Project are addressed in Resource Report 9 included in the Environmental Report submitted with the November 20, 2015 certificate application. Sociocultural and economic impacts are addressed in Resource Reports 4 and 5, respectively.</p>

Issue	Summary of Comments	Response
<p>Emergency Response</p>	<p>Question regarding what financial assistance/technical support will be provided to fund Winchester's small volunteer emergency and fire squads and what steps/plans will be taken to provide an evacuation route should there be an event that closes a major road in Winchester.</p>	<p>Tennessee communicates annually with first responders, local officials, and contractors in all counties, cities and towns where it operates, and will continue this process in any locality where a pipeline is installed as part of the Project. Annually, Tennessee's local employees contact local emergency responders to answer questions and provide additional information related to emergency response, safety, and local contact information. As the Project is constructed, placed in-service and operated as part of the Tennessee system, Tennessee will continue all of these activities in counties where its facilities are located, and will begin those activities in counties where new facilities are added.</p> <p>The meetings held in communities along the Tennessee system, provide first responders with information about responding to a natural gas incident. In addition, Tennessee periodically conducts mock emergency drills with local responders and upon request we hold open houses at its facilities to better familiarize first responders with Tennessee's equipment and facilities. Tennessee's personnel have access to pipeline emergency training materials and, if requested, can provide workshops or training for first responders.</p> <p>Tennessee will provide free training to local emergency personnel along the route prior to the pipelines going into service.</p> <p>The initial and requested follow up training consists of the following:</p> <ul style="list-style-type: none"> • Overview of Pipeline Facilities and Operations • Tour of Facilities (applicable to what is in area) • Properties of Natural Gas • Responding to a pipeline emergency • Communication during an emergency (Incident Command Structure or ICS) <p>Tennessee will continue to make contact with applicable emergency responders each year to make sure that the contact information is accurate, answer any questions that they may have and offer follow up training as needed.</p>

Issue	Summary of Comments	Response
Emergency Response	Request for additional information regarding training of local first responders including any specialized equipment and personal protective gear requirements. Also explain the role of responders in an emergency and how notifications will be provided.	<p>Tennessee communicates annually with first responders, local officials, and contractors in all counties, cities and towns where it operates, and will continue this process in any locality where a pipeline is installed as part of the NED Project. Annually, Tennessee’s local employees contact local emergency responders to answer questions and provide additional information related to emergency response, safety, and local contact information. As the NED Project is constructed, placed in-service and operated as part of the Tennessee system, Tennessee will continue all of these activities in counties where its facilities are located, and will begin those activities in counties where new facilities are added.</p> <p>The meetings held in communities along the Tennessee system, provide first responders with information about responding to a natural gas incident. In addition, Tennessee periodically conducts mock emergency drills with local responders and upon request we hold open houses at its facilities to better familiarize first responders with Tennessee’s equipment and facilities. Tennessee’s personnel have access to pipeline emergency training materials and, if requested, can provide workshops or training for first responders.</p> <p>Tennessee will provide free training to local emergency personnel along the route prior to the pipelines going into service.</p> <p>The initial and requested follow up training consists of the following:</p> <ul style="list-style-type: none"> • Overview of Pipeline Facilities and Operations • Tour of Facilities (applicable to what is in area) • Properties of Natural Gas • Responding to a pipeline emergency • Communication during an emergency (Incident Command Structure or ICS) <p>Tennessee will continue to make contact with applicable emergency responders each year to make sure that the contact information is accurate, answer any questions that they may have and offer follow up training as needed.</p>
Comments Outside the Scope of the Resource Reports		
Online Mapping	Request that Tennessee provide access to online mapping that allows users to interact with the map and map layers. The online mapping would allow stakeholders to view and interact with maps of the proposed alignment locations for the entire Project, including choosing which map layers to view at various map scales.	An interactive map for the entire Project is located at http://northeastenergyfuture.com or can be accessed at https://www.google.com/maps/d/viewer?mid=zLv43Y75qW24.keN8GdW7fxc4&usp=sharing .