

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**APPLICATION OF  
TENNESSEE GAS PIPELINE COMPANY, L.L.C.  
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
TO CONSTRUCT, INSTALL, MODIFY, OPERATE, AND  
MAINTAIN CERTAIN PIPELINE AND COMPRESSION FACILITIES AND  
TO ABANDON FACILITIES**

**Docket No. CP16-\_\_\_\_-000**

**Public**

**Filed: November 20, 2015**

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**Tennessee Gas Pipeline Company, L.L.C.** § **Docket No. CP16-\_\_\_-000**  
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TENNESSEE GAS PIPELINE COMPANY, L.L.C.  
FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY  
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PIPELINE AND COMPRESSION FACILITIES AND TO ABANDON OTHER  
FACILITIES**

Pursuant to Sections 7(b) and 7(c) of the Natural Gas Act (“NGA”), 15 U.S.C. §§ 717f(b) and (c) (2012), as amended, and Subpart A of Part 157 of the regulations of the Federal Energy Regulatory Commission (“Commission”), 18 C.F.R. §§ 157.5 *et seq.* (2015), Tennessee Gas Pipeline Company, L.L.C. (“Tennessee”) respectfully requests that the Commission issue a certificate of public convenience and necessity authorizing Tennessee to (i) construct, install, modify, operate, and maintain certain pipeline and compression facilities to be located in Pennsylvania, New York, Massachusetts, New Hampshire, and Connecticut, and (ii) abandon certain facilities, as part of the Northeast Energy Direct Project (referred to herein as either the “NED Project” or simply the “Project”). The NED Project, as more fully described below, is comprised of two components, the Supply Path Component and the Market Path Component. Tennessee is also requesting certificate authorization to enable it to construct and place the Project in service in phases in order to meet the specific needs of the Project shippers. The precedent agreements with Project shippers call for the Project to be placed in service on November 1, 2018.

The NED Project is a transformative project for the northeast United States and, particularly, New York and New England. Despite being just a few hundred miles from the most abundant and low-cost natural gas production area in the country, New York and New England consumers pay some of the highest natural gas and electricity rates in the continental United States. This is due, in large part, to the lack of adequate natural gas pipeline infrastructure necessary to meet the winter heating demand of local distribution companies (“LDCs”) and the demand from electric generators that typically do not contract for firm pipeline capacity and thus do not have reliable access to gas at times of high demand when capacity is being utilized by the parties that have contracted for firm service. The NED Project will expand Tennessee’s existing, extensive pipeline system in Pennsylvania, New York, and New England, connecting low-cost, domestic natural gas supplies from northern Pennsylvania to New York and New England markets. Adding the NED Project capacity to transport incremental natural gas supplies will ease natural gas capacity constraints and is expected to provide significant benefits to energy consumers in the region in the form of lower natural gas and electricity prices. In addition, the NED Project will enhance the resiliency and redundancy as well as operational flexibility of the natural gas network in New York and New England.

To ensure timely construction of the NED Project and in order to complete land acquisition and environmental and cultural resource surveys, Tennessee respectfully requests the issuance of the requested certificate and abandonment authorizations during the fourth quarter 2016. Tennessee proposes to commence certain construction activities in January 2017, in anticipation of placing the Project facilities in service November 1, 2018, consistent with the terms and conditions of the precedent agreements executed to

date with various Project shippers and to begin to relieve the extraordinarily high energy costs which now burden the citizens and businesses in the region.

In support of this application and pursuant to the Commission's currently effective regulations and Rules of Practice and Procedure, Tennessee respectfully states as follows:

**I.**  
**GENERAL INFORMATION**

The exact legal name of Tennessee is Tennessee Gas Pipeline Company, L.L.C. Tennessee is a limited liability company organized and existing under the laws of the state of Delaware. The location of Tennessee's principal place of business is 1001 Louisiana Street, Houston, Texas 77002.

Tennessee is a natural gas transmission company primarily engaged in the business of transporting natural gas in interstate commerce under authorizations granted by, and subject to, the jurisdiction of the Commission. Tennessee's existing transmission system consists of approximately 11,900 miles of multiple mainline pipeline loops designated as the 100, 200, 300, 400, 500, 700, and 800 Lines or systems.<sup>1</sup> Tennessee's mainline transmission system extends in a northeasterly direction from the states of Texas and Louisiana, and the Gulf of Mexico, through the states of Texas, Louisiana, Arkansas, Mississippi, Alabama, Tennessee, Kentucky, West Virginia, Ohio, Pennsylvania, New York, New Jersey, Massachusetts, New Hampshire, Rhode Island, and Connecticut.

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<sup>1</sup> The NED Project mainline facilities and certain laterals associated with the Project will be designated as the "900 Line" or "900 system" after it is constructed and placed in-service.

**II.**  
**CORRESPONDENCE AND COMMUNICATIONS**

All correspondence and communications with respect to this application are to be sent to the following persons:

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\* Persons designated to receive service pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010. Tennessee respectfully requests that the Commission waive Rule 203(b)(3), 18 C.F.R. § 385.203(b)(3), in order to allow Tennessee to include the representatives designated above on the official service list for this proceeding. Additionally, service via email ("eService") is requested in lieu of paper copies.

### **III.** **EXECUTIVE SUMMARY**

The Northeast Energy Direct Project has been designed to provide a long-term solution to the problems associated with New York's and New England's high natural gas and electricity prices. The Project will provide consumers with access to incremental, low-cost, and abundant domestic natural gas supplies from producing areas in northern Pennsylvania on a firm basis. Tennessee currently has contractual commitments from both producers and end-users for firm transportation service on the Project. These end-user customers include LDCs, an industrial end user, and an electric generator. These substantial commitments, together with projected future demand, demonstrate that there is a genuine market need for the pipeline capacity to be created by the NED Project. Existing natural gas pipeline constraints have resulted in New England consumers paying the highest heating and electricity costs in the continental U.S., stifling economic growth and straining household budgets. The high energy costs disproportionately affect low to middle income households, small businesses, and charitable organizations and community service providers that can least afford it. The NED Project will bring needed incremental natural gas supplies to New York and New England and will do so in a cost-effective, safe, and environmentally sound manner.

Tennessee has been providing New York and New England homes, businesses, industry, and electric generators with natural gas for over 60 years. With the proposed NED Project, Tennessee will continue to help both regions meet their natural gas needs now and in the future. The NED Project is comprised of two components, the Supply Path Component and Market Path Component. The Supply Path Component will have a maximum design capacity of 1.2 billion cubic feet ("Bcf") per day (equivalent to



1,230,000 dekatherms (“Dth”) per day) and consists of (i) approximately 133 miles of 30-inch diameter pipeline extending from Tennessee’s existing 300 Line in northern Pennsylvania to an interconnect with Tennessee’s 200 Line and Iroquois Gas Transmission System, L.P. (“Iroquois”) at Wright, New York; and (ii) approximately 41 miles of 36-inch diameter looping pipeline along Tennessee’s 300 Line in Bradford and Susquehanna counties, Pennsylvania. The Supply Path Component also will include the construction and operation of one modified and three new compressor stations and two new meter stations. The Market Path Component will have a maximum design capacity of 1.3 Bcf per day (equivalent to 1,332,500 Dth per day) and consists of approximately 188 miles of 30-inch pipeline extending from Wright, New York to Dracut, Massachusetts, five delivery laterals in Massachusetts and New Hampshire, and one pipeline loop in Connecticut. In addition, the Market Path Component includes six new compressor stations and 27 new and modified meter and regulator stations. The estimated total cost of the facilities for both the Supply Path Component and the Market Path Component of the Project is \$5.2 billion.

The NED Project has significant market support as evidenced by the executed precedent agreements to date with various shippers for transportation service on both the Market Path Component and Supply Path Component facilities (the “Project Shippers”). For the Market Path Component, Tennessee has executed precedent agreements with key New England LDCs and other market participants<sup>2</sup> for 552,262 Dth per day of firm transportation service. The Massachusetts Department of Public Utilities (“Massachusetts DPU”) and New Hampshire Public Utilities Commission (“New

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<sup>2</sup> Project Shippers on the Supply Path Component and Market Path Component are identified in Exhibit I.

Hampshire PUC”) recently approved Tennessee’s precedent agreements with the LDCs in these states finding that the NED Project would provide access to the lowest-priced gas in the country displacing the need for higher priced gas and liquefied natural gas (“LNG”), as detailed in Section IX below. For the Supply Path Component, Tennessee has also executed precedent agreements with various market participants, including a number of the same New England LDCs that have subscribed on the Market Path Component facilities, two natural gas producers, and a power generator, for 751,650 Dth per day of firm transportation capacity. Taken together, these precedent agreements demonstrate the strong market demand for the NED Project.

Moreover, Tennessee is confident it will be able to secure additional contractual commitments as a result of the various initiatives underway with five of the six states in New England to facilitate the ability of electric distribution companies (“EDCs”) to contract for pipeline capacity and recover the costs in their rates.

New England states have initiated public proceedings to bring additional pipeline capacity to the region in order to reduce energy costs and enhance electric reliability in the region. Tennessee has been an active participant in state proceedings in Massachusetts, New Hampshire, and Maine that have considered how EDCs may contract for pipeline capacity and make it available to gas-fired electric generators in New England. Tennessee also recently submitted proposals in the request for proposal processes (“RFPs”) that were initiated by Eversource Energy and National Grid in Massachusetts and National Grid in Rhode Island on behalf of their EDCs. Tennessee also intends to participate in the RFP that is expected to be issued by the State of Connecticut’s Department of Energy and Environmental Protection (“DEEP”) later this

fall. Further, a recent report by staff at the New Hampshire PUC indicates New Hampshire's interest in facilitating the contracting of pipeline capacity by New Hampshire EDCs.

Thus, Tennessee is confident that it will be able to attract additional contract commitments from the EDC market. In addition, Tennessee is also in ongoing negotiations with other market participants and, as additional precedent agreements are executed, Tennessee will supplement the record in this proceeding. However, these additional commitments may not be obtained by the time Tennessee receives its requested authorizations or in time to meet the projected in-service date of the Project facilities. In order to be prepared to serve EDCs and gas-fired generators as these state processes work to a conclusion, Tennessee is seeking certificate authorization for the construction and operation of the Project facilities reflective of the full design capacity of the Project. Therefore, to the extent that Tennessee may not have firm contractual commitments for the full design capacity by the time that Tennessee receives its requested authorizations or by the time of the initial in-service date for the Project Tennessee is seeking approvals (i) to construct and operate the Project facilities that are necessary to meet the firm contractual obligations that Tennessee can implement as of the initial in-service date of the Project; and (ii) to construct and operate any additional compression and other Project facilities in subsequent phases in order to meet additional firm contractual obligations as such firm contract demand develops over time, up to the full capacity of the Supply Path Component and Market Path Component of 1.2 and 1.3 Bcf per day, respectively.

Numerous independent studies have shown that there is a critical need in the northeast U.S. for additional pipeline capacity to lower energy costs, reduce volatility of natural gas and electric prices, and foster more reliable natural gas and electric service to New England consumers. The lack of adequate pipeline infrastructure is a major problem for the region. The NED Project represents a transformative long-term solution to the region's energy constraints and volatility problems while providing markets with additional direct access to firm, diverse, low-cost, and abundant domestic gas supplies and is plainly required by the present and future public convenience and necessity.

#### **IV.** **DESCRIPTION OF PROPOSED PROJECT**

##### **A. Proposed Facilities**

The Project includes two components: (1) the Supply Path Component, which is comprised of the Project facilities from Troy, Pennsylvania, to Wright, New York ("Supply Path Component"), and (2) the Market Path Component, which is comprised of the Project facilities from Wright, New York, to Dracut, Massachusetts ("Market Path Component"). A general description of the Supply Path Component and Market Path Component facilities is provided below.

The specific descriptions and locations of the NED Project facility construction and facility modifications are set forth in more detail in Resource Report 1, Proposed Facilities, provided as part of the Environmental Report attached as Exhibit F-I to this application. The flow diagrams and data which demonstrate the effect of the proposed Project facilities on the operational capabilities and conditions of Tennessee's system are included in Exhibits G and G-II, attached to this application. These exhibits demonstrate that there will be no adverse operational impact on service provided to Tennessee's

existing customers as a result of this Project and, in fact, the Project will actually enhance Tennessee's ability to provide service to many of its existing customers.

### **1. Supply Path Component Facilities**

The Supply Path Component facilities include approximately 174 miles of pipeline facilities in Pennsylvania and New York, three new compressor stations and modifications to one existing compressor station, two new meter stations, and various appurtenant facilities. The capacity of the Supply Path Component facilities will be 1.2 Bcf per day. The facilities are described by state below.

#### Pennsylvania:

- *Looping pipeline.* The pipeline looping in Pennsylvania will consist of two pipeline loops of 36-inch diameter pipeline totaling approximately 41 miles in length and installed generally parallel to Tennessee's existing 300 Line, referred to as Loop 317-3 (approximately 31 miles in length) and Loop 319-3 (approximately 10 miles in length).
- *Mainline pipeline.* In addition to the pipeline loops in Pennsylvania, approximately 38 miles of new 30-inch diameter pipeline will extend from Tennessee's existing 300 Line pipeline to the Pennsylvania-New York border, and will continue for an additional 95 miles in New York before reaching its terminus in Wright, New York (described below). A portion of the 30-inch diameter pipeline in Pennsylvania (approximately 23 miles) will be largely co-located with the pipeline facilities

approved as part of the Constitution Pipeline Project, certificated by the Commission in Docket No. CP13-499-000.<sup>3</sup>

- *Compressor stations.* Tennessee will construct the Supply Path Head Station, a new compressor station in Susquehanna County, including two Solar Mars 100 turbines and one Titan 130 turbine, ISO-rated for a total of 52,500 hp.<sup>4</sup> Also, at Tennessee's existing Compressor Station 319, piping systems will be modified to accommodate the incremental Project volumes to be transported through the station, and discharge piping facilities will be modified to accommodate the proposed looping pipeline facilities.

New York:

- *Pipeline.* The Supply Path Component pipeline facilities in New York will consist of approximately 95 miles of new 30-inch diameter pipeline, and also will be generally co-located with the Constitution Pipeline Project for a majority of its length, extending to Wright, New York.
- *Compressor Stations.* Two new compressor stations will be constructed on the Supply Path Component in New York: (1) the Supply Path Mid Station in Delaware County, including one Titan 250 turbine and one Titan 130 turbine, ISO-rated for a total of 50,500 hp, and (2) the Supply Path Tail Station, located in Schoharie County, including one Titan 250 turbine and one Titan 130 turbine, ISO-rated for a total of 50,500 hp.

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<sup>3</sup> *Constitution Pipeline Co.*, 149 FERC ¶ 61,199 (2014).

<sup>4</sup> The Solar Mars 100 turbine is currently rated at 15,900 hp ISO. The Environmental Reports and other documents submitted as part of this certificate application state a 16,000 hp ISO rating for that turbine. This minor derating was identified late in the certificate application preparation process and will be updated in a subsequent supplemental filing. The minor derating of the hp for the Solar Mars 100 turbine does not impact emissions or air permitting for the Supply Path Head Station.

- *Meter stations.* New meter stations in New York will include:
  - NED/IGT-Constitution Bi-Directional Meter – Schoharie County;<sup>5</sup> and
  - NED Check – Schoharie County.<sup>6</sup>

## **2. Market Path Component Facilities**

The Market Path Component facilities include approximately 188 miles of mainline pipeline facilities in New York, Massachusetts, and New Hampshire, approximately 58 miles of lateral and pipeline looping, including a total of five delivery laterals in Massachusetts and New Hampshire and one pipeline loop in Connecticut, six new compressor stations, construction of 13 new meter stations and modification of 14 existing meter stations, and various appurtenant facilities. The capacity of the Market Path Component facilities will be 1.3 Bcf per day. The Market Path Component facilities are described by state below.

### New York:

- *Pipeline.* Beginning at Wright, New York, the Market Path Component facilities include approximately 54 miles of 30-inch diameter pipeline, generally located parallel or directly adjacent to Tennessee’s existing pipeline right-of-way (“ROW”) and an existing utility corridor, to the extent practicable, feasible, and in compliance with existing law.
- *Compressor stations.* Two new compressor stations will be located in New York: (1) the Market Path Head Station in Schoharie County, including two Taurus 70

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<sup>5</sup> This meter station will be installed at the interconnection of the Supply Path Component pipeline with the Iroquois-Constitution pipeline.

<sup>6</sup> This check meter station will be installed between the Supply Path Component pipeline facilities and the Market Path Component pipeline facilities.

compressors, ISO-rated for a total of 20,600 hp,<sup>7</sup> and (2) Market Path Mid Station 1, located in Rensselaer County, including two Titan 130 turbines, ISO-rated for a total of 41,000 hp.

- *Meter station.* New meter station in New York is:
  - NED/200 Line Bi-Directional OPP and Check – Schoharie County.

Massachusetts:

- *Mainline pipeline.* The Massachusetts mainline pipeline facilities include approximately 64 miles of 30-inch line, beginning at the New York/Massachusetts border and extending to the Massachusetts-New Hampshire border in Franklin County in western Massachusetts. This mileage also includes the portion of mainline pipeline from the New Hampshire-Massachusetts border to Dracut in Middlesex County in eastern Massachusetts. Approximately 63 miles of this pipeline will be generally co-located with an existing utility corridor to the extent practicable, feasible, and in compliance with existing law, and the remainder of the Massachusetts pipeline will be new pipeline ROW.
- *Lateral pipeline.* The Project facilities include five new lateral pipelines in Massachusetts:
  - Maritimes Delivery Line: A 30-inch diameter, 0.75-mile pipeline extending from the Market Path Tail Station to an interconnect with the Maritimes & Northeast Pipeline System (“Maritimes”).

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<sup>7</sup> The proposed Solar Taurus 70 turbine is rated at 10,310 hp ISO. The Environmental Reports and other documents submitted as part of this certificate application state a 10,300 hp ISO rating for that turbine. This minor discrepancy was identified late in the certificate application preparation process and will be updated in a subsequent supplemental filing. The minor discrepancy does not impact emissions or air permitting for the Market Path Head Station.



- Lynnfield Lateral: A 24-inch diameter, 14.28-mile pipeline extending from Dracut, Massachusetts, approximately 8.95 miles of which will be co-located with an existing utility corridor.
- Peabody Lateral: A 24-inch diameter, 5.32-mile pipeline beginning at the new Lynnfield Lateral. Construction of this lateral will include the abandonment and take-up and relay replacement of Tennessee's existing 8-inch diameter Beverly-Salem Colonial Delivery Lateral pipeline and replacement with a new 24-inch diameter lateral pipeline in the same ROW.
- Haverhill Lateral: A 20-inch diameter, 9.27-mile pipeline, extending from Massachusetts (7.23 miles located in Massachusetts) through New Hampshire. Construction of this lateral will include a partial abandonment and take-up and relay replacement of Tennessee's existing 10-inch diameter Haverhill Lateral pipeline. The entire Haverhill Lateral, including the 7.23 miles in Massachusetts, will be an abandonment and take-up and relay replacement of the existing Haverhill Lateral within Tennessee's existing ROW.
- Fitchburg Lateral Extension: A 12-inch diameter, 13.97-mile pipeline extending from New Hampshire through Massachusetts (8.89 miles located in Massachusetts). This lateral will be an extension of Tennessee's existing Fitchburg Lateral which will connect to the Project in New Hampshire.
- *Compressor stations.* Three new compressor stations will be constructed in Massachusetts:
  - Market Path Mid Station 2 in Berkshire County, including two Titan 130 turbines, ISO-rated for a total of 41,000 hp;

- Market Path Mid Station 3, located in Franklin County, including two Titan 130 turbines, ISO-rated for a total of 41,000 hp; and
  - Market Path Tail Station, located in Middlesex County, including one 8,000 hp and one 15,000 hp electric units, for a total of 23,000 hp.
- *Meter stations.* The new and modified meter stations in Massachusetts will include:
    - North Adams Check (new) – Berkshire County;
    - West Greenfield (new) – Franklin County;
    - Maritimes (new) – Middlesex County;
    - 200-1 Check (new) – Essex County;
    - Haverhill Check (new) – Middlesex County;
    - Fitchburg Lateral Check (new) – Worcester County;
    - Longmeadow (new) – Hampden County;
    - Everett (new) – Middlesex County;
    - North Adams Custody (modified) – Berkshire County;
    - Lawrence (modified) – Essex County;
    - Southbridge (modified) – Worcester County;
    - Spencer (modified) – Worcester County;
    - Lunenburg (modified) – Worcester County;
    - Lexington (modified) – Middlesex County;
    - Burlington (modified) – Middlesex County;
    - Arlington (modified) – Middlesex County;
    - Reading (modified) – Middlesex County;
    - Essex (modified) – Essex County;

- Pittsfield (modified) – Berkshire County;
- North Adams Regulator (new) – Berkshire County; and
- Wilmington Regulator (new) – Middlesex County.

New Hampshire:

- *Mainline pipeline.* The pipeline facilities in New Hampshire include approximately 70 miles of 30-inch diameter mainline pipeline beginning at the Massachusetts-New Hampshire border extending east to the New Hampshire-Massachusetts border north of Dracut, Massachusetts. Approximately 57 miles of the New Hampshire mainline pipeline facilities will be generally co-located with an existing utility corridor to the extent practicable, feasible, and in compliance with existing law.
- *Lateral pipeline.* The Project pipeline facilities in New Hampshire also include the remaining lengths of the Fitchburg Lateral Extension (5.08 miles) and the Haverhill Lateral (2.04 miles), described within the Massachusetts facilities above.
- *Compressor station.* The Market Path Mid Station 4 will be a new compressor station located in Hillsborough County, including two Titan 130 turbines, ISO-rated for a total of 41,000 hp.
- *Meter stations.* The new meter stations in New Hampshire will include:
  - Merrimack – Hillsborough County; and
  - 200-2 Check – Rockingham County.

Connecticut:

- *Looping pipeline.* The Project includes the 24-inch, 14.80-mile 300 Line Connecticut Loop, which is generally located within or directly adjacent to Tennessee’s existing 300 Line’s ROW.

- *Meter stations.* The modified meter stations in Connecticut will include:
  - Easton – Fairfield County;
  - North Bloomfield – Hartford County; and
  - Milford – New Haven County.

### **3. Appurtenant and Auxiliary Facilities**

In addition to the facilities described above, Tennessee will construct and operate various appurtenances and auxiliary facilities as part of the Project. These appurtenances and auxiliary facilities are listed in attached Exhibit Z-1, and the location and description of these facilities are discussed in Resource Report 1, General Project Description, of the Environmental Report, attached as Exhibit F-I to this application. All appurtenances and auxiliary facilities are covered by environmental surveys conducted for the Project as those facilities will be installed within the temporary workspace, permanent easement, and/or permanent operational areas of the compressor and meter stations.

Tennessee will design cathodic protection for the Project in accordance with the requirements of 49 C.F.R. Part 192, Subpart I. A new cathodic protection system will be designed and installed for new pipeline, including aboveground rectifiers and buried ground beds. Pipeline that is looped or co-located with Tennessee’s existing system will be interconnected to the existing cathodic protection system, with enhancements to the existing system provided as necessary.

#### **B. Reservation of Capacity**

In addition to the facilities described above, Tennessee has reserved certain existing transportation capacity on its system, pursuant to Article XXVI, Section 5.8 of the General Terms and Conditions (“GT&C”) of Tennessee’s FERC Gas Tariff (“Tariff”), for the purpose of properly scoping the Supply Path Component and Market

Path Component facilities. The capacity reservation notice is attached to this application as part of Exhibit Z-3. By reserving this capacity, Tennessee was able to utilize to the greatest extent possible its existing facilities and capacity and thus reduce the scope of facilities necessary for both the Supply Path Component and Market Path Component and the accompanying impacts.

**C. Abandonment Authority**

Tennessee is requesting abandonment authority for the following pipeline, meter station, and compressor station facilities that will be replaced, upgraded, or modified as part of the Project:

- Take-up and relay replacement of 9.27 miles of the existing 10-inch Haverhill lateral in Massachusetts and New Hampshire with a new 20-inch diameter pipeline;
- Take-up and relay replacement of 0.40 miles of the existing 8-inch diameter Beverly-Salem Colonial Delivery Lateral (as part of the construction of the Peabody Lateral) with a new 24-inch-diameter pipeline;
- Upgrade and modification of certain existing meter stations (as listed above and as detailed in Resource Report 1); and
- Upgrade and modification of certain minor facilities at existing Compressor Station 319 (as detailed in Resource Report 1).

Although the work at the meter stations and at Compressor Station 319 may not typically require specific NGA Section 7(b) abandonment authority, Tennessee is seeking that authority in this proceeding to the extent necessary, because the replacement of those

facilities is an integral part of the NED Project for which Tennessee is seeking certificate authority herein.<sup>8</sup>

**D. Project Ownership**

The Project facilities will be owned by two joint ventures, as further described in Exhibit L, established to provide funding of construction of the facilities, which will be operated by Tennessee under its exclusive possession and control.

**1. Supply Path Component**

The Supply Path Component facilities will be owned by Northeast Supply Pipeline LLC, a wholly owned subsidiary of Kinder Morgan Operating L.P. “A” (“Kinder Morgan OLPA”) and an affiliate of Tennessee. Northeast Supply Pipeline LLC may take on additional equity partners in the future; if this occurs, Tennessee will provide the information in a supplemental filing. Northeast Supply Pipeline LLC will be a passive owner of the Supply Path Component facilities and those facilities will be exclusively controlled and operated by Tennessee pursuant to a long-term lease and operating agreement. Tennessee, as the certificate holder, will construct the Supply Path Component facilities on behalf of Northeast Supply Pipeline LLC pursuant to a construction and operating agreement, and will lease those facilities from the passive owner. As further described in Exhibit L, the lease transaction is a capital lease financing arrangement where the passive owner provides the funding necessary to construct facilities, but total control of the facilities is exclusively vested in Tennessee, with the passive owner possessing no rights to control or operate the facilities. As more fully explained in Section VII of this application, this capital lease arrangement will have no

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<sup>8</sup> The accounting entries to record the abandonment by removal of the Haverhill lateral and the Beverly-Salem Colonial Delivery lateral are shown in Exhibit Y attached to this application.

impact on Tennessee's jurisdictional cost of service or on the rates charged by Tennessee for service on the facilities. Once the Supply Path Component facilities are placed in-service and leased to Tennessee, Tennessee will have complete operational control over the facilities, which will be fully integrated into its existing system. As the certificate holder, Tennessee will provide natural gas transportation service to the Supply Path Component shippers consistent with the terms of Tennessee's Tariff.

## **2. Market Path Component**

The Market Path Component facilities will be owned by Northeast Expansion LLC. Northeast Expansion LLC is a joint venture between Kinder Morgan OLPA, Liberty Utilities (Pipeline & Transmission) Corp., and UIL Holdings Corporation. Northeast Expansion LLC may take on additional equity partners in the future; if this occurs, Tennessee will provide the information in a supplemental filing. Northeast Expansion, LLC will be a passive owner of the Market Path Component facilities, and those facilities will be exclusively controlled and operated by Tennessee pursuant to a long-term lease and operating agreement. Tennessee will construct the Market Path Component facilities on behalf of Northeast Expansion LLC and will lease those facilities from the passive owner. As further described in Exhibit L, the lease transaction is a capital lease financing arrangement where the passive owner provides the funding necessary to construct facilities, but total control of the facilities is exclusively vested in Tennessee, with the passive owner possessing no rights to control or operate the facilities. As more fully explained in Section VII of this application, this capital lease arrangement will have no impact on Tennessee's jurisdictional cost of service or on the rates charged by Tennessee for service on the facilities. Once the Market Path

Component facilities are placed in-service and leased to Tennessee, Tennessee will have complete operational control over the facilities, which will be fully integrated into its existing system. As the certificate holder, Tennessee will provide natural gas transportation service to the Market Path Component shippers consistent with the terms of Tennessee's Tariff.

**E. Anticipated Construction Schedule**

Contingent upon receiving authorization from the Commission for the construction, installation, modification, operation, and maintenance of the Project facilities and upon obtaining other necessary authorizations and property rights, Tennessee anticipates that it will begin site preparation for the proposed pipeline, meter station, and compressor station worksites in January 2017 and commence all remaining construction activities in April 2017. Tennessee plans to place the new facilities in service no later than November 1, 2018, the requested in-service date of its Project Shippers. However, certain minor pipeline looping facilities located in the State of Connecticut are expected to be placed in service by November 1, 2019, based on the in-service date requested by certain Project Shippers. Tennessee is proposing this construction timeline in order to accommodate narrow construction windows due to seasonal weather and anticipated environmental and seasonal constraints on tree felling and clearing, as well as to minimize outages and maintain adequate levels of service to meet its existing commitments to its shippers during the construction and installation of the Project facilities described herein. Therefore, in order to allow Tennessee to complete acquisition of property for the pipeline and compressor station locations, environmental and cultural resource surveys, federal and state permitting activities, materials procurement, and construction of the Project in a time frame compatible with the proposed in-service date, Tennessee



respectfully requests that the Commission grant the requested authorizations during the fourth quarter 2016.

**F. Estimated Costs**

The estimated cost of the Supply Path Component and Market Path Component facilities, including contingency, overheads, and Allowance for Funds Used During Construction (“AFUDC”), is approximately \$1.8 billion and \$3.4 billion, respectively, as detailed in the attached Exhibit K, Cost of Facilities.

**V.  
OPEN SEASONS**

Tennessee held a non-binding Open Season for the NED Project that commenced on February 13, 2014 (“NED Open Season”). In the NED Open Season, Tennessee stated that the Project Transportation Quantity was scalable from 0.6 to 2.2 Bcf per day based on shipper commitments. The NED Open Season invited potential shippers to submit a Service Request Form for transportation on a capacity path from Wright, New York, to delivery points in New England, the Market Path Component, or from receipt points on Tennessee’s 300 Line in Bradford or Susquehanna Counties in Pennsylvania to Wright, New York, the Supply Path Component. Shippers could also request service on both capacity paths.

The NED Open Season also offered existing shippers the opportunity to offer to relinquish capacity permanently that could be used to provide transportation service to shippers as part of the Project. In response to this turnback solicitation, no shippers offered to turn back capacity.

Consistent with the Commission’s Alternative Rate Policy Statement,<sup>9</sup> Tennessee offered firm expansion capacity for the Project at either an incremental maximum recourse rate or a negotiated rate. Potential shippers were invited to submit a Service Request Form and execute a Confidentiality Agreement in order to obtain a draft precedent agreement and begin negotiations with Tennessee. Those parties who subsequently negotiated and entered into binding precedent agreements were offered firm expansion capacity for the Project at either an incremental maximum recourse rate or a negotiated rate.<sup>10</sup> All of the Project Shippers on both the Market Path Component and Supply Path Component have selected the negotiated rate option in their precedent agreements.

In the NED Open Season, Tennessee also provided potential shippers willing to make an early commitment to the Project the option of qualifying as an Anchor Shipper for the Project and obtaining certain incentives attendant with that status. Tennessee noted that Anchor Shipper benefits could include: (1) contract extension rights; (2) favorable terms for sharing of cost underruns and overruns; (3) no proration risk, to the extent a further open season is held to allocate capacity; and (4) other benefits which Tennessee and shippers may negotiate on a not unduly discriminatory basis.

The original closing date for the NED Open Season was March 28, 2014. On March 17, 2014, Tennessee posted a revision to the NED Open Season to offer Anchor

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<sup>9</sup> *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines and Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 FERC ¶ 61,076, *order granting clarification*, 74 FERC ¶ 61,194, *reh’g and clarification denied*, 75 FERC ¶ 61,024, *reh’g denied*, 75 FERC ¶ 61,066 (1996); *pet. for review denied sub. nom., Burlington Res. Oil & Gas Co. v. FERC*, 172 F.3d 918 (D.C. Cir. 1998); *Natural Gas Pipeline Negotiated Rate Policies and Practices*, 104 FERC ¶ 61,134 (2003), *order on reh’g and clarification*, 114 FERC ¶ 61,042, *order dismissing reh’g and denying clarification*, 114 FERC ¶ 61,304 (2006); *criteria modified, Rate Regulation of Center Natural Gas Storage Facilities*, Order No. 678, FERC Stats. & Regs., Regs. Preambles 2006-2007 ¶ 31,220, *order on clarification and reh’g*, Order No. 678-A, 117 FERC ¶ 61,190 (2006) (“Alternative Rate Policy Statement”).

<sup>10</sup> The negotiated rates and recourse rates for the Project are discussed in Section VII, Rates and Tariff, below.

Shipper status to shippers that executed a precedent agreement by May 15, 2014. On May 15, 2014, Tennessee posted a notice to inform shippers that it was suspending the May 15, 2014 deadline to obtain Anchor Shipper status in order to continue negotiations with potential Anchor Shippers. Tennessee stated that it would provide no less than 15 days' notice of the new deadline for executing a precedent agreement in order to obtain Anchor Shipper status. On January 15, 2015, Tennessee posted a further notice to inform shippers that the Anchor Shipper deadline for executing a precedent agreement for service on the Market Path Component facilities would be February 13, 2015. Tennessee stated that it would not offer Anchor Shipper status to shippers executing precedent agreements after this date, but would continue to negotiate with other potential shippers interested in service on the Market Path Component or Supply Path Component. Tennessee encouraged any interested shipper to contact a Tennessee representative for more information.

As described in more detail in Section VI below, as a result of the NED Open Season and subsequent negotiations, Tennessee has executed to date firm contracts with eight shippers on the Supply Path Component for 751,650 Dth per day of capacity and with ten shippers on the Market Path Component for 552,262 Dth per day of capacity.<sup>11</sup>

On September 9, 2015, Tennessee announced the start of a non-binding open season offering a new PowerServe™ Firm Service (“NED PowerServe™ Open Season”) under a new proposed Rate Schedule FT-PS. PowerServe Firm Service is intended to meet the needs of gas-fired generators in the Northeast for firm delivery services that may be used on a no-notice and/or non-ratable basis. Tennessee proposed to provide PowerServe Firm Service on both the Market Path Component and the Supply Path

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<sup>11</sup> Nine of the Project Shippers on the Market Path Component qualified for Anchor Shipper status.

Component facilities and offered up to 740,000 Dth per day of natural gas transportation capacity at either an incremental maximum recourse rate or a negotiated rate, as further described in the NED PowerServe™ Open Season. Tennessee believes that its new proposed PowerServe Firm Service will provide both the basis and the incentive for the execution of long term firm transportation contracts by EDCs, gas-fired generators, and other market participants to meet the critical needs of gas-fired electric generation in the Northeast and New England in particular.<sup>12</sup> As of the close of the NED PowerServe™ Open Season on October 29, 2015, Tennessee has received expressions of interest on Service Request Forms from EDCs and other market participants for 1.1 Bcf per day of PowerServe Firm Service. In accordance with the procedures set forth in the NED PowerServe™ Open Season, Tennessee has proceeded to engage in negotiations with parties on precedent agreements for PowerServe Firm Service.

**VI.**  
**PRECEDENT AGREEMENTS AND**  
**FIRM TRANSPORTATION AGREEMENTS**

**A. Precedent Agreements**

As mentioned in Section V above, as of the date of this filing, and as a result of negotiations with shippers submitting Service Request Forms in the NED Open Season, Tennessee has executed binding precedent agreements with eight shippers for the Supply Path Component (the “Supply Path Precedent Agreements”) and ten shippers for the Market Path Component (the “Market Path Precedent Agreements”) (collectively, “Project Precedent Agreements”). A summary of the capacity commitments underlying the Project Precedent Agreements executed with all Project Shippers to date is set forth in

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<sup>12</sup> The NED PowerServe Open Season is included in Exhibit Z-3.

Exhibit I of this application. As detailed in Exhibit I, Tennessee has secured the following commitments:

- On the Supply Path Component, 751,650 Dth per day from a variety of shippers, including a power generator, four LDCs, one municipal light department, and two producers.
- On the Market Path Component, 552,262 Dth per day from a variety of shippers, including seven LDCs, one municipal light department, one industrial end-user, and one holding corporation.

The Project Precedent Agreements identified in Exhibit I provide the firm contractual support for both the Supply Path Component and the Market Path Component of the Project. These Project Precedent Agreements reflect the contractual incentives that were necessary for the Project Shippers to make a binding commitment to the Project. Tennessee continues to negotiate with other potential shippers for additional commitments on both the Supply Path Component and Market Path Component. To the extent additional precedent agreements are executed, Tennessee will supplement the record in this proceeding with an updated Exhibit I.

Consistent with the Commission's Policy Statement on Creditworthiness for Interstate Natural Gas Pipelines and Order Withdrawing Rulemaking Proceeding,<sup>13</sup> the precedent agreements include creditworthiness provisions that require each Project Shipper to meet certain objective creditworthiness standards, or to provide Tennessee

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<sup>13</sup> FERC Stats. & Regs., Regs. Preambles 2001-2005 ¶ 31,191, at PP 17-20 (2005) (permitting larger collateral requirements from initial shippers in cases of new construction and requiring issues relating to such collateral to be determined in precedent agreements).

with appropriate credit support (such as a guaranty, letter of credit, or a cash security deposit).<sup>14</sup>

Tennessee has attached two copies of each of the executed Project Precedent Agreements in Exhibit I to this application. A complete copy of each Project Precedent Agreement is being filed under a request for confidentiality pursuant to Section 388.112 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 388.112. Tennessee is seeking confidential treatment of these Project Precedent Agreements as they contain sensitive market information regarding the negotiations with the Project Shippers, the public disclosure of which would competitively harm Tennessee and the Project Shippers. A form of protective agreement is included in Exhibit Z-2 to this application. In addition to the privileged copy, Tennessee is providing a second, public copy of each Project Precedent Agreement with commercially sensitive provisions redacted.

**B. Gas Transportation Agreements**

Each Project Precedent Agreement described above requires the applicable Project Shipper and Tennessee to execute a Gas Transportation Agreement, a form of which is attached as Exhibit A to the applicable Project Precedent Agreement, following Tennessee's receipt and acceptance of the authorizations requested herein. There are certain differences, as set forth in Exhibit Z-6 and as described in more detail below, between each Project Shipper's Gas Transportation Agreement, attached as Exhibit A to the applicable Project Precedent Agreement, and Tennessee's *pro forma* Gas

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<sup>14</sup> The creditworthiness provisions set forth in each precedent agreement are also reflected in the proposed Gas Transportation Agreements, attached as Exhibit A to the precedent agreements. The creditworthiness provisions in the Gas Transportation Agreements will be applicable upon the commencement of service under each Gas Transportation Agreement since the precedent agreements will terminate upon the commencement of such service under the Gas Transportation Agreements.

Transportation Agreement Under Rate Schedule FT-A (“Pro Forma Agreement”). In Exhibit I to this application, Tennessee has provided copies of each Project Shipper’s unexecuted Gas Transportation Agreement, with the differences that are described below shown in redline/strikeout format. The unexecuted Gas Transportation Agreements are being filed publicly with only certain limited sensitive commercial information, for which Tennessee requests privileged treatment, redacted. A complete non-public copy of each Project Shipper’s Gas Transportation Agreement is provided as an exhibit to each of the Precedent Agreements provided under seal in Exhibit I as well.

Exhibit Z-6 to this application contains a matrix setting forth various non-conforming provisions proposed to be included in one or more Gas Transportation Agreements with Project Shippers and identifying which specific Gas Transportation Agreements will include the proposed non-conforming provisions.<sup>15</sup> The following discussion will refer to specific non-conforming provisions by reference to the Item Number set forth in Exhibit Z-6. Tennessee proposes to include the following non-conforming provisions in one or more Gas Transportation Agreements with Project Shippers:

**Item 1:** All of the Gas Transportation Agreements that Tennessee will execute with its Project Shippers contain “Whereas” clauses that describe the applicable Project Precedent Agreement and the specific transaction

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<sup>15</sup> Consistent with the Commission’s order in *Tenn. Gas Pipeline Co.*, 150 FERC ¶ 61,160 (2015), Tennessee is only seeking the Commission’s upfront approval of those non-conforming provisions which are shown in the public versions of each Gas Transportation Agreement. Accordingly, Exhibit Z-6 does not include any non-conforming provisions that have been redacted from the public versions of the Gas Transportation Agreements.

between Tennessee and the Project Shipper. The Pro Forma Agreement does not contain any such “Whereas” clauses.

**Item 2:** In four of the Gas Transportation Agreements, Article II, Section 2.1 addresses the regulatory authorizations required to construct the Project facilities and clarifies that the commencement date of the Gas Transportation Agreement will be tied to the commencement date of the Project facilities. Article II of the Pro Forma Agreement does not contain this regulatory authorization or commencement date language.

**Item 3:** In all of the Gas Transportation Agreements that Tennessee will execute with its Project Shippers, Article II, Section 2.2 contains a definition for a new term “Commencement Date,” which is used to define the date upon which service will commence following the construction of the Project facilities. Article II of the Pro Forma Agreement does not contain a Section 2.2 or a definition for the term “Commencement Date.”

**Item 4:** In all of the Gas Transportation Agreements that Tennessee will execute with its Project Shippers, Article IV acknowledges that Tennessee must construct certain Project facilities in order to provide service under the applicable Gas Transportation Agreement. Article IV of the Pro Forma Agreement contemplates that all of the facilities necessary to provide service already exist.

**Item 5:** In all of the Gas Transportation Agreements that Tennessee will execute with its Project Shippers, Sections 6.1, 11.1, and 12.1 have been modified (as compared to the Pro Forma Agreement) to reflect that service under



the applicable Gas Transportation Agreement will commence on the “Commencement Date,” as that term is defined in Section 2.2 (as described above). These provisions in the Gas Transportation Agreement reflect the fact that Tennessee must construct the Project facilities in order to provide service to the Project Shipper.

**Items 6-8:** The Gas Transportation Agreements contain certain deviations that are minor and non-substantive. These deviations are terms or wording that conform to the form of service agreement in effect at the time that the Gas Transportation Agreements were prepared to be included as Exhibit A to the Precedent Agreements, rather than the current Pro Forma Agreement. These deviations include the following: (1) in all of the Gas Transportation Agreements, the second word in Section 12.1 is “contract”, as opposed to “Agreement” as set forth in the current Pro Forma Agreement (Item 6); (2) in many of the Gas Transportation Agreements, Article XIII contains the words “post office” and an alternate notice address for Tennessee, as compared to Tennessee’s current Pro Forma Agreement (Item 7); and (3) in many of the Gas Transportation Agreements, Article XV, Section 15.4 refers only to Exhibit A instead of referring to both Exhibit A and Exhibit B as in Tennessee’s current Pro Forma Agreement (Item 8). Tennessee submits that these provisions are permissible because these terms do not affect the substantive rights of the parties or the quality of service provided to the Project Shippers or other

shippers under Tennessee's Tariff, nor do they constitute a substantial risk of undue discrimination against other shippers.

**Item 9:** In Exhibit A to the Gas Transportation Agreement proposed to be executed with a Project Shipper, directly underneath the table of receipt and delivery points and associated meter capacities, Tennessee has agreed to include language defining the Wright, New York delivery point identified in the table above. The language included in Exhibit A of the shipper's Gas Transportation Agreement replicates language in certain Supply Path Precedent Agreements memorializing Tennessee's representations regarding the features that the "Wright, New York" delivery point will have when the Supply Path Component is placed in service. The inclusion of this language in Exhibit A to the shipper's Gas Transportation Agreement was necessary to secure the shipper's commitment to the Supply Path Component of the Project. Exhibit A of Tennessee's Pro Forma Agreement does not contain any language describing any specific pathing features of receipt or delivery points.

Each of the non-conforming provisions identified above are permissible because they do not present a substantial risk of undue discrimination.<sup>16</sup> These deviations simply reflect certain facts about the Project, including the fact that the service under the Gas Transportation Agreement cannot be provided until necessary authorizations are received and the Project facilities are constructed and placed in-service by Tennessee. The Commission has consistently pre-approved non-conforming provisions in certificate

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<sup>16</sup> See *Columbia Gas Transmission*, 131 FERC ¶ 61,080, at P 6 (2010) (citing *Columbia Gas Transmission, LLC*, 97 FERC ¶ 61,221 (2001); *ANR Pipeline Co.*, 97 FERC ¶ 61,223, at p. 61,224 (2001)).

proceedings where the provisions are necessary to address the unique circumstances involved with the construction on new infrastructure and do not affect the operational conditions of providing service.<sup>17</sup> Each non-conforming provision described above is available for review in the public versions of the Gas Transportation Agreements filed with this application.<sup>18</sup> Therefore, Tennessee requests that the Commission review and approve these publicly-filed, non-conforming provisions in this certificate proceeding, subject to Tennessee filing the agreement as may be specified in Commission regulations or the certificate order issued in this proceeding.

In addition, in Exhibit A of each Gas Transportation Agreement proposed to be executed with a Project Shipper, in the fill-in-the-blank section for other provisions that are described in Article XXXVI of the GT&C of Tennessee's Tariff, Tennessee has agreed to certain extension rights and/or contractual right-of-first-refusal ("ROFR") provisions. Article XXXVI of the GT&C of Tennessee's Tariff lists Tariff provisions that permit Tennessee to negotiate extension rights and/or contractual ROFR provisions with shippers in Exhibit A to the shipper's Gas Transportation Agreement. Accordingly, Tennessee submits that these extension rights and/or contractual ROFR provisions are not non-conforming provisions. Tennessee also submits that, by executing a Project Precedent Agreement containing these provisions, each Project Shipper has provided

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<sup>17</sup> The provisions in the Firm Transportation Agreements that differ from the Pro Forma Agreement are similar to those contained in the service agreements between Tennessee and certain other expansion project shippers, which provisions the Commission did not find to constitute unacceptable material deviations. *See Tenn. Gas Pipeline Co.*, 140 FERC ¶ 61,120, at P 25 (2012); 139 FERC ¶ 61,161, at P 37 (2012), *order on reh'g, clarification, and stay*, 142 FERC ¶ 61,025 (2013); 136 FERC ¶ 61,173, at P 43 (2011); 131 FERC ¶ 61,140, at P 37 (2010); 89 FERC ¶ 61,129, at p. 61,364 (1999), *reh'g denied*, 92 FERC ¶ 61,009 (2000) *Cent. New York Oil and Gas Co. and Tenn. Gas Pipeline Co.*, 94 FERC ¶ 61,194, at p. 61,709 (2001). *See also* Letter Order issued March 13, 1998, in Docket Nos. RP96-312-009 and GT98-19-000.

<sup>18</sup> *See Tenn. Gas Pipeline Co.*, 150 FERC ¶ 61,160, at P 44 (2015) (finding that pre-approval of non-conforming provisions is only appropriate where those provisions have been identified in the public version of the filing).

financial support for the Project. Absent these contractual commitments, the Project would not proceed. Since the Project Shippers have provided the contractual support to make the construction of the Project possible, it is reasonable that they be provided the extension rights and/or contractual ROFR provisions discussed above. These provisions were an integral part of the arrangements under which the Project Shippers agreed to provide contractual support for the Project. For these reasons, Tennessee does not believe that the proposed extension rights or contractual ROFR provisions are unduly discriminatory.

Consistent with current Commission policy, Tennessee intends to file each of the Gas Transportation Agreements and Negotiated Rate Agreements, identifying any material deviations or non-conforming provisions, at the time specified in the Commission's regulations or in a Commission order in this proceeding. As described above, Tennessee has provided, as part of this application, the following for Commission review: (i) privileged, complete copies of each executed Project Precedent Agreement, which includes the applicable Project Shipper's Gas Transportation Agreement and Negotiated Rate Agreement as exhibits; (ii) public copies of each executed Project Precedent Agreement, which includes the applicable Project Shipper's Gas Transportation Agreement and Negotiated Rate Agreement as exhibits, with commercially sensitive information redacted; (iii) public copies of each Gas Transportation Agreement proposed to be executed with a Project Shipper, with deviations from the Pro Forma Agreement shown in redline/strikeout format, with certain limited commercially sensitive information redacted. Tennessee is providing this information now so the Commission will be able to review and approve these provisions

in the certificate order issued in this proceeding. In this manner, any issues raised by these agreements will not need to be revisited later after the provisions at issue have been incorporated in executed Gas Transportation Agreements filed in compliance with the Commission's certificate order or the Commission's regulations.

## **VII.** **RATES AND TARIFF**

### **A. Proposed Recourse Rates**

As previously discussed, the Project facilities will be owned by the joint venture companies. The two joint ventures will be passive owners of the Project facilities and will each lease the facilities to Tennessee under the terms of long-term capital leases granting Tennessee exclusive possession and control of the Project facilities. Tennessee, as the certificate holder, will construct the Market Path Component and Supply Path Component facilities and will have full custodial and operational control of both the Market Path Component and Supply Path Component facilities. Tennessee proposes to provide transportation service on the Project facilities pursuant to Tennessee's Tariff and in conformance with Part 284, Subpart G of the Commission's regulations.<sup>19</sup>

Tennessee proposes to use separate incremental postage stamp recourse rates under Rate Schedules FT-A and IT for service on the Market Path Component and Supply Path Component facilities. Thus, a shipper using only the Market Path Component facilities or only the Supply Path Component facilities will only pay for the costs associated with the facilities actually used.

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<sup>19</sup> To the extent Tennessee awards firm transportation capacity for service under PowerServe, Rate Schedule FT-PS, Tennessee will file an NGA Section 4 tariff filing to establish the rate schedule in a separate proceeding and will supplement the record in this proceeding to establish the initial recourse rates applicable to service on the NED Project.

The incremental recourse rates under Rate Schedule FT-A for service on the Market Path Component facilities include a monthly reservation rate of \$44.1662 per Dth (equivalent to a daily reservation rate of \$1.4520 per Dth) and a daily commodity rate of \$0.0030 per Dth. The incremental recourse rates under Rate Schedule IT for service on the Market Path Component facilities include a daily commodity rate of \$1.4550 per Dth. The incremental recourse rates under Rate Schedule FT-A for service on the Supply Path Component facilities include a monthly reservation rate of \$24.8189 per Dth (equivalent to a daily reservation rate of \$0.8160 per Dth) and a daily commodity rate of \$0.0024 per Dth. The incremental recourse rates under Rate Schedule IT for service on the Supply Path Component facilities include a daily commodity rate of \$0.8184 per Dth. In addition to the base incremental recourse rates described above, shippers using the Project facilities will also be subject to any applicable demand and commodity surcharges and applicable fuel and lost and unaccounted-for charges and electric power cost charges. These rates and charges are set forth in the pro forma Tariff sheets attached hereto as Exhibit P.

The incremental recourse rates for the Market Path Component and the Supply Path Component facilities have been derived using an incremental cost of service for each of the components of approximately \$713.5 million and \$370.4 million, respectively. The incremental cost of service for the Market Path Component and Supply Path Component facilities reflect: (i) the return and taxes associated with the capital investment on the Project facilities<sup>20</sup> using the income tax rates, capital structure, and rate

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<sup>20</sup> Tennessee will reflect the capital lease obligation on its FERC books based upon the cost of facilities funded by the joint ventures, which cost is equivalent to that which Tennessee would have incurred to construct the NED Project facilities as wholly-owned investments without joint venture participation in the

of return approved in Tennessee's rate settlement in Docket No. RP95-112-000, *et al.*<sup>21</sup> and reaffirmed in Tennessee's last rate settlement in Docket No. RP15-990-000,<sup>22</sup> (ii) depreciation expense using a straight-line rate of 3.33 percent, based on an estimated useful life of the Market Path Component and Supply Path Component facilities of 30 years,<sup>23</sup> and (iii) projected operation and maintenance expenses based on historical cost factors on the Tennessee system for similar facilities. The rates for the Market Path Component and the Supply Path Component facilities reflect a straight fixed-variable rate design whereby all fixed costs have been assigned to the reservation rate and all variable costs have been assigned to the commodity rate. The reservation rates for the Market Path and the Supply Path Component facilities are based on the design capacity of the Market Path and Supply Path Component facilities of 1.3 Bcf per day (equivalent to 1,332,500 Dth per day) and 1.2 Bcf per day (equivalent to 1,230,000 Dth per day), respectively, as well as imputed IT volumes at 100 percent load factor. The commodity rates for the Market Path Component and the Supply Path Component facilities reflect estimated firm volumes using an 86 percent utilization of the total firm Project capacity based on historical load factor levels on the Tennessee system, plus an estimated level of interruptible volumes equal to one percent of the projected firm volumes.<sup>24</sup>

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Project. Likewise, Tennessee will amortize the lease obligation utilizing the proposed depreciation rate described herein.

<sup>21</sup> *Tenn. Gas Pipeline Co.*, 94 FERC ¶ 61,117, *order on reh'g*, 95 FERC ¶ 61,034 (2001); 77 FERC ¶ 61,083 (1996), *reh'g denied*, 78 FERC ¶ 61,069 (1997).

<sup>22</sup> *Tenn. Gas Pipeline Co.*, 152 FERC ¶ 61,009 (2015).

<sup>23</sup> The use of a straight-line depreciation rate of 3.33 percent is consistent with the Commission's Uniform System of Accounts and Commission precedent. *See Tenn. Gas Pipeline Co.*, 136 FERC ¶ 61,173 (2011); *Millennium Pipeline Co.*, 117 FERC ¶ 61,319 (2006).

<sup>24</sup> For the 12 month period ending December 31, 2014, Tennessee has transported for delivery to its Zone 4, 5 and 6 markets approximately 23,421 Dth per day of interruptible service compared to total firm deliveries to those same markets of approximately 4,622,831 Dth per day, which represents approximately 0.51% of the firm volumes transported. Tennessee hereby proposes to impute approximately one percent

Tennessee's proposed incremental recourse rate treatment for the Market Path Component and Supply Path Component facilities is reasonable since the incremental recourse rate is above the otherwise applicable general system rate for comparable service.<sup>25</sup> The derivation of the incremental recourse rates are set forth in the attached Exhibit N, Revenues - Expenses - Income.<sup>26</sup>

As discussed above, Tennessee proposes to use an incremental interruptible rate under Rate Schedule IT for any interruptible service rendered on the additional capacity made available as a result of the Project facilities.<sup>27</sup> For purposes of establishing the incremental interruptible rate, Tennessee has allocated costs to this service by imputing additional billing units to it. More specifically, Tennessee proposes to impute approximately one percent of as interruptible service volumes (as a percent of projected firm service volumes) in the derivation of the Project's recourse rates, or 10,578 Dth per day and 11,460 Dth per day, respectively, for the Supply Path Component and Market Path Component facilities.

Tennessee appreciates that its proposal to establish an incremental interruptible rate for service that results from the Project facilities runs counter to the Commission's general policy as well as Tennessee's historical practice of applying its general system

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of interruptible service volumes in the derivation of the Project recourse rates or 10,578 Dth per day and 11,460 Dth per day, respectively, for the Supply Path Component and Market Path Component facilities.

<sup>25</sup> For the Market Path Component, the currently applicable general system rate for comparable transportation service from Tennessee's Zone 5 to Zone 6 is approximately \$0.3133 per Dth, comprised of a monthly reservation rate of \$7.1353 per Dth (equivalent to a daily reservation rate of \$0.2346 per Dth) and a daily commodity rate of \$0.0787 per Dth. For the Supply Path Component, the currently applicable general system rate for comparable transportation service from Tennessee's Zone 4 to Zone 5 is approximately \$0.2512 per Dth, comprised of a monthly reservation rate of \$5.6884 per Dth (equivalent to a daily reservation rate of \$0.1870 per Dth) and a daily commodity rate of \$0.0642 per Dth.

<sup>26</sup> The rates set forth in Exhibit N assume that all Project facilities are placed in-service by the requested in-service date of November 1, 2018.

<sup>27</sup> Section 284.9(a) of the Commission's regulations, 18 C.F.R. § 284.9(a), requires that jurisdictional pipelines that offer firm transportation service must also offer interruptible transportation service.



interruptible rate for service on expansion facilities that are integrated with the existing pipeline system.<sup>28</sup> Nonetheless, the Commission has recognized that in the case of a high-priced expansion project like the NED Project, the Commission's general policy prohibiting the use of incrementally-based interruptible rates could lead to an inordinate and unreasonable difference between the rates for firm and interruptible service on the project, and between the system-wide interruptible rate and incremental interruptible rate that could be derived from the expansion's incremental cost of service.<sup>29</sup> Indeed, there are numerous factors supporting a departure from the Commission's general policy prohibiting incrementally-based interruptible rates with respect to the NED Project.

While there can be no doubt that a foundation of the NED Project is the highly integrated nature of the project with the existing Tennessee system, there also is no doubt that its impact on the capacity available to the New York and New England markets will be extraordinary. For the 12 month period ending December 31, 2014, Tennessee transported for delivery to its Zone 4 markets, and its Zone 5 and 6 markets combined, only approximately 13,000 Dth per day and 10,421 Dth per day of interruptible volumes, respectively, compared to total firm deliveries to those same markets of approximately 1,628,811 Dth per day and 2,994,020 Dth per day, respectively. Interruptible service volumes, therefore, represent only about 0.80 percent and 0.35 percent, respectively, of the firm service volumes transported to those markets. Thus for all practical purposes, there is no meaningful interruptible service market on the existing Tennessee system in Zones 4, 5 and 6. This is a function of both the high utilization under which Tennessee

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<sup>28</sup> *Kern River Gas Transmission Co.*, 117 FERC ¶ 61,077, at P 336 (2006), *reh'g denied*, 123 FERC ¶ 61,056, at PP 299-329 (2008).

<sup>29</sup> *Tex. Eastern Transmission*, 139 FERC ¶ 61,138, at PP 29-33 (2012), *order amending certificate*, 145 FERC ¶ 61,016 (2013).

operates in this part of the Tennessee system year round and the fact that existing firm shippers utilize their capacity efficiently and release it when not needed for use by others on a secondary firm basis. As such, any material interruptible service market that develops in this part of the Tennessee system after the NED Project is placed in service will be solely the result of the incremental capacity created by the NED Project facilities.

In *Texas Eastern*, the Commission noted that an incremental interruptible rate reflecting the project's costs would have been over 200 percent greater than the existing system interruptible rate and found this rate disparity to be inappropriate.<sup>30</sup> Tennessee's current Rate Schedule IT rate for transportation from Zones 4 to 5 and from Zones 5 to 6, the general system rate zones that relate to the NED Project Supply Path Component and the Market Path Component, are \$0.2512 per Dth and \$0.3133 per Dth, respectively. By contrast, the proposed 100 percent load factor incremental interruptible service rate for the NED Project Supply Path Component and Market Path Component based on the full design capacities of 1.2 Bcf per day and 1.3 Bcf per day, respectively, are \$0.8184 per Dth and \$1.4550 per Dth, over 320 percent greater, in the case of the Supply Path Component, and over 460 percent greater, in the case of the Market Path Component, than the existing system Rate Schedule IT rates.<sup>31</sup> Thus, notwithstanding the fact that the Project Shippers that have committed to firm capacity contracts to date have elected to pay a negotiated rate, the equivalent cost based rate for firm shippers making the NED Project possible could be up to three to eight times the existing general system Rate Schedule IT rate.

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<sup>30</sup> *Id.*, 139 FERC ¶ 61,138, at P 33.

<sup>31</sup> As shown on Exhibit Z-5, the illustrative initial incremental rate for interruptible service for the NED Market Path Component based on a 0.7 Bcf per day design is \$2.3717 per Dth, over 750% greater than the existing system Rate Schedule IT rate.

Tennessee believes it would be entirely inappropriate and inconsistent with the Commission's rate design policies of allocative efficiency to place a potential cap on the rate that the Project Shippers could achieve in the capacity release market if Tennessee were required to make interruptible Project capacity available at a general system rate that is a fraction of the cost and market value of the Project capacity, which was only made available as a result of firm Project Shippers subscribing to it. Of equal or greater concern is the potential that electric generators in New England that have historically relied on less than primary firm transportation service will be further incented to simply rely on interruptible transportation at the very time that Independent System Operator ("ISO") New England, the entity responsible for New England's electric grid operation and system planning, is taking all available means to encourage electric generators to firm up their fuel and delivery mechanisms to support electric reliability in the region. Clearly, reliance on the Commission's general policy in favor of applying existing system Rate Schedule IT rates to expansion capacity in the case of the NED Project would be inappropriate and counter to the Commission's findings in *Texas Eastern* as well as other Commission policies pertaining to the pricing of capacity and allocative efficiency within the market. As a result, Tennessee's proposal to charge an incremental rate for interruptible service on the Project facilities is reasonable and should be approved by the Commission.

Tennessee is also proposing to roll-in the Project's fuel and electric power costs into its fuel tracker and charge the Project Shippers the applicable general system fuel rates and electric power cost rates for transportation service on the Project facilities. As demonstrated in Exhibit Z-7, rolling in the Project fuel and electric power costs as well as

the incremental Project volumes into Tennessee's fuel tracker will not negatively impact Tennessee's existing shippers. Thus, it is appropriate to roll-in the Project fuel and electric power costs into the fuel tracker.

In the attached Exhibit P, Tennessee is submitting pro forma Tariff sheets, Sheet Nos. 19A and 45, which establish the recourse rates (including reservation, commodity, fuel and loss and unaccounted-for charges, and electric power cost charges (plus applicable surcharges)) under Rate Schedules FT-A and IT for service on the Project facilities.

#### **B. Project Shipper Rates**

As stated above, each of the Project Shippers to date have entered into Precedent Agreements for capacity on the Project wherein they were offered the option of service at the incremental recourse rate to be established through this certificate proceeding or pursuant to a negotiated rate. All of the Project Shippers have elected to pay negotiated rates for firm transportation service on the Project facilities.<sup>32</sup>

#### **C. Indicative Recourse Rates at Various Capacity Levels**

As explained above, Tennessee has contracted with the Project Shippers for 751,650 Dth per day of capacity on the Supply Path Component facilities and for 552,262 Dth per day of capacity on the Market Path Component facilities. Although Tennessee believes that the full capacity of both paths of the Project will ultimately be subscribed, Tennessee will initially construct those Project facilities necessary to serve the firm contracted-for capacity and will phase in the construction of additional Project facilities

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<sup>32</sup> On August 30, 1996, in Docket No. RP96-312-000, the Commission approved, subject to conditions, Tennessee's July 16, 1996 tariff filing, authorizing Tennessee to charge negotiated rates for its transportation and storage services. *Tenn. Gas Pipeline Co.*, 76 FERC ¶ 61,224, *order on reh'g*, 77 FERC ¶ 61,215 (1996).

to meet the actual contract demand as such demand develops over time. Therefore, in order to facilitate the Commission's understanding of the impact on the initial recourse rates if Tennessee were to phase in the Project at various capacity levels reflective of potential firm contractual commitments, Tennessee is also submitting Exhibit Z-5 as part of this application. Exhibit Z-5 shows that, if Tennessee were to phase in the Project based on firm contractual commitments the initial recourse rates that would result could be as high as \$1.0838 per Dth for the Supply Path Component facilities and as high as \$2.3717 for the Market Path Component facilities. These rates however would decrease, as Tennessee contracts the additional firm Project capacity and builds the additional facilities required to serve those contractual commitments. Thus, the initial recourse rates for the Supply Path Component and Market Path Component facilities would decrease as incremental loads and additional Project facilities are added.

As part of this application, Tennessee is requesting Commission authorization to (i) construct and operate the Project facilities (and to place into effect the initial recourse rates) that are necessary to meet the firm contractual obligations that Tennessee is able to implement as of the initial in-service date of the Project, as well as to (ii) construct and operate any additional compression and other Project facilities (which are reflected in this application and which will have been reviewed and approved by the Commission in this proceeding) in subsequent phases in order to meet additional firm contractual obligations as such firm contract demand develops over time, up to the full capacity of the Supply Path and Market Path Components of 1.2 and 1.3 Bcf per day, respectively.<sup>33</sup> Thus, Tennessee proposes to construct those Project facilities that are needed to meet its firm

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<sup>33</sup> This request for authority to construct and operate the Project in phases as firm contract demand develops is discussed in Section X of this application.

contractual commitments and the required in-service dates of those commitments, as those commitments ramp up over time. The initial recourse rates will reflect the costs and capacity levels associated with the initial facilities. Tennessee proposes to implement the initial recourse rates for the initial phase, as well as any reduced recourse rates for any subsequent phases through compliance filings that Tennessee would file for Commission approval thirty (30) to sixty (60) days prior to the respective in-service date(s) of the Project facilities.

## **VIII.** **ENVIRONMENTAL IMPACT**

In recognition of the importance and large scope of the Project, Tennessee has taken a comprehensive and iterative approach to public outreach and to designing a project that minimizes impacts to landowners and the environment, while at the same time achieving the purposes of the Project. To that end, Tennessee has engaged in a wide-ranging public outreach campaign and pre-filing process at the Commission to educate the public, potentially impacted landowners, public officials, and state and federal agencies about the benefits and impacts of the Project.

### **A. Extensive Public Outreach Activities**

Given the unique nature of the Project, Tennessee has taken a comprehensive approach to public outreach. Tennessee began its stakeholder outreach efforts almost two years ago in January 2014 to inform the public, including government officials, about the Project. Tennessee views community engagement as a critical element to ensure that government officials and the public are informed about a pipeline project and its potential impacts and to gather information from the public to inform the development of the Project and how impacts may be appropriately avoided and mitigated.

Tennessee's objective in implementing a comprehensive stakeholder outreach strategy was to identify and potentially resolve issues raised by stakeholders in a timely fashion. To that end, Tennessee met with governmental officials in advance of, or nearly simultaneously with, landowner notifications in Pennsylvania, New York, Massachusetts, New Hampshire, and Connecticut. Tennessee has been in contact with: (i) federal, state, county, and municipal government officials; (ii) state legislators for the communities located along the proposed Project route; (iii) state executive offices, state administration officials, state legislative leadership; and (iv) U.S. Congressional delegations and their staffs regarding the Project. Tennessee representatives have also had multiple contacts with all 93 affected municipalities in the Project area.

Tennessee has been interacting with and informing the public and receiving feedback on the Project through meetings and discussions with landowners and other affected stakeholders. Tennessee has maintained and continues to maintain an open dialogue with stakeholders potentially affected by the NED Project. As of the filing of this application, Tennessee representatives have met with town, county and community groups and other stakeholders to explain the Project, conducting 68 presentations attended by more than 6,800 people. Tennessee has and will continue to conduct written outreach and notifications to affected landowners. Key components of Tennessee's public outreach program include:

- Timely notification to federal, state, county, and municipal government officials, state legislative and U.S. Congressional delegation members, and leaders of tribal nations in advance of or simultaneously with notification to affected landowners to ensure that all parties have access to Project information in a timely fashion;

- Active coordination among all areas within the Project team to facilitate information exchange and dissemination to interested stakeholders; and
- Ongoing communication with interested parties as facility designs are reviewed and modifications considered based on the response to the open seasons and stakeholder feedback.

**B. Pre-filing Process**

On September 15, 2014, Tennessee filed a request with the Commission to initiate the pre-filing process for the NED Project. The Director of the Commission's Office of Energy Projects approved the use of the pre-filing process for Tennessee on October 2, 2014 in Docket No. PF14-22-000. As part of the pre-filing process, Tennessee conducted 20 public Open Houses throughout the Project area with the Commission's participation, and the Commission held 14 scoping meetings throughout the Project area. In addition to the public open houses, Tennessee has held 68 public community presentations and another 10 community forum meetings in Pennsylvania, New York, Massachusetts, New Hampshire, and Connecticut through November 5, 2015. Tennessee will continue to hold public outreach meetings, as requested. The public open houses and public community meetings provided community stakeholders the opportunity to learn more about the Project, question Tennessee personnel on the need for and impacts of the Project, and provide their comments and concerns regarding Project impacts. At the scoping meetings, the Commission recorded verbal and written comments on the Project to which Tennessee has responded in this application, including in the final Environmental Report filed as Exhibit F-I to the application. Tennessee is also responding to written comments that were submitted to the Commission during the three-and-a-half month scoping period,



which began on June 30, 2015 and ended on October 16, 2015. Tennessee has included with the application responses to the scoping comments that were submitted in the scoping period up to October 1, 2015. Tennessee will provide responses to the scoping comments submitted between October 2, 2015 and October 16, 2015 in a supplemental filing.

Tennessee developed a Public Participation Plan for the Project, which was filed with the Commission on September 15, 2014, with Tennessee's initial request to use the Commission's pre-filing process. An updated Public Participation Plan was included in Tennessee's March 13, 2015 filing and its July 24, 2015 filing. Tennessee has included the current version of its Public Participation Plan in Volume II, Appendix D attached to this application.

On February 24, 2014, Tennessee launched a website for the Project at: [http://www.kindermorgan.com/business/gas\\_pipelines/east/neenergydirect/](http://www.kindermorgan.com/business/gas_pipelines/east/neenergydirect/). The website has been updated and will continue to be updated throughout the duration of the Project. Among other information, the website includes a list of public repositories along the route where Project-related information will be available for inspection. Additionally, three supplementary Project websites, including <http://northeastenergyfuture.com/>, <http://energymattersnh.com/> and <http://energymattersny.com/>, have been created to provide further sources of Project-related information to the public. The site <http://northeastenergyfuture.com/> was launched on July 31, 2015 and offers easily-accessible information including project benefits, maps, blogs, news items and other resources. The site <http://energymattersnh.com/> was launched on July 13, 2015 in order to provide information that is applicable to New Hampshire residents, and

<http://energymattersny.com/> was launched on September 18, 2015 in order to provide information that is applicable to New York residents. Additional digital public outreach efforts include a [YouTube playlist](#) that contains Project-related information in video and visually-friendly formats, an [animated video portal](#) that provides technical Project-related information in an easy-to-digest format, and social media outreach efforts including a Project Twitter page, @NEDEnergy. This Twitter page, along with the various video portals, further exemplifies Tennessee's efforts to reach out to the public via numerous outlets. A toll-free telephone number, (844) 277-1047, for Project and landowner inquiries has also been established along with a dedicated email address, [nedinfo@kindermorgan.com](mailto:nedinfo@kindermorgan.com).

As set forth in Exhibit F-I, Environmental Report, Tennessee has complied, and will continue to comply, with the Commission's landowner requirements at Section 157.6(d) of the Commission's regulations, 18 C.F.R. § 157.6(d). A list of affected landowners is included in Volume III of this application. Tennessee, within three (3) business days following the Commission's issuance of a notice of this application, will mail the required notification letter to each affected landowner, town, community, and federal, state, and local governments and agencies involved in the Project.<sup>34</sup> Further, within three business days after the Commission assigns a docket number for this application, an electronic copy of the public version of the application will be made available for inspection in centrally located public libraries in the counties across the Project area. Within fourteen (14) days after the Commission assigns a docket number to this application, a notice that this application has been filed with the Commission will be

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<sup>34</sup> Within 30 days after the application filing date, Tennessee will file an updated list of affected landowners, including information concerning any notices that were returned as undeliverable.

published twice in newspapers of general circulation in each county in which the Project is located.

**C. Environmental Report**

The Environmental Report, which details the anticipated impacts associated with the construction of this Project, is comprised of the following resource reports:

**Resource Report 1, General Project Description:** This resource report provides a general description of the Project, including maps showing the Project alignment and right-of-way, and compression and meter station locations. This report also includes an explanation of the construction methods that will be used for installing the Project facilities. The report also provides a comprehensive overview of the cumulative impacts analysis for the Project to support an informed decision by the Commission. Cumulative impacts are discussed in detail in the individual resource reports identified below.

**Resource Report 2, Water Use and Quality:** This resource report provides a summary of wetlands, waterbodies, water quality, and water use in the Project area, and also includes construction procedures, impact mitigation, and restoration methods that Tennessee will implement during water crossings.

**Resource Report 3, Fish, Wildlife, and Vegetation:** This resource report describes the wildlife, vegetation, and fishery resources in the Project area, potential impacts from construction and facility operation on these resources, and proposed methods to reduce and mitigate impacts on these resources.

**Resource Report 4, Cultural Resources:** This resource report provides a discussion of existing cultural resources within the Project area. Copies of

correspondence with agencies and stakeholders related to cultural resources are provided as part of the report.

**Resource Report 5, Socioeconomics:** This resource report describes the existing socioeconomic conditions that will be affected by the Project and the proposed impact on those conditions, including expected benefits.

**Resource Report 6, Geological Resources:** This resource report describes the geological resources crossed by the Project, including potential impacts of the Project on these resources and proposed mitigation measures to reduce the impact of the Project on these resources and/or reduce the impact of geological hazards on the proposed facilities.

**Resource Report 7, Soils:** This resource report identifies the soils affected by the Project, the potential impacts of the Project on soil resources, and mitigation measures proposed to control soil erosion and sedimentation in order to minimize soil impacts.

**Resource Report 8, Land Use, Recreation, and Aesthetics:** This resource report characterizes the land use (including but not limited to parks, forests, wilderness areas, national trails, and land used for designated recreational or conservation purposes) in areas affected by the Project, identifies potential construction and operation impacts on those uses, and addresses mitigation measures that will be used to minimize or avoid these impacts. Generally, the Project will not have significant adverse effects on such resources, and mitigation measures are proposed to reduce the effects of any unavoidable impacts.

**Resource Report 9, Air and Noise Quality:** This resource report includes the air

and noise impact analyses associated with the construction and operation of the Project, including proposed noise control treatments for compressor stations.

**Resource Report 10, Alternatives:** This resource report includes a detailed needs and alternative routing analysis conducted for the Project, and demonstrates that the proposed facility locations meet the Project’s purpose and need within the constraints of existing federal law, while minimizing adverse impacts to landowners and the environment.

**Resource Report 11, Reliability and Safety:** This resource report addresses the reliability and safety aspects associated with the Project. As discussed in more detail in this resource report, Tennessee’s design, construction, operations, safety, and security measures for the Project facilities comply with the requirements of the U.S. Department of Transportation (“DOT”) “Transportation of Natural Gas or Other Gas by Pipeline, Minimum Federal Safety Standards,” 49 C.F.R. Part 192. In addition, Tennessee augments the DOT regulations with its own design and operating procedures. In its design of the Project facilities, Tennessee has incorporated features to maximize the safety and reliability of the proposed facilities, including (1) using coating technologies and a cathodic protection system to combat external corrosion; (2) constructing the pipeline from damage resistant steel, and ensuring that the pipeline locations are precisely surveyed, well-marked, regularly patrolled, and part of the applicable state one-call programs; and (3) incorporating design and features based on current industry practice, including secure fencing to prevent unauthorized access, for the proposed compressor station work.

**Resource Report 12, PCB Contamination:** This resource report is not applicable to the Project because the proposed construction activities do not involve PCBs. However, Tennessee has included the report to affirm its compliance with Section 380.12(n) of the Commission’s regulations. 18 C.F.R. § 380.12(n).

**Resource Report 13, Engineering and Design Material:** This resource report is not applicable to the Project because the Project does not involve any LNG facilities.

**D. Changes to Project Scope and Impacts**

Tennessee has attempted to address the concerns raised by various stakeholders during the pre-filing process, and where it has not been possible to modify the Project facilities in the manner requested, to clearly identify the basis for that conclusion. Tennessee continues to collect the data necessary to fully evaluate various alternatives that have been advanced so that an informed decision may be reached by the Commission.

Tennessee made several significant modifications to the Project during the pre-filing process to minimize and otherwise reduce impacts from the Project. As an outcome of the analysis of feasible alternatives required by the preparation of Resource Report 10, Tennessee decided to adjust its preferred route to follow existing utility corridors. Tennessee notified the Commission during the pre-filing process that it was modifying the originally proposed route for the Market Path Component by adopting two route alternatives that involved co-locating the pipeline alongside an existing electric transmission line corridor in eastern New York, western Massachusetts, and southern

New Hampshire. In addition, at the outset of the pre-filing process, Tennessee indicated its intention to pursue a project up to 2.2 Bcf per day in capacity with a pipeline diameter up to 36 inches for the Market Path Component. As a part of the pre-filing process and as a result of its ongoing negotiations with customers for the NED Project, Tennessee also determined that it would proceed instead with a project with capacity of 1.3 Bcf per day and a 30-inch diameter pipeline on the Market Path Component facilities, as discussed in the July 24, 2015 draft Environmental Report filing. Tennessee has also made several other adjustments to the Market Path Component of the Project in order to better meet the current needs of its customers, including the removal of the previously proposed North Worcester Lateral and the Stamford Loop. In addition, Tennessee increased the diameter of the Lynnfield Lateral in Massachusetts and re-located the new Market Path Tail Station in Dracut, Massachusetts. Consequently, Tennessee is filing this application to meet the full design capacity of 1.3 Bcf per day of natural gas into northeast U.S. and New England markets for the Market Path Component.

In addition, Tennessee has determined that it will proceed with a full design capacity of 1.2 Bcf per day for the Supply Path Component, rather than the 1.0 Bcf per day capacity level reflected in the July 24, 2015 draft Environmental Report filing in the pre-filing proceeding. As a result of this decision, several modifications to the Supply Path Component facilities are reflected in this application, including approximately two additional miles of pipeline looping in Pennsylvania and additional horsepower added at the three new Supply Path Component compressor stations. The Project facilities reflected in this certificate application reflect the revisions in Project scope outlined above.

Tennessee also revised the scope of the Project to address certain specific landowner, community, agency, and environmental concerns. Tennessee has considered requests from landowners, affected communities, and agencies, and has adopted a number of deviations to its proposed Project route as a result of these requests. All of these requested changes, including Tennessee's response to these requested changes, are addressed in more detail in Resource Report 10.<sup>35</sup> The revisions to the Project represent the result of Tennessee's complete engagement with stakeholders, Commission Staff, and other agencies throughout the Commission's pre-filing process. Tennessee will continue to consider requests for individual routing changes as they are provided to Tennessee for evaluation.

#### **E. Land Requirements**

Tennessee sited the NED Project to take advantage of existing energy corridors to the greatest extent possible. As a consequence, approximately 84 percent of the Supply Path Component mainline and looping pipeline is co-located with pipeline ROW and approximately 86 percent of the Market Path Component facilities, including mainline, looping, and lateral pipeline, are co-located with Tennessee's existing ROW or other existing energy infrastructure ROWs.

Co-located pipelines are those that are laid parallel to another existing pipeline or linear utility. The current route of Tennessee's proposed NED Project, in large part, is located parallel and adjacent to, and, in many cases, overlaps existing utility easements (either pipeline or powerlines). This paralleling and overlapping of easements is commonly referred to as co-location. Refinement to the routing of the NED Project,

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<sup>35</sup> Alternative routes and minor route variations Tennessee adopted during the pre-filing phase of the Project are identified and discussed in more detail in Resource Report 10, Section 10.3.3.



including locations of permanent easement and temporary construction workspaces, has occurred as the NED Project was developed during the pre-filing process and will continue as necessary through the certificate process, incorporating information gained from field surveys and landowner and stakeholder input, including input from power companies that have existing easements in areas where Tennessee is proposing to co-locate the Project facilities.

For areas of the NED Project pipeline alignment that are proposed to be co-located with existing powerline easements, Tennessee is proposing that the centerline of the pipeline will be installed generally five feet outside the existing powerline easement boundary. Further, Tennessee is proposing that the permanent easement be centered generally on the proposed pipeline and that 20 feet of the proposed 50-foot permanent easement overlap the existing powerline easement. Tennessee is also proposing that the temporary construction workspace for the Project for these areas of co-location overlap the existing powerline easement between 30 to 60 feet. The amount of overlap of temporary construction easements and the existing powerline easements will depend ultimately on the location of the closest powerline towers and facilities, which will dictate the amount of available space on the powerline easement. This proposed overlap of permanent easement and temporary construction workspace with existing powerline easements will reduce environmental and landowner impacts by a commensurate width outside the powerline easement. Tennessee notes that the proposed routing of the centerline of the pipeline generally five feet outside the existing powerline easement boundaries is based on information obtained from consultation with power companies or from available public information. Tennessee is engaged in discussions with the power

companies regarding co-location and the proposed overlapping of NED Project permanent easements and temporary construction workspaces with that of existing powerline easements and these discussions are ongoing. To the extent that Tennessee believes it would be appropriate to install the pipeline within the existing utilities easements or land owned by the power companies, Tennessee will pursue good-faith negotiations with the power companies to reach agreement for use of those land interests. Tennessee is currently conducting surveys of the powerline easements and may adjust the proposed centerline location of the pipeline and overlapping areas for the Project to reflect the results of these surveys, including appropriate mitigation for safety and operational considerations, as well as landowner and agency concerns, avoidance of sensitive environmental resources, and construction considerations. The centerline of the pipeline may be moved to within an existing powerline easement, less than five feet from the existing power line boundary, or further than five feet from the existing powerline boundary.

Tennessee is also proposing to minimize impacts by looping its own facilities in Pennsylvania and Connecticut. Pipeline loops are those pipeline segments which are laid parallel to, and connected to, another pipeline and used to increase capacity along existing pipeline facilities. These lines are connected to move larger volumes of gas through a single pipeline segment.

Tennessee's construction ROW widths for pipeline sections will generally range from 75 to 100 feet for construction, depending upon pipeline diameter. The construction ROW widths for each pipeline facility, proposed typical ROW configurations, and

construction and operational land requirements along individual pipeline facilities are provided in Resource Report 1, Section 1.2.1.

The construction workspace (including temporary workspace), additional temporary workspace (“ATWS”), permanent (or operational) ROW, temporary and permanent access roads, contractor yards, and aboveground facilities for the Project will total approximately 10,957 acres (Table 1.2-1 of Resource Report 1). Operation of the Project facilities will require approximately 2,397 acres that will be maintained as permanent ROW or fee-owned property of Tennessee for compressor station facilities.

Construction access to the Project areas and ancillary facilities will be by way of the construction ROW and existing and new public and private roads. Tennessee anticipates utilizing temporary and permanent access roads during the construction of each portion of the Project with permanent access roads for operation and maintenance of the Project facilities. Locations of access roads planned for the Project are provided in Resource Report 8, and locations of planned temporary access roads are depicted on USGS topographic maps and aerial alignment sheets provided in Volume II, Appendix E and F, respectively.

Tennessee has identified potential locations to be utilized for contractor yards for the Project. These areas will be used for equipment, pipe, and material storage and staging, as well as temporary field offices and pipe preparation/field assembly areas. Locations of proposed contractor yards are depicted on the USGS topographic maps and aerial alignment sheets provided in Volume II, Appendix E and Appendix F, and further described in Resource Report 8.

The configurations and sizes of ATWS areas will be based on site-specific conditions and vary in accordance with the construction methodology, crossing type, and other construction needs. ATWS requirements are summarized in Resource Report 1 at Section 1.2.5 and Table 1.2-1. These areas are shown on the aerial alignment sheets included in Volume II, Appendix F, and a complete list of these ATWS configurations by milepost is included in Resource Report 8.

**IX.**  
**PUBLIC CONVENIENCE AND NECESSITY AND**  
**COMPLIANCE WITH CERTIFICATE POLICY STATEMENT**

Tennessee’s proposed NED Project is required by the present and future public convenience and necessity, as demonstrated herein by the significant public benefits that the NED Project will produce for the northeast U.S. and New England. NGA Section 7 provides that the Commission shall issue a certificate of public convenience and necessity authorizing the construction of interstate pipeline facilities if it finds that the proposed construction is “required by the present of future public convenience and necessity.”<sup>36</sup> In the Commission’s Certificate Policy Statement, the Commission found that “[t]o demonstrate that its proposal is in the public convenience and necessity, an applicant must show public benefits that would be achieved by the project that are proportional to the project’s adverse impacts.”<sup>37</sup>

The NED Project is a transformative solution to New York’s and New England’s significant pipeline constraint problems that have caused residential, commercial, and

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<sup>36</sup> 15 U.S.C. § 717f(e).

<sup>37</sup> *Certification of New Interstate Natural Gas Pipeline Facilities*, Statement of Policy, 88 FERC ¶ 61,227, at p. 61,748, *modified by*, 89 FERC ¶ 61,040 (1999), *order clarifying statement of policy*, 90 FERC ¶ 61,128, *order further clarifying statement of policy*, 92 FERC ¶ 61,094 (2000) (“contracts or precedent agreements always will be important evidence of demand for a project”) (“Certificate Policy Statement”).

industrial ratepayers in New York and New England to pay some of the highest natural gas and electricity prices compared to those in other parts of the U.S. and some New England LDCs to declare moratoria on serving new customers due to their lack of access to incremental gas supplies. To address these issues, Tennessee proposes to construct, install, and operate the NED Project facilities to meet the growing demand for natural gas transportation capacity in the northeast U.S. and, in particular, New York and New England. Once complete, the Supply Path Component and Market Path Component of the Project will provide up to 1.2 and 1.3 Bcf per day, respectively, of additional natural gas transportation capacity to meet the growing energy needs. The expansion capacity created by the proposed facilities will address the needs of LDCs serving New York and New England families and businesses, gas-fired electric generators, EDCs, industrial plants, natural gas producers, and other Northeast consumers.

**A. The Northeast Needs the Additional Natural Gas Pipeline Capacity that the NED Project Would Supply**

**1. High Energy Costs Demonstrate the Need for the Project**

Despite being less than three hundred miles from the most productive natural gas production area in the country, natural gas prices in New England are the highest in the U.S.<sup>38</sup> According to the Energy Information Administration (“EIA”), New England’s electricity prices were nearly 50 percent above the U.S. average in 2014<sup>39</sup> and were over

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<sup>38</sup> See Press Release, ISO New England, 2013 Wholesale Electricity Prices in New England Rose on Higher Natural Gas Prices: Pipeline constraints and higher demand pushed up prices for both natural gas and power at 1 (March 18, 2014), [http://www.iso-ne.com/nwsiss/pr/2014/2013\\_price%20release\\_03182014\\_final.pdf](http://www.iso-ne.com/nwsiss/pr/2014/2013_price%20release_03182014_final.pdf).

<sup>39</sup> EIA, Electric Power Monthly, Table 5.6.A, Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, Year-to-Date through December 2014 and 2013 (Feb. 2015), [http://www.eia.gov/electricity/monthly/current\\_year/february2015.pdf](http://www.eia.gov/electricity/monthly/current_year/february2015.pdf).

70 percent above the U.S. average in January and February of 2015.<sup>40</sup> During the past two winters, New England’s electric generators have had to rely on scarce (and thus high-priced) natural gas, expensive imported LNG, and costly fuel oil (in part through the Winter Reliability Program) to meet demand. In short, New England has insufficient natural gas pipeline capacity serving the region.

According to ISO New England, despite proximity to the nation’s largest growing source of natural gas, pipeline limitations into and within New England typically causes price separation between New England and nearby supply basins.<sup>41</sup> The NED Project is the answer to relieving these pipeline constraints and making these low-cost, domestic supplies available to gas consumers across New England and New York. As the New Hampshire PUC recently stated in its order approving Liberty Utilities (EnergyNorth Natural Gas) Corp. (“Liberty Utilities”) NED Project precedent agreement, the new capacity back to nearby supplies “would provide [Liberty Utilities] with direct access to the lowest-priced gas supply in the United States in place of access to the highest priced gas in the United States, at Dracut.”<sup>42</sup>

By connecting markets in New England to the abundant and low-cost gas supplies available from nearby domestic natural gas supply regions, the NED Project will generate significant cost savings for gas consumers in New England. In the recent order from the Massachusetts DPU approving Boston Gas Co.’s Project precedent agreement, the Massachusetts DPU found that “access to lower-cost supplies will allow customers to

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<sup>40</sup> EIA, Electric Power Monthly, Table 5.6.A., Average Retail Price of Electricity to Ultimate Customers by End-Use Sector (Apr. 2015), [http://www.eia.gov/electricity/monthly/current\\_year/april2015.pdf](http://www.eia.gov/electricity/monthly/current_year/april2015.pdf).

<sup>41</sup> ISO New England, 2015 Regional System Plan, at 132 (Nov. 5, 2015), [http://www.iso-ne.com/static-assets/documents/2015/11/rsp15\\_final\\_110515.docx](http://www.iso-ne.com/static-assets/documents/2015/11/rsp15_final_110515.docx).

<sup>42</sup> *Liberty Utils. (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utils.*, Order No. 25,822, Docket No. DG 14-380, at 28 (N.H. PUC Oct. 2, 2015).

achieve commodity cost savings estimated to be between \$237 million under normal-year conditions and \$813 million under design-year conditions from November 1, 2018, through October 31, 2024.<sup>43</sup> These savings are derived from: “(1) the ability to access less expensive domestic supplies on a year-round basis; (2) the elimination of Eastern Canadian supply purchases at Dracut, Massachusetts; and (3) reduced reliance on citygate-delivered supplies.”<sup>44</sup> The Massachusetts DPU made similar findings in the Berkshire Gas proceeding, noting commodity cost savings of “\$2 million in 2018/2019, increasing annually to \$9 million in 2023/2024.”<sup>45</sup> These savings are a result of: “(1) access to lower-cost supplies; (2) reduced reliance on citygate-delivered supplies; and (3) a reduction in the use of higher-priced on-system LNG and [liquid propane] resources.”<sup>46</sup>

In addition to the substantial savings that the NED Project is expected to generate for gas consumers in New England, because natural gas is the primary fuel for the generation of electricity in New England and sets the price of electricity for the majority of the year, all residents in New England are expected to benefit from lower electricity prices when the NED Project is placed in service. In 2008, New England began experiencing natural gas prices near \$3 per million British thermal units (“MMBtu”) during the shoulder and summer months, leading to low and stable electricity prices of around \$40 per megawatt hour (“MWh”).<sup>47</sup> The region managed relatively small winter

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<sup>43</sup> *Boston Gas Co. d/b/a Nat'l Grid*, Docket No. D.P.U. 15-34, at 38 (Massachusetts DPU Aug. 31, 2015) (citations omitted).

<sup>44</sup> *Id.* (citations omitted).

<sup>45</sup> *Berkshire Gas Co.*, Docket No. D.P.U. 15-48, at 49 (Mass. DPU Aug. 31, 2015) (citations omitted).

<sup>46</sup> *Id.* (citations omitted). Tennessee notes that the Massachusetts Attorney General issued a report entitled *Power System Reliability in New England, Meeting Electric Resource Needs in an Era of Growing Dependence on Natural Gas* on November 18, 2015. Tennessee is reviewing that report and will respond to it in this proceeding, if necessary.

<sup>47</sup> Gordon van Welie, ISO New England, “Challenges Facing the New England Power System, Northeast Forum on Regional Energy Solutions” slide 6 (Apr. 23, 2015), <http://www.iso-ne.com/static->

gas price spikes to around \$7 per MMBtu, with corresponding electricity price spikes to roughly \$65 per MWh.<sup>48</sup> However, that situation changed dramatically in 2012.

In the summer of 2012, New England enjoyed then-record-low gas and electricity prices, followed by extreme price spikes during the winter of 2012-13. Monthly average gas prices reached nearly \$18 per MMBtu, while monthly average electricity prices reached about \$100 per MWh.<sup>49</sup> During the winter of 2013-14, monthly average natural gas prices topped \$24 per MMBtu, driving monthly average electricity prices to over \$160 per MWh.<sup>50</sup> Winter 2014-15 offered little reprieve, as monthly average gas prices reached \$17 per MMBtu.<sup>51</sup> Throughout the entire 2014-15 winter, spot natural gas prices for Algonquin Gas Transmission's ("AGT") pipeline system (near Boston) and Tennessee's system (near Dracut, Massachusetts) averaged \$9.387 per MMBtu and \$9.014 per MMBtu respectively, while approximately 300 miles southwest at the Tennessee pricing point near production areas in Pennsylvania, prices averaged \$1.733 per MMBtu.<sup>52</sup> Monthly average electricity prices in February 2015 reached the third highest level, at over \$125 per MWh.<sup>53</sup>

This strong correlation between gas and electricity prices in New England is clear throughout the year. As heating demand subsided during the spring and summer of 2015, pipeline constraints were less severe, and there was more supply available to fuel the

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[assets/documents/2015/04/northeast\\_forum\\_on\\_regional\\_energy\\_solutions\\_van\\_welie\\_remarks\\_and\\_slides\\_04232015.pdf](#).

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> ISO New England, 2015 Regional System Plan at 132.

<sup>53</sup> ISO New England, *Wholesale electricity prices and demand in New England*, ISO Newswire (July 15, 2015), <http://isonewswire.com/updates/2015/7/15/wholesale-electricity-prices-and-demand-in-new-england.html>.



region's efficient natural gas-fired generators. With access to gas in nearby production areas at record-low prices (\$1.68 per MMBtu), these generators drove electricity prices to record lows (\$19.61 per MWh).<sup>54</sup> As the chief economist at ISO New England explained, the reason for "such low prices is simple:"

It's supply and demand. With June's mild weather, demand for natural gas and electricity were both low, and the pipeline capacity was available to deliver a plentiful supply of exceptionally low-priced natural gas to generators in New England. Seasonal demand for natural gas has abated, and New England is able to access that low-cost supply because we aren't seeing winter's recurring pipeline constraints.

But the swing in prices over just five months, going from the third-highest power price during February to the lowest in June, underscores the price volatility attributable to pipeline infrastructure constraints," White added. "During February's record cold, demand for natural gas was so high that the pipelines into New England—which haven't expanded at the same pace as natural gas demand growth—were running at or near capacity. When natural gas demand is so high and the supply available to generators is limited, the price for natural gas delivered to New England rises dramatically—and so does the price for the electricity made from it."<sup>55</sup>

However, during February 2014, the average wholesale price of power was \$126.70 per MWh, while the average price of natural gas was \$17.27 per MMBtu, the fourth-highest monthly level since 2003.<sup>56</sup>

Despite occasional lower prices for natural gas and electricity, pipeline capacity constraints are having a real and adverse economic impact on residents and businesses. National Grid increased its customers' electric rates last winter (2014-2015) by an average of 37 percent due to "continued constraints on the natural gas pipelines serving the region, which decrease natural gas availability at times of peak demand, causing some

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<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

<sup>56</sup> *Id.*

generators to buy gas on the spot market at higher prices, switch over to alternate fuels, or not run at all.”<sup>57</sup>

The high gas and electric rates have real consequences for the people and businesses of New England. In 2014, 183,009 Massachusetts consumers obtained Low Income Heating Assistance Program (“LIHEAP”) heating assistance, and the program is budgeted for over \$133 million in subsidies in 2016.<sup>58</sup> In Maine, pulp and paper mills have closed down, some temporarily and others permanently, because of extremely high energy costs, sending hourly workers home and laying off others.<sup>59</sup> In Connecticut, the Consumer Counsel has warned of the “Human Cost of Inadequate Natural Gas Pipeline,” explaining that the number of Connecticut Light & Power (d/b/a Eversource Energy) non-hardship customers who cannot afford their bills has more than quadrupled from 2012 to 2014 (53,869 to 218,580), with the total level of delinquency going from about \$15 million to \$50 million.<sup>60</sup> In New York, customers throughout the State “faced higher energy bills and nearly 277,000 residential electric and gas customers statewide incurred service disconnections for nonpayment during 2014-15.”<sup>61</sup> New York’s State Energy Plan explicitly recognizes that the volatility in gas and electricity prices “makes it

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<sup>57</sup> Press Release, National Grid, National Grid Files for Winter Rates in Massachusetts (September 24, 2014), [https://www.nationalgridus.com/aboutus/a3-1\\_news2.asp?document=8764](https://www.nationalgridus.com/aboutus/a3-1_news2.asp?document=8764). National Grid petition approved on Nov. 17, 2014, Docket No. D.P.U. 14-115 (Massachusetts DPU), <http://web1.env.state.ma.us/DPU/FileRoomAPI/api/Attachments/Get/?path=14-115%2f14115approval11072014.pdf>.

<sup>58</sup> Massachusetts LIHEAP Clearinghouse, <http://www.liheapch.acf.hhs.gov/profiles/Mass.htm>.

<sup>59</sup> See, e.g., Tux Turkel, *Some Maine mills forced to idle as price of power soars*, Portland Press Herald (Dec. 19, 2013), [http://www.pressherald.com/2013/12/19/mills\\_forced\\_to\\_idle\\_lines\\_as\\_price\\_of\\_power\\_soars/](http://www.pressherald.com/2013/12/19/mills_forced_to_idle_lines_as_price_of_power_soars/).

<sup>60</sup> Elin Swanson Katz, Consumer Counsel, Connecticut Office of the Consumer Counsel, “The Cost of Inadequate Natural Gas Pipeline,” presentation at the Northeast Forum on Regional Energy Solutions, at slide 3 (Apr. 23, 2015), [http://www.ct.gov/deep/lib/deep/press\\_releases/2015/4-23-15\\_elin\\_katz\\_regional\\_energy\\_forum\\_slides.pdf](http://www.ct.gov/deep/lib/deep/press_releases/2015/4-23-15_elin_katz_regional_energy_forum_slides.pdf).

<sup>61</sup> N.Y. State Energy Planning Bd., 1 N.Y. State Energy Plan, The Energy to Lead 10 (2015), <http://energyplan.ny.gov/-/media/nysenergyplan/2015-state-energy-plan-pf.pdf>.

difficult for families to budget their expenses and for businesses to plan and grow with confidence.”<sup>62</sup> In addition, LDCs in Western Massachusetts have been forced to place moratoria on new customer connections due to insufficient capacity.<sup>63</sup> These are a few of countless examples of the harms associated with high energy costs due to the inadequate natural gas pipeline capacity.

Additional natural gas pipeline infrastructure could have tempered the high electricity prices of the past three winters. One study finds that the 2013-14 “‘Polar Vortex’ winter resulted in both record high and exceptionally volatile gas prices, which had a direct impact on wholesale power prices.”<sup>64</sup> The study concludes that had the NED Project been in service during the winter of 2013-14, the additional pipeline capacity would have eliminated gas and electric price spikes on 86 days during the 2013-14 winter and reduced wholesale electricity expenditures by New England’s businesses and residents by \$3.7 billion.<sup>65</sup>

And the problem looks to only get worse. As a general trend, over the last 15 years, New England has steadily increased its reliance on natural gas-fired electricity generation, which accounted for only about 15 percent of New England’s electricity

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<sup>62</sup> *Id.*

<sup>63</sup> See e.g., Jim Kinney, *Berkshire Gas imposes Hampshire County hookup moratorium blocking projects in Amherst, Hadley while calling for Kinder Morgan pipeline* (Mar. 20, 2015), [http://www.masslive.com/business-news/index.ssf/2015/03/berkshire\\_gas\\_hampshire\\_county\\_hookup\\_mo.html](http://www.masslive.com/business-news/index.ssf/2015/03/berkshire_gas_hampshire_county_hookup_mo.html); Jay Fitzgerald, *Utilities may limit new natural gas connections*, Boston Globe (Oct. 4, 2014), <https://www.bostonglobe.com/business/2014/10/03/tight-natural-gas-supplies-has-utilities-ready-turn-away-new-customers/zeeyHhkduXfDdpx6iqc81O/story.html>.

<sup>64</sup> ICF Int’l, *New England Energy Market Outlook Demand for Natural Gas Capacity and Impact of the Northeast Energy Direct Project*, 8 (2015), [http://www.kindermorgan.com/content/docs/NED\\_CapacityOutlook.pdf](http://www.kindermorgan.com/content/docs/NED_CapacityOutlook.pdf).

<sup>65</sup> *Id.* at 31.

generation in 2000.<sup>66</sup> In 2012, natural gas accounted for a record-high 52 percent of New England’s electricity generation, almost exclusively displacing higher-priced and higher-emission coal- and oil-fired generation, which fell to a combined record-low of about 3.4 percent.<sup>67</sup> However, that trend has reversed in recent years as demand has exceeded available firm capacity, resulting in increased natural gas pipeline constraints, decreased competitive spot supplies, and extraordinarily high utilization of existing pipeline infrastructure by LDCs and other firm contract holders. In 2013, natural gas-fired generation fell to 46 percent, while generation from coal and oil increased to nearly 7 percent.<sup>68</sup> In 2014, natural gas generated only 43 percent of the region’s electricity, while coal and oil combined to account for over 6 percent again, despite lower overall demand.<sup>69</sup>

The reversion to coal and oil precipitated by natural gas pipeline constraints is especially pronounced during winter. While these fuels may have helped keep the lights on, they have not alleviated price spikes, all the while increasing emissions. In January 2014, coal- and oil-fired generators produced 25 percent of the region’s electricity, which cost a record-high \$162.88 per MWh.<sup>70</sup> In February 2014, coal- and oil-fired generators

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<sup>66</sup> Gordon van Welie, ISO New England, “Challenges Facing the New England Power System, Gas Electric Interdependency: The Realities of Keeping the Lights On,” slide 7 (Mar. 26, 2015), [http://www.iso-ne.com/static-assets/documents/2015/03/icf\\_isone\\_van\\_welie.pdf](http://www.iso-ne.com/static-assets/documents/2015/03/icf_isone_van_welie.pdf).

<sup>67</sup> ISO New England, New England 2012-13 Regional Profile (February 2013), <http://www.mass.gov/eea/docs/doer/pub-info/ne-01-2011-profile.pdf>.

<sup>68</sup> ISO New England, New England 2013-14 Regional Profile (February 2014), [http://www.iso-ne.com/nwsiss/grid\\_mkts/key\\_facts/final\\_regional\\_profile\\_2014.pdf](http://www.iso-ne.com/nwsiss/grid_mkts/key_facts/final_regional_profile_2014.pdf).

<sup>69</sup> ISO New England 2015 Regional System Plan at 9.

<sup>70</sup> ISO New England, *Monthly wholesale electricity prices and demand in New England*, ISO Newswire (Mar. 3, 2014), <http://isonewswire.com/updates/2014/3/3/monthly-wholesale-electricity-prices-and-demand-in-new-engla.html> (“But during January 2014, coal- and oil-fired generators were more often in economic merit, and therefore were dispatched more frequently than usual. Resources registered as oil units generated about 5% while coal units generated about 11% of the energy produced in New England. Dual-fuel units, which typically use natural gas as their primary fuel and oil as their secondary fuel, generated 9%. Because oil was more often in economic merit than natural gas, it’s reasonable to assume that dual-

produced 19 percent of the region's power, as prices rose to \$152.84 per MWh, the second highest level in history.<sup>71</sup> In February of 2015, coal and oil accounted for 26.2 percent of New England's electricity generation, as prices reached the third highest level of \$126.7 per MWh.<sup>72</sup> At evening peaks, for example on February 15, 2015, coal- and oil-fired generators have been the region's primary energy-producers, creating up to 42 percent of the electricity generated in the region.<sup>73</sup> This reversion to coal and oil, caused in part by the lack of adequate pipeline capacity, is not in the public interest.

As natural gas has become the predominant fuel for electricity generation in New England, the interstate pipeline system serving New England has not been significantly expanded to supply this increased load. Due to the structure of the wholesale electricity market that has developed in that time, the vast majority of electric generators do not hold firm transportation capacity to reliably receive the fuel they need to generate electricity. New England's reliance on gas-fired electric generation will continue to accelerate as

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fuel units employed the less expensive fuel (oil) in January. If the dual-fuel units' 9% output is added to the 5% output from resources registered as oil-fired, oil generated about 14% of the energy produced in New England in January.”).

<sup>71</sup> ISO New England, *Wholesale electricity prices and demand in New England*, ISO Newswire (Mar. 26, 2014), <http://isonewswire.com/updates/2014/3/26/monthly-wholesale-electricity-prices-and-demand-in-new-engla.html> (“But during February 2014, coal- and oil-fired generators were more often in economic merit, and therefore were dispatched more frequently than usual. Resources registered as oil units generated about 1% while coal units generated about 14% of the energy produced in New England. Dual-fuel units, which typically use natural gas as their primary fuel and oil as their secondary fuel, generated 4%. Because oil was more often in economic merit than natural gas, it's reasonable to assume that dual-fuel units more frequently employed the less expensive fuel (oil) in February. If the dual-fuel units' 4% output is added to the 1% output from resources registered as oil-fired, oil generated as much as 5% of the energy produced in New England in February.”).

<sup>72</sup> ISO New England, *Wholesale electricity prices and demand in New England*, ISO Newswire (Apr. 7, 2015), <http://isonewswire.com/updates/2015/4/7/wholesale-electricity-prices-and-demand-in-new-england.html> (“Coal units generated 12.3% of the energy produced in New England. . . . Oil was less expensive on 86% of the days in February, and oil-fired resources produced 5.3% of the energy generated within New England. Dual-fuel units, which generally are capable of burning natural gas or oil and typically use the less expensive fuel, generated about 10%.”)

<sup>73</sup> ISO New England, *New England Power System Performed Well Through Winter 2014/2015*, ISO Newswire (Apr. 7, 2015), <http://isonewswire.com/updates/2015/4/7/new-england-power-system-performed-well-through-winter-20142.html>.

older nuclear, coal, and oil-fired plants are retired and replaced by new, cleaner gas-fired plants. Scheduled retirements of New England power plants between 2014 and 2018 - which does not include the retirement of any natural gas-fired plants - represent more than 10 percent of the region's existing generating capacity.<sup>74</sup> Close to 60 percent of the 9,500 megawatts ("MW") of proposed new electric generation in ISO New England's region will be fueled by natural gas.<sup>75</sup> ISO New England succinctly described the consequences associated with the region's increased reliance on natural gas for electric generation and the lack of sufficient pipeline capacity: "Absent further expansion of pipeline capacity, New England will likely experience more limitations on gas delivery to generators and, during winter cold conditions, may experience more extreme disruptions."<sup>76</sup> The high energy costs associated with the increased reliance on natural gas and the lack of sufficient pipeline capacity demonstrates the need for the Project.

## **2. Reliability Challenges Demonstrate the Need for the Project**

Not only has limited natural gas transportation infrastructure led to high electricity prices in the northeastern U.S., it also threatens reliability in the region.<sup>77</sup> The Commission already recognizes this reality. Indeed, the Federal Power Act mandates that the Commission ensure reliability of the bulk electric system.<sup>78</sup> In this role, the Commission initiated an investigation into gas-electric coordination issues and directed

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<sup>74</sup> *Id.*

<sup>75</sup> ISO New England, New England Power Grid 2014-2015 Profile, <http://www.iso-ne.com/static-assets/documents/2015/02/2015-powergridprofile-final.pdf>

<sup>76</sup> ISO NE, Strategic Planning Initiative, "Addressing Gas Dependence" at 3, 5 (July 2012), [http://www.iso-ne.com/committees/comm\\_wkgrps/strategic\\_planning\\_discussion/materials/natural-gas-white-paper-draft-july-2012.pdf](http://www.iso-ne.com/committees/comm_wkgrps/strategic_planning_discussion/materials/natural-gas-white-paper-draft-july-2012.pdf).

<sup>77</sup> *Id.* at 2. See also Massachusetts Office of The Attorney General, *Overview of Electricity & Natural Gas Rates*, <http://www.mass.gov/ago/doing-business-in-massachusetts/energy-and-utilities/energy-rates-and-billing/electric-and-gas-rates.html> (last visited Nov. 16, 2015).

<sup>78</sup> 16 U.S.C. § 824o (2012).

Commission Staff to study the problem.<sup>79</sup> Commission Staff, in turn, concluded that there was a significant “deficiency” in the “availability of pipeline transportation capacity outside of what is contracted and used by firm shippers” in the Northeast.<sup>80</sup>

Specifically, Commission Staff determined that “when firm shippers are at or near their full contract limits, there is insufficient interruptible pipeline capacity remaining to meet the overall needs of the electric generators in the region.”<sup>81</sup> Commission Staff projects that this capacity shortage will continue, especially during winter periods, “through 2020 with a gas supply ‘deficiency’ ranging from 40 [million cubic feet (“MMcf”)] per day to 1 Bcf per day.”<sup>82</sup> Another recent study concludes that New England will need 1.5 Bcf per day of pipeline capacity by 2020 and 2.2 Bcf per day by 2035, under normal weather conditions.<sup>83</sup> If peak day winter temperatures are lower than normal, unmet demand for pipeline capacity could reach 1.7 Bcf per day by 2020, and 3.2 Bcf per day by 2035.<sup>84</sup>

Last year, for the second year in a row, ISO New England implemented a Winter Reliability Program “to address concerns about the ability of power system resources to perform when dispatched, especially during cold weather conditions.”<sup>85</sup> The Winter Reliability Program is essentially an emergency oil subsidy. In the 2013-14 Winter

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<sup>79</sup> Notice Assigning Docket No. and Requesting Comments, *Coordination between Natural Gas and Electricity Markets*, Docket No. AD12-12-000 (Feb. 15, 2012).

<sup>80</sup> Gas-Electric Coordination Quarterly Report to the Commission, at 8, *Coordination between Natural Gas and Electricity Markets*, Docket No. AD12-12-000 (Dec. 18, 2014).

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> ICF Int’l, New England Energy Market Outlook Demand for Natural Gas Capacity and Impact of the Northeast Energy Direct Project 6 (2015), [http://www.kindermorgan.com/content/docs/NED\\_CapacityOutlook.pdf](http://www.kindermorgan.com/content/docs/NED_CapacityOutlook.pdf).

<sup>84</sup> *Id.*

<sup>85</sup> ISO New England, *Resources’ participation in 2014/2015 Winter Reliability Program improves fuel adequacy this winter*, ISO Newswire (Jan. 12, 2015), <http://isonewswire.com/updates/2015/1/12/resources-participation-in-20142015-winter-reliability-progr.html>.

Reliability Program, oil-fired generators earned approximately \$66 million (above-market) to burn over 2.7 million barrels of oil, which “was critical in keeping the lights on, especially during times when the gas pipelines were severely constrained and also when oil was more competitively priced than natural gas, which resulted in many oil plants running more than usual and for extended hours.”<sup>86</sup> The 2014-15 Winter Reliability Program changed slightly, including becoming open to LNG, another historically unreliable fuel. In 2014-15, participating oil and dual-fuel generating units burned 2,717,500 barrels of oil through February.<sup>87</sup> While two gas-fired generators contracted for over 500,000 MMBtu of LNG, none was used.<sup>88</sup> The total cost of the 2014-15 Winter Reliability Program was around \$47 million, through the end of February.<sup>89</sup> Moreover, to ensure system reliability in the face of persistent and worsening natural gas pipeline constraints, the Commission has approved the continuation of the Winter Reliability Program through at least 2018-19.<sup>90</sup> While vital to reliability, the Winter Reliability Program has increased, and will continue to increase, costs and emissions as a result of maintaining electric reliability in New England.

### **3. The Project Addresses the Need for Lower Energy Costs and Greater Reliability**

The NED Project not only would provide new, reliable capacity from the nation’s abundant gas supplies, but its unique design will complement Tennessee’s existing system and boost operational flexibility and capacity to key load centers in New England

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<sup>86</sup> *Id.*

<sup>87</sup> Mark Babula, ISO New England, “Planning Advisory Committee: Post Winter 2014/2015 Review,” slide 5 (Apr. 22, 2015), [http://www.iso-ne.com/static-assets/documents/2015/04/a3\\_post\\_winter\\_review\\_presentation.pdf](http://www.iso-ne.com/static-assets/documents/2015/04/a3_post_winter_review_presentation.pdf).

<sup>88</sup> *Id.*

<sup>89</sup> *Id.* at slides 2-4.

<sup>90</sup> *ISO New England Inc.*, 152 FERC ¶ 61,190 (2015).



and New York. The Project's proposed interconnection with Portland Natural Gas Transmission System's ("Portland Natural") and Maritimes' jointly-owned pipeline facilities ("Joint Facilities"), together with the anticipated reversal of the primary flow direction of the Joint Facilities and the Maritimes system, will enable the NED Project to support markets in New Hampshire and Maine, as well as markets along AGT's pipeline system. The NED Project, through its interconnects with Iroquois and the Tennessee 200 Line at Wright, New York will not only help lower natural gas costs in New York, but will also provide consumers in upstate, downstate (via Iroquois), and western New York (via Tennessee's existing system) with incremental supply and pipeline diversity, which will lead to greater supply reliability and certainty. The Project facilities will provide needed redundancy and resiliency to the pipeline supply network serving the New York. The NED Project will also increase the flexibility and reliability of Tennessee's system as a whole, allowing Tennessee to significantly increase capacity via backhaul<sup>91</sup> on Tennessee's existing 200 Line system, including serving additional markets in New York, and increase deliverability at an important supply feed to the AGT pipeline system via an existing Tennessee-AGT interconnect at Mendon, Massachusetts.

Currently, the existing Tennessee system generally flows from west to east in both New York and New England. An important feature of the NED Project is that it will bring high-pressure gas into upstate New York at Wright and the eastern end of the existing Tennessee system at Dracut. This will permit Tennessee to use its existing facilities to transport gas from east to west, first, by utilizing displacement, and then, if volumes become large enough, by utilizing physical east to west flow. This increased

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<sup>91</sup> In this case, backhaul refers to transporting gas in the opposite direction from historical operation.

flexibility will not only provide enormous benefits to Tennessee's system as a whole, benefiting customers in New York and Pennsylvania, as well as New England, but will also provide substantial benefits to AGT's system into which Tennessee currently delivers approximately 1.0 Bcf per day.

The NED Project will create a large bi-directional pipeline loop that will fundamentally improve natural gas flows, relieve existing bottlenecks, and provide critical reliability to the Boston Metropolitan area and generators supplying the New England electric grid for decades to come. The Project's ability to bring 1.3 Bcf per day of high-pressure gas to Dracut, Massachusetts is particularly significant for the region because it will enable Tennessee to maintain higher operating pressures into New Hampshire and the Boston Metropolitan area, which are currently at the extremities of Tennessee's and other pipelines' systems. By delivering high pressure volumes of gas into the historic low-pressure end of Tennessee's system, other pipelines including the Joint Facilities and AGT will benefit from increased flexibility and ability to disperse gas through delivery to LDCs, power generators, and other end users throughout eastern New England. The proverbial end-of-the-line on Tennessee's system has historically been the most vulnerable area from a reliability standpoint within the region's existing gas pipeline infrastructure because of the relatively low pipeline pressure. With reductions in Atlantic Canadian production, deliveries at Dracut from Maritimes are steadily decreasing, supporting the need for additional capacity at that location to serve the region.

The NED Project will also provide New York markets with additional direct and diverse supply access to serve markets in upstate, downstate, and western New York.

This will be accomplished with the Project's multiple interconnects at Wright, New York, including with Iroquois and Tennessee's 200 Line. The access to low-cost and abundant domestic supplies will provide existing New York markets on Iroquois with an alternative source of supply as sources of Canadian supply continue to diminish. This supply access will also benefit existing and future markets on Tennessee, including power generation, and provide future opportunities for LDCs in New York not currently served by Tennessee, with greater reliability and fuel certainty through the same access to this domestic, diverse, and direct supply.

The NED Project will also serve to provide stability and reliability to New York's energy market, which is currently facing uncertainty and reliability concerns. In particular, nuclear electric generation capacity in New York faces several challenges that will likely require increased natural gas supply for clean new and repowered electric generation to ensure electric reliability. In October of 2015, the owners of the James A. FitzPatrick Nuclear Power Plant in Oswego, New York signaled their intention to close down the plant by early 2017.<sup>92</sup> The Robert Emmett Ginna Nuclear Power Plant outside Rochester, New York is in a similar situation facing the prospect of closure.<sup>93</sup> In addition, New York Governor Andrew Cuomo has advocated strongly for the closure of Indian Point Nuclear Plant in Buchanan, New York, and in November 2015 the New York Department of State denied renewal of an operating certificate for the plant,

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<sup>92</sup> Tim Knauss, *Entergy reaffirms plan to shut FitzPatrick nuclear plant; no sign of indecision*, (Nov. 10, 2015), [http://www.syracuse.com/news/index.ssf/2015/11/entergy\\_affirms\\_plan\\_to\\_shut\\_fitzpatrick\\_nuclear\\_plant\\_no\\_mention\\_of\\_talks.html](http://www.syracuse.com/news/index.ssf/2015/11/entergy_affirms_plan_to_shut_fitzpatrick_nuclear_plant_no_mention_of_talks.html).

<sup>93</sup> Steve Orr, *RG&E proposes plan to speed Ginna closure*, Democrat & Chronicle (Jan. 10, 2015), <http://www.democratandchronicle.com/story/news/2015/01/10/rge-plan-ginna-closure/21560939/>.

creating further uncertainty about its future.<sup>94</sup> These potential closings will stress an already uncertain energy market. The New York ISO has recognized “increasing dependence upon natural gas to produce power raises concerns regarding the potential impacts of gas availability on electric system reliability and power costs.”<sup>95</sup> Thousands of megawatts of power will have to be provided through alternative means to maintain reliability in New York and New England. Clean gas-fired generation will be a primary means to meet these immediate challenges.

Additionally, expansion of the natural gas system complements the economic development efforts encompassed by Governor Cuomo’s New York Energy Highway “Blueprint,” which states that “[a]ccelerating utility capital and operation and maintenance spending on the State’s . . . natural gas infrastructure will result in enhanced reliability and safety for utility customers while generating substantial economic development benefits for the State’s overall economy.”<sup>96</sup>

In addition to the cost savings that the NED Project will provide to existing gas and electricity consumers, the NED Project will also facilitate conversions from oil to natural gas for residential heating, leading to significant cost savings for any converting consumers. Approximately 87 percent of all U.S. residential fuel oil sales were to households in the northeast U.S. in 2013, which consumed 3.2 billion gallons of oil just

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<sup>94</sup> Joseph De Villa, *New York Could Snarl Indian Point Licensing*, Wall Street Journal (Nov. 12, 2015), <http://www.wsj.com/articles/new-york-could-snarl-indian-point-licenses-1447381336>.

<sup>95</sup> New York Independent System Operator, *Power Trends 2015: Rightsizing the Grid*, at 40-41 (2015), [http://www.nyiso.com/public/webdocs/media\\_room/press\\_releases/2015/Child\\_PowerTrends\\_2015/ptrends\\_2015\\_FINAL.pdf](http://www.nyiso.com/public/webdocs/media_room/press_releases/2015/Child_PowerTrends_2015/ptrends_2015_FINAL.pdf).

<sup>96</sup> Governor Andrew M. Cuomo, *New York Energy Highway Blueprint* at 14 (2012), [http://www.nyenergyhighway.com/Content/pdf/Blueprint\\_FINAL.pdf](http://www.nyenergyhighway.com/Content/pdf/Blueprint_FINAL.pdf).

to heat homes.<sup>97</sup> In New England, reliance on fuel oil is even more pronounced, as the percentage of households heating with oil is 64.2 in Maine,<sup>98</sup> 46.1 in New Hampshire,<sup>99</sup> 43.8 in Vermont,<sup>100</sup> 43.7 in Connecticut,<sup>101</sup> 32.6 in Rhode Island,<sup>102</sup> and 29.2 in Massachusetts.<sup>103</sup> The U.S. average for homes heating with fuel oil is just 5.5 percent, driven up in particular by New England.

The EIA states that “[a] homeowner in the Northeast might use 850 gallons to 1,200 gallons of heating oil during a typical winter, while consuming very little during the rest of the year.”<sup>104</sup> The cost of this delivered oil was \$3.88 per gallon during the winter of 2013-14 and \$3.04 per gallon during the winter of 2014-15,<sup>105</sup> meaning a typical northeast U.S. household heating with oil spent \$3,298-\$4,656 and \$2,584-\$3,648 in 2013-14 and 2014-15, respectively. For comparison, a northeast U.S. household heating with natural gas consumed 84.1 thousand cubic feet (“Mcf”) and 84.7 Mcf during those same winters, spending just \$971 and \$921 in 2013-14 and 2014-15, respectively.<sup>106</sup> By way of illustrative example, if the approximately five million households in the northeast U.S using fuel oil (assuming consumption of 1,000 gallons)

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<sup>97</sup> EIA, Heating Oil Explained, Use of Heating Oil, [http://www.eia.gov/energyexplained/index.cfm?page=heating\\_oil\\_use](http://www.eia.gov/energyexplained/index.cfm?page=heating_oil_use) (last visited Nov. 16, 2015).

<sup>98</sup> EIA, Maine State Energy Profile, <http://www.eia.gov/state/print.cfm?sid=ME> (updated May 21, 2015).

<sup>99</sup> EIA, New Hampshire State Energy Profile, <http://www.eia.gov/state/print.cfm?sid=NH> (updated May 21, 2015).

<sup>100</sup> EIA, Vermont State Energy Profile, <http://www.eia.gov/state/print.cfm?sid=VT> (updated May 21, 2015).

<sup>101</sup> EIA, Connecticut State Energy Profile, <http://www.eia.gov/state/print.cfm?sid=CT> (updated June 18, 2015).

<sup>102</sup> EIA, Rhode Island State Energy Profile, <http://www.eia.gov/state/print.cfm?sid=RI> (updated June 18, 2015).

<sup>103</sup> EIA, Massachusetts State Energy Profile, <http://www.eia.gov/state/print.cfm?sid=MA> (updated June 18, 2015).

<sup>104</sup> EIA, Heating Oil Explained, Factor Affecting Heating Oil Prices – Basics, [http://www.eia.gov/energyexplained/print.cfm?page=heating\\_oil\\_factors\\_affecting\\_prices](http://www.eia.gov/energyexplained/print.cfm?page=heating_oil_factors_affecting_prices).

<sup>105</sup> EIA, Short-Term Energy Outlook, Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter (Oct. 2015), <http://www.eia.gov/forecasts/steo/archives/Oct15.pdf>.

<sup>106</sup> *Id.*

had converted to natural gas at 2014-15 price and consumption levels, the region would have saved approximately \$10,595,000,000.<sup>107</sup> While it is not feasible for all northeast U.S. oil consumers to convert to natural gas, as discussed below, it is clear that the NED Project will create opportunities for these conversions.<sup>108</sup>

Ultimately, the availability of natural gas for conversions from oil for residential heating will depend on the LDCs that distribute gas to homes throughout the northeast U.S., but it is clear that the capacity that will be made available on the NED Project will help to facilitate these conversions. In approving Liberty Utilities' NED Project precedent agreement, the New Hampshire PUC found that the "NED Pipeline will provide opportunities for significant economic expansion of [Liberty Utilities'] distribution system and service both in and outside [Liberty Utilities'] existing franchise territory."<sup>109</sup> In fact, in a recent petition for approval of a new gas franchise in the towns of Jaffrey, Rindge, Swanzey, and Winchester in Southwestern New Hampshire, Liberty Utilities noted that it "will depend upon the Tennessee Gas Pipeline Company, L.L.C [ ] proposal to construct the Northeast Energy Delivery [sic] ("NED") natural gas pipeline in proximity to these towns" to obtain the gas that will be needed to serve new customers in these towns.<sup>110</sup> Liberty Utilities has also noted that it plans to convert its existing customers in Keene, New Hampshire from air-propane to natural gas.<sup>111</sup>

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<sup>107</sup> *Id.*

<sup>108</sup> *See infra* Section IX.A.7.

<sup>109</sup> *Liberty Utils. (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utils.*, Order No. 25,822, Docket No. DG 14-380, at 28 (N.H. PUC Oct. 2, 2015).

<sup>110</sup> Petition of Liberty Utilities (Energynorth Natural Gas) Corp. d/b/a Liberty Utilities for Approval of a Gas Franchise in Jaffrey, Rindge, Swanzey and Winchester, Docket No. DG 15-442 (N.H. PUC Oct. 9, 2015).

<sup>111</sup> Dave Solomon, *Liberty Utilities seeks to expand natural gas service*, New Hampshire Union Leader (Oct. 15, 2015), <http://www.unionleader.com/Liberty-Utilities-seeks-to-expand-natural-gas-service>.

While the cost-savings of natural gas over oil are real and significant, they are at risk in New England largely due to lack of sufficient pipeline infrastructure resulting in often severe natural gas price spikes driving up costs. Additionally, New York's energy policy encourages the conversion of oil heat to natural gas.<sup>112</sup> The NED Project is critical to both ensuring the future price-advantage of natural gas and the availability of natural gas to many of the northeast U.S. households still forced to rely on expensive fuel oil.<sup>113</sup>

As a final matter, the NED Project as proposed has significant advantages over alternatives, such as a take-up and relay expansion of Tennessee's existing 200 Line. Such take-up and relay expansion would lose the advantages of Tennessee's proposed approach as it would be unable to serve key locations such as the LDCs of western and central Massachusetts, as well as markets in New Hampshire, the replacement of reduced volumes delivered at Dracut and the numerous additional EDCs and electric generators that can be served off the Market Path Component in New York, Massachusetts, and New Hampshire. The physical scale and location of the Project also provides the region with much needed alternative paths and critical redundancies which are crucial for reliability during winter months and during periods of pipeline maintenance. Moreover, a take-up and relay expansion of the 200 Line would temporarily reduce capacity to the region during construction, exacerbating an already tight capacity market for years. Given these considerations, however, Tennessee identified two laterals where use of the take-up and relay construction method is the most appropriate method given the congested nature of

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<sup>112</sup> N.Y. State Energy Planning Bd., 1 N.Y. State Energy Plan, The Energy to Lead 37 (2015), <http://energyplan.ny.gov/-/media/nysenergyplan/2015-state-energy-plan-pf.pdf>; Governor Andrew M. Cuomo, New York Energy Highway Blueprint, at 58, [http://www.nyenergyhighway.com/Content/pdf/Blueprint\\_FINAL.pdf](http://www.nyenergyhighway.com/Content/pdf/Blueprint_FINAL.pdf).

<sup>113</sup> EIA, Short-Term Energy Outlook, Table WF01. Average Consumer Prices and Expenditures for Heating Fuels During the Winter (Oct. 2015), <http://www.eia.gov/forecasts/steo/archives/Oct15.pdf>.

the existing easement and the ability to avoid significant capacity reductions on these laterals. As discussed above and in Resource Report 1, Tennessee is using take-up and relay construction for approximately 9.27 miles for the Haverhill Lateral, and for approximately 0.4 mile for the Beverly Salem Colonial Lateral. In these limited circumstances, the take-up and relay method is the most appropriate method of construction for the expanded laterals.

In sum, the additional capacity and operational flexibility of the NED Project will provide extensive options to address reliability concerns. Moreover, the additional capacity is estimated to generate an average annual net electricity cost savings of \$1.7 billion to \$2.4 billion to New England electric consumers alone.<sup>114</sup>

#### **4. Long-Term Contracts Demonstrate Need for the Project**

Numerous and diverse end-users in the region recognize the region's needs and have acted by contractually committing to the Project. As of the date of this application, Tennessee has executed precedent agreements totaling 751,650 Dth per day of capacity on the Supply Path Component facilities and 552,262 Dth per day of capacity on the Market Path Component facilities. As the Commission has found, such commitments demonstrate need.<sup>115</sup>

Commitments for the Market Path Component include agreements with New England LDCs, including, Boston Gas Company (dba National Grid), The Narragansett Electric Company (dba National Grid), Liberty Utilities, Bay State Gas Company (dba

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<sup>114</sup> ICF Int'l, New England Energy Market Outlook, Demand for Gas Capacity and Impact of the Northeast Energy Direct Project at 36 (2015), [http://www.kindermorgan.com/content/docs/NED\\_CapacityOutlook.pdf](http://www.kindermorgan.com/content/docs/NED_CapacityOutlook.pdf).

<sup>115</sup> *Certificate Policy Statement*, 88 FERC ¶ 61,227, at p. 61,747. See also, *E. Shore Natural Gas Co.*, 132 FERC ¶ 61,204 (2010); *Dominion Transmission, Inc.*, 136 FERC ¶ 61,031 (2011); *Midwestern Gas Transmission Co.*, 114 FERC ¶ 61,257, *order denying reh'g and request for stay*, 116 FERC ¶ 61,182 (2006).



Columbia Gas of Massachusetts), The Berkshire Gas Company, Connecticut Natural Gas Corporation, and The Southern Connecticut Gas Company, and commitments for the Supply Path Component include agreements with several of the same LDCs, including Bay State Gas Company (dba Columbia Gas of Massachusetts), The Berkshire Gas Company, Connecticut Natural Gas Corporation, and The Southern Connecticut Gas Company. LDCs are responsible for serving communities, families, schools, and local businesses supporting local economies. As such, LDCs have expert and first-hand knowledge of their customers' needs and the real-time, local demand for natural gas and pipeline capacity. The LDCs that have signed precedent agreements for capacity on the NED Project have endorsed the need and benefits of the Project by executing the firm, long-term contracts supporting the Project.

The New Hampshire PUC also recently recognized the need for more gas pipeline capacity to supply the New Hampshire LDC, Liberty Utilities. On October 5, 2015, the New Hampshire PUC approved Liberty Utilities' 20-year contract with Tennessee for long-term, firm natural gas pipeline capacity on the Market Path Component of the NED Project finding that the transportation contract is prudent and reasonable.<sup>116</sup> Citing some benefits of the NED Project to Liberty Utilities' customers, the New Hampshire PUC noted that it found "promising the development of multiple pipeline projects to bring Marcellus gas to Wright; the new capacity back to Marcellus would provide [Liberty Utilities] with direct access to the lowest-priced gas supply in the United States in place of access to the highest priced gas in the United States, at Dracut."<sup>117</sup> The New

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<sup>116</sup> *Liberty Utils. (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utils.*, Order No. 25,822, Docket No. DG 14-380 (N.H. PUC Oct. 2, 2015).

<sup>117</sup> *Id.* at 28.

Hampshire PUC also dismissed the idea of imported LNG as an alternative to the NED Project explaining that “[t]he LNG global market is unstable and may compromise the reliability of [Liberty Utilities’] service to customers at the least cost, particularly on a design day or during a design-season.”<sup>118</sup>

In addition, the Massachusetts DPU recently approved the precedent agreements of Boston Gas (dba National Grid), Bay State (dba Columbia Gas), and Berkshire Gas, on August 31, 2015, for firm service on the Market Path Component of the NED Project. In approving these contracts, the Massachusetts DPU found that the NED Project was the best choice on the basis of reliability, flexibility, and diversity, and that there were no reasonable or viable alternatives to the Project that could meet total capacity needs.<sup>119</sup> The Massachusetts DPU also found that Project costs to ratepayers would be offset by access to lower-cost gas supplies.<sup>120</sup> The Massachusetts DPU also found that imported LNG is too expensive, is subject to price volatility, offers no operational benefits, would disregard safety, poses reliability concerns because of supply and liquefaction constraints, and the need is too significant to rely solely on delivered LNG resources.<sup>121</sup> The Massachusetts DPU determined that, based on both price and non-price factors (*e.g.* diversity), the NED Project represents the most viable, reasonably available alternative to meet its current and forecasted customer requirements in a least-cost, reliable manner.<sup>122</sup>

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<sup>118</sup> *Id.* at 29.

<sup>119</sup> See *Boston Gas Co. d/b/a National Grid*, Docket No. D.P.U. 15-34 at 48 (Mass. DPU Aug. 31, 2015); *Bay State Gas Co. d/b/a Columbia Gas of Mass.*, Docket No. D.P.U. 15-39 at 31 (Mass. DPU Aug. 31, 2015); *Berkshire Gas Co.*, Docket No. D.P.U. 15-48, at 50 (Mass. DPU Aug. 31, 2015). The Massachusetts Attorney General is currently appealing these approvals.

<sup>120</sup> *Berkshire Gas Co.*, Docket No. D.P.U. 15-48, at 49 (Mass. DPU Aug. 31, 2015).

<sup>121</sup> *Id.*

<sup>122</sup> *Id.* at 51. The Massachusetts DPU also noted that “[a]dditional capacity will be used, in large part, to serve new customers converting from oil heating to natural gas, which will further reduce greenhouse gas emissions and contribute towards GWSA goals.” *Id.* at 52.

Additionally, Connecticut Natural Gas Corporation and The Southern Connecticut Gas Company have submitted their respective NED Project Market Path Component precedent agreements for approval by the Connecticut DEEP, and The Narragansett Electric Company (dba National Grid) submitted its precedent agreement for approval by the Rhode Island Public Utilities Commission to serve their traditional LDC load.

Contracted capacity on the Supply Path Component also includes precedent agreements with two natural gas producers.<sup>123</sup> Like the LDCs, these producers have acknowledged the need for the NED Project by committing to long-term contracts for substantial capacity to serve New York and New England. Tennessee also has executed a precedent agreement with a company that is planning to construct a natural gas-fired electric generating facility in New York.<sup>124</sup> This is a further endorsement of the need for the Project as a long-term, stable, and economic option for supplying the fuel to produce lower-cost electricity that will be competitive in the organized electric markets. Additionally, Tennessee has executed precedent agreements with an industrial end-user and a municipal light department. As discussed in detail in the next section, the NED Project's design capacities of 1.2 and 1.3 Bcf per day will be ready to serve EDCs to fuel installed electric generation as well as new generation as soon as the EDCs complete their competitive solicitation in Massachusetts and Rhode Island, and the ongoing state process in Maine concludes, and potential future processes in Connecticut and New Hampshire get underway.

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<sup>123</sup> Pursuant to a confidentiality clause, Tennessee may not publicly disclose the identity of these shippers. As stated above, Tennessee intends to file each of the Gas Transportation Agreements and Negotiated Rate Agreements prior to placing the Project in service.

<sup>124</sup> Pursuant to a confidentiality clause, Tennessee may not publicly disclose the identity this electric generator.

## **5. The NED Project Will Provide Significant Service to Electric Generators in New England**

During 2012-14, Tennessee transported an average of 0.52 Bcf per day of natural gas to New England power generators, equivalent to 52 percent of the total natural gas consumed by those generators and serving 9,049 MW of New England gas-fired generation capacity.<sup>125</sup> Tennessee's system is, therefore, a strategically valuable and required supplier to the electric power sector in New England, impacting a significant number of gas and electric consumers in the region. After the construction of the NED Project, the Project could provide cost-effective and reliable supply options for shippers on the Iroquois, AGT, Portland Natural, and Maritimes pipelines.

Today, electric generators fueled by natural gas receive most of the natural gas transportation service on Tennessee on an interruptible basis. This makes such natural gas generators in New England susceptible to curtailments, especially during the coldest months of the year when they, arguably, are needed the most. Recognizing this dilemma, New England EDCs are working with state government and other stakeholders on the best way to lock-in the long-term, firm pipeline capacity supplied by the NED Project and others. The NED Project's capacity is easily scalable to the full design capacity of 1.2 and 1.3 Bcf per day on the Supply Path Component and Market Path Component, respectively. The Project is designed to respond to ongoing state and stakeholder processes and to support EDCs' needs for firm natural gas pipeline capacity. States in New England are proactively working to bring additional pipeline capacity to serve their businesses and residents. Legislative and regulatory initiatives are under way in multiple

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<sup>125</sup> *Id.* This number represents deliveries of gas to power generators both directly through physical interconnections or exchanges and indirectly through deliveries to other regional pipelines and LDCs.

states. The Maine Public Utilities Commission (“Maine PUC”), New Hampshire PUC, and the Massachusetts DPU have all initiated proceedings to address the significant pipeline constraint issues endemic in New England.

In Maine, the state legislature enacted the Maine Energy Cost Reduction Act, P.L. 2013, c.369 (codified at 35-A Me. Rev. Stat. Ann. § 1901 *et seq.* (2015)), which authorized the Maine PUC to execute contracts for natural gas pipeline capacity, or to direct one or more transmission and distribution utilities, gas utilities or natural gas pipeline utilities to contract for up to 200 MMcf per day of natural gas pipeline capacity.<sup>126</sup> The Maine PUC initiated proceedings (in Docket No. 2014-00071), and is currently studying a number of pipeline proposals, including Tennessee’s NED Project, and determining which proposal will have the greatest benefit at the lowest costs for Maine consumers.

The New Hampshire PUC recently conducted a similar proceeding, and a report by New Hampshire PUC Staff found that increasing natural gas pipeline capacity will result in lower electricity prices and enhanced electric reliability. On April 17, 2015, the New Hampshire PUC (in Docket No. IR 15-124), recognized that significant constraints on natural gas resources have emerged in New England resulting in extreme price volatility and announced an investigation into potential approaches for EDCs to address cost and price volatility issues currently affecting wholesale electricity markets in New Hampshire.<sup>127</sup> On September 15, 2015, Staff of the New Hampshire PUC issued its report finding that the “New England region as a whole stands to benefit from the NED

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<sup>126</sup> 35-A Me. Rev. Stat. Ann. § 1904.

<sup>127</sup> *Investigation into Potential Approaches to Ameliorate Adverse Wholesale Electricity Market Conditions in N.H.*, Docket No. IR 15-124 (N.H. PUC Apr. 17, 2015).

project in two significant ways: by improving electric grid reliability and lowering gas and electricity prices to consumers.”<sup>128</sup> New Hampshire PUC Staff also concluded “that the benefits of [the NED] project will substantially exceed the project’s implementation costs even ignoring the benefits of enhanced electric grid reliability.”<sup>129</sup> In addition, after a review of existing statutes in New Hampshire, the PUC Staff concluded that the New Hampshire PUC may approve a contract for gas pipeline capacity executed by an EDC.

In Massachusetts, the Massachusetts DPU has recently initiated an investigation into the means by which new natural gas delivery capacity may be added to the New England market, including actions to be taken by the EDCs.<sup>130</sup> Concluding this investigation, the Massachusetts DPU determined that it has the requisite statutory authority to review and approve long-term contracts for natural gas capacity filed by an EDC,<sup>131</sup> paving the way for EDCs in Massachusetts to obtain pipeline capacity in order ensure an adequate supply of natural gas to electric generators in the state. To implement the Massachusetts DPU’s findings in the investigation, on October 23, 2015, Eversource Energy and National Grid issued a joint RFP for gas resources to supply their EDCs which in turn would make capacity available to gas-fired generators. Tennessee has participated in this RFP by submitting a proposal for the NED Project that demonstrates

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<sup>128</sup> Staff Report on Investigation into Potential Approaches to Mitigate Wholesale Electricity Prices at 27, Docket No. IR 15-124 (N.H. PUC Sept. 15, 2015).

<sup>129</sup> *Id.* at 35.

<sup>130</sup> Vote and Order Opening Investigation, *Investigation by the Dep’t of Pub. Utils. into the Means by which New Natural Gas Delivery Capacity may be added to the New England Market*, Docket No. 15-37 (Mass. DPU Apr. 27, 2015).

<sup>131</sup> Order Determining Department Authority under G.L. C. 164 § 94A at 47, *Investigation by the Dep’t of Pub. Utils. into the Means by which New Natural Gas Delivery Capacity may be added to the New England Market*, Docket No. 15-37 (Mass. DPU Oct. 2, 2015).

the critical role that the NED Project has to play in transporting incremental gas supply to gas-fired generators in New England.<sup>132</sup>

Finally, the Connecticut DEEP is expected to issue an RFP for gas pipeline capacity in the near future, pursuant to Connecticut Public Act 15-107, which authorizes the Commission of the Connecticut DEEP to select proposals to supply up to 375 MMcf per day of natural gas transportation capacity. Tennessee will fully participate in the upcoming proceedings at the Connecticut DEEP. Based on the signed precedent agreements, the findings of the various reports and studies, and the ongoing pipeline capacity proceedings in New England states, Tennessee anticipates that it will be able to execute additional transportation contracts for service on the NED Project up to its full proposed capacity.

## **6. Numerous Studies Also Recognize the Need and Benefits of the NED Project**

As detailed above, numerous studies performed by experts, consultants, analysts, and governmental entities confirm the benefits of new pipeline capacity, and in particular the NED Project. In addition to the study results identified above and throughout this application, additional studies recognize the need and benefits on the Project:

- The NED Project “offers an average annual net benefit of \$118 million per year” under a base case demand scenario, and “an average annual net benefit of \$340 million per year” in a high demand scenario.<sup>133</sup>

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<sup>132</sup> National Grid also issued an RFP on the same date under authority of Rhode Island General Laws Chapter 39-31-4(a)(3) to participate in the development of a regional solicitation for gas pipeline infrastructure to which Tennessee has submitted a proposal for service on the Project.

<sup>133</sup> Black & Veatch, Natural Gas Infrastructure and Electric Generation: Proposed Solutions for New England at 12, 66 (Aug. 26, 2013), [http://www.nescoe.com/uploads/Phase\\_III\\_Gas-Elec\\_Report\\_Sept.\\_2013.pdf](http://www.nescoe.com/uploads/Phase_III_Gas-Elec_Report_Sept._2013.pdf).

- Failing to expand the region’s energy infrastructure could cost New England households and businesses \$5.4 billion in higher energy costs, 52,000 temporary or permanent private-sector jobs, and reduce cumulative household spending by \$12.5 billion due to higher energy costs between 2016 and 2020.<sup>134</sup>
- A project similar in size to the NED Project that brings natural gas into New England could reduce the natural gas price index by 65 percent and lower electricity costs by \$1.2 billion a year.<sup>135</sup>

A list of the supporting studies and reports are included in Exhibit Z-4 attached to this application.

To gain an understanding of the economic impact of the \$5.2 billion NED Project, Tennessee commissioned economic impact studies in the states affected by the NED Project. In Massachusetts, the study found the Project would lead to the direct and indirect creation of 1,824 temporary jobs, \$228 million in wages, and a short-term benefit to the local economy on \$106 million in new production.<sup>136</sup> In New York, the study found the Project would directly and indirectly create about 2,300 temporary jobs, \$400 million in wages, and add an estimated \$30.5 million in sales and tax revenue.<sup>137</sup> In Pennsylvania, the study found the Project would directly and indirectly create about 1,470 temporary jobs, \$290 million in wages, and potentially \$6.4 million in new sales,

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<sup>134</sup> La Capra Assocs., Inc. & Econ. Dev. Research Grp., The Economic Impacts of Failing to Build Energy Infrastructure in New England at v-vi (Aug. 25, 2015), <http://media.gractions.com/5CC7D7975DFE1335100A9E9B056042840005CCF0/25e72b85-c007-4b98-a851-8b31563c9559.pdf>.

<sup>135</sup> Sussex Economic Advisors, Review of Natural Gas Capacity Options at 61 (Feb. 26, 2014), [http://www.iso-ne.com/committees/comm\\_wkgrps/othr/egoc/mtrls/2014/mar62014/maine\\_puc\\_gas\\_study\\_022614.pdf](http://www.iso-ne.com/committees/comm_wkgrps/othr/egoc/mtrls/2014/mar62014/maine_puc_gas_study_022614.pdf).

<sup>136</sup> The Beacon Hill Institute, The Economic Impact on Massachusetts of the Proposed Northeast Energy Direct Pipeline (June 2015).

<sup>137</sup> CGR, The Northeast Energy Direct Project Economic and Fiscal Impact on New York (Apr. 2015).



income, and business tax revenue.<sup>138</sup> These economic benefits studies are included in Exhibit Z-4 attached to this application.

## **7. The NED Project Provides Additional Environmental Benefits**

Natural gas and renewable energy have a symbiotic relationship - each facilitates the other. Natural gas supports renewables by providing clean power when the wind does not blow and the sun does not shine. As noted briefly above, the NED Project decreases New England's reliance on less clean alternatives to natural gas, such as fuel oil and coal, and will enhance the implementation of energy efficiency measures and the construction of renewable energy facilities. Natural gas is the cleanest fossil fuel available, and represents a much more environmentally friendly energy source and emits about half the carbon dioxide emitted by coal and over 30 percent less than fuel oil according to the EIA.<sup>139</sup> As noted above, on days when natural gas is not available in New England, ISO New England relies on power generators using coal and fuel oil to support the demand for electricity on the grid. Because over 4,100 MW of primarily coal- and oil-fired and nuclear generation is slated to be retired in New England, the Project will help support the replacement of that generation with clean burning natural gas.<sup>140</sup>

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<sup>138</sup> Econsult Solutions, The Potential Economic Impact of Kinder Morgan's Northeast Energy Direct Project in Pennsylvania (Aug. 11, 2015).

<sup>139</sup> EIA, Carbon Dioxide Emissions Coefficients by Fuel (Feb. 14, 2013), [http://www.eia.gov/environment/emissions/co2\\_vol\\_mass.cfm](http://www.eia.gov/environment/emissions/co2_vol_mass.cfm).

<sup>140</sup> ICF Int'l, New England Energy Market Outlook Demand for Natural Gas Capacity and Impact of the Northeast Energy Direct Project 22 (2015) (finding that 3,480 MW of New England power generation is scheduled to be retired by 2018), [http://www.kindermorgan.com/content/docs/NED\\_CapacityOutlook.pdf](http://www.kindermorgan.com/content/docs/NED_CapacityOutlook.pdf). Subsequent to the ICF study, on October 13, 2015, Entergy announced that it will close its Pilgrim Nuclear Power Station in Plymouth, Massachusetts by June 1, 2019. Press Release, Entergy to Close Pilgrim Nuclear Power State in Massachusetts No Later than June 1, 2019 (Oct. 13, 2015), <http://www.pilgrimpower.com/entergy-to-close-pilgrim-nuclear-power-station-in-massachusetts-no-later-than-june-1-2019/>.

In addition, the NED Project will help New England states meet their climate change goals by complementing and supporting growth of renewable resources by managing the system impacts of variable resources such as wind and solar. The NED Project will also help to reduce carbon dioxide emissions by creating opportunities for natural gas to displace oil for residential heating.

Additional natural gas pipeline capacity will advance, not hinder, renewable energy goals, and help the region to achieve emissions reductions in the quickest, most cost-effective manner. In the short- and medium-term, natural gas-fired generation capacity will provide the grid flexibility needed to integrate more renewable energy. For example, generators in New England have roughly 12,000 MW of combined-cycle capacity, constructed since 1999.<sup>141</sup> Provided they have access to reasonably-priced fuel, these generators can turn on or off in just minutes multiple times per day, and quickly and efficiently ramp up and down their production, to perfectly match electricity demand not already met through renewable energy.<sup>142</sup> Without adequate pipeline capacity, however, the flexibility provided by these generators cannot be utilized to support the region's greater reliance upon renewable energy. For example, on January 28, 2014, during the

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<sup>141</sup> Gordon van Welie, ISO New England, "Challenges Facing the New England Power System, Gas-Electric Interdependency: The Realities of Keeping the Lights On," slide 4 (Mar. 26, 2015), [http://www.iso-ne.com/static-assets/documents/2015/03/icf\\_isone\\_van\\_welie.pdf](http://www.iso-ne.com/static-assets/documents/2015/03/icf_isone_van_welie.pdf).

<sup>142</sup> See generally, e.g., MIT Energy Initiative, Managing Large-Scale Penetration of Intermittent Renewables (Apr. 20, 2011); April Lee et al., National Renewable Energy Laboratory, Opportunities for Synergy Between Natural Gas and Renewable Energy in the Electric Power and Transportation Sectors (Dec. 2012); National Renewable Energy Laboratory, Renewable Electricity Futures Study: Exploration of High-Penetration Renewable Electricity Futures (2012); MIT Energy Initiative, "Growing Concerns, Possible solutions: The Interdependency of Natural gas and Electricity Systems" (Apr. 2013); Jaquelin Cochran, et al., National Renewable Energy Laboratory, Exploring the Potential Business Case for Synergies between Natural Gas and Renewables Energy (Feb. 2014); Energy Sector Management Assistance Program, Bringing Variable Renewable Energy Up to Scale: Options for Grid Integration Using Natural Gas and Energy Storage (June 2015); Harvard Business School, America's Unconventional Energy Opportunity: A Win-Win Plan for the Economy, the Environment, and a Lower-Carbon, Cleaner-Energy Future (2015).

evening peak, the region's natural gas-fired generators were contractually obligated to provide nearly 11,500 MW of capacity, but only about 3,000 MW were available due to fuel transportation constraints.<sup>143</sup> When pipeline constraints limit the ability of these generators to be available and operate, the region has overwhelmingly relied on older, costlier, inefficient, and inflexible oil- and coal-fired resources. Reliance on such inflexible generation hinders the ability of the region to reliably integrate increased amounts of renewable energy.

In the longer term, natural gas pipeline capacity can be used flexibly in the electric sector to match the requirements of natural gas-fired generators. In short, as more renewable energy is integrated into the grid, natural gas-fired generators will be increasingly important for their capacity and decreasingly important for their energy production. While some natural gas will likely be displaced by renewable energy on the margin, causing emissions to decrease, there will be times when renewable energy generation is less-than-expected or even zero. Natural gas-fired generation is critical for the ability to be dispatched quickly and meet very steep ramping requirements during the morning and evening. To reliably and cost effectively meet these demands, natural gas pipeline capacity must be sufficient to fuel natural gas-fired generators up to the maximum capacity on a virtually no-notice basis.

Natural gas also offers the potential to drastically reduce carbon dioxide emissions if it is available to facilitate conversions from oil to gas for residential heating. If each of the approximately five million households heating with oil in Northeast

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<sup>143</sup> ISO New England, *Oil inventory was key in maintaining power system reliability through colder weather during winter 2013/2014* (April 4, 2014), <http://isonewswire.com/updates/2014/4/4/oil-inventory-was-key-in-maintaining-power-system-reliabilit.html>.

consumes just 1,000 gallons of oil, at approximately 138,690 MMBtu per gallon,<sup>144</sup> with an emission rate of 161.3 pounds of carbon dioxide per MMBtu,<sup>145</sup> then those households directly emit approximately 111,853,485,000 pounds of carbon dioxide. Conversely, if those households used natural gas, consuming approximately 84 Mcf, at 1,031 Btu per cubic foot,<sup>146</sup> with an emission rate of 117.0 pounds of carbon dioxide per MMBtu,<sup>147</sup> they would directly emit 50,663,340,000 pounds of carbon dioxide. Thus, the immediate conversion of the Northeast's over five million residential oil heat consumers would avoid over 61,190,145,000 pounds, or nearly 28 million metric tons, of carbon dioxide emissions. The Environmental Protection Agency estimated that in 2010, each of the country's 454 coal-fired power plants emitted an average of about 3.8 million metric tons of carbon dioxide.<sup>148</sup> In other words, the northeast U.S.'s continued reliance on home heating oil is equivalent to the annual emissions from operating over 7 coal-fired power plants.

While it is not feasible for all northeast U.S. oil consumers to convert to natural gas, it is clear that hundreds of thousands more should at least have the option to make the environmental choice that could be enabled by the NED Project. For example, in each of the recent orders approving the Massachusetts LDCs' NED Project Precedent Agreements, the Massachusetts DPU found that the NED Project was consistent with the

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<sup>144</sup> Conn. Dep't of Energy and Env'tl. Protection, Energy Conversion Factors, [http://www.ct.gov/deep/lib/deep/energy/energyprice/energy\\_conversion\\_factors.pdf](http://www.ct.gov/deep/lib/deep/energy/energyprice/energy_conversion_factors.pdf).

<sup>145</sup> EIA, Frequently Asked Questions, How much carbon dioxide is produced when different fuels are burned?, <http://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11>.

<sup>146</sup> Conn. Dep't of Energy and Env'tl. Protection, Energy Conversion Factors, [http://www.ct.gov/deep/lib/deep/energy/energyprice/energy\\_conversion\\_factors.pdf](http://www.ct.gov/deep/lib/deep/energy/energyprice/energy_conversion_factors.pdf).

<sup>147</sup> EIA, Frequently Asked Questions, How much carbon dioxide is produced when different fuels are burned?, <http://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11>.

<sup>148</sup> Env'tl. Protection Agency, GHG Equivalencies Calculator - Calculations and References, <http://www2.epa.gov/energy/ghg-equivalencies-calculator-calculations-and-references>.

Commonwealth's Global Warming Solutions Act ("GWSA").<sup>149</sup> The Massachusetts DPU rejected arguments by the Conservation Law Foundation that there was no credible evidence that the NED Project capacity would be used to convert heating oil customers to natural gas and found in each case:

The record evidence indicates that the additional capacity will be used, in large part, to serve new customers converting from oil to natural gas, and therefore the Department expects that the acquisition of the proposed capacity will further reduce greenhouse gas emissions and contribute towards GWSA goals. . . . Based on the foregoing, the Department finds that the Company has provided adequate evidence regarding the precedent agreement's consistency with the GWSA.<sup>150</sup>

Moreover, as noted above, natural gas and renewable energy have a symbiotic relationship. Solar and wind are intermittent resources, only available when the sun is shining or the wind is blowing. To ensure that electricity is available for homes, businesses, and industry on a reliable basis, operators of the electric grid need reliable sources of power, such as natural gas-fired electric generation, to account for the variability associated with renewable energy. In addition, the NED Project would further facilitate conversions from oil to natural gas for residential heating, which could lead to significant reductions in carbon dioxide emissions. Therefore, as demonstrated herein, the NED Project is required by the present and future public convenience and necessity.

## **B. Compliance with Certificate Policy Statement**

Tennessee's proposal to construct the NED Project is consistent with the public convenience and necessity standard of Section 7 of the NGA and the Commission's

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<sup>149</sup> *Berkshire Gas Co.*, Docket No. D.P.U. 15-48, at 52 (Mass. DPU Aug. 31, 2015); *Bay State Gas Company d/b/a Columbia Gas of Massachusetts*, D.P.U. 15-39, at 40-41 (Mass. DPU Aug. 31, 2015); *Boston Gas Company d/b/a National Grid*, D.P.U. 15-34, at 40-42 (Mass. DPU Aug. 31, 2015).

<sup>150</sup> *Berkshire Gas Co.*, Docket No. D.P.U. 15-48, at 52 (Mass. DPU Aug. 31, 2015); *Bay State Gas*, D.P.U. 15-39, at 41-42 (Mass. DPU Aug. 31, 2015); *Boston Gas*, D.P.U. 15-34, at 41-42 (Mass. DPU Aug. 31, 2015).

Certificate Policy Statement. The Certificate Policy Statement establishes criteria for determining whether there is a need for a proposed project and whether that proposed project will serve the public interest. In deciding whether to authorize the construction of a project, the Commission balances the public benefits against the potential adverse consequences. According to the Certificate Policy Statement:

The types of public benefits that might be shown are quite diverse but could include meeting unserved demand, eliminating bottlenecks, access to new supplies, lower costs to consumers, providing new interconnects that improve the interstate grid, providing competitive alternatives, increasing electric reliability, or advancing clean air objectives.<sup>151</sup>

In Sections IX.A(1)–(7) above, Tennessee has demonstrated the significant public benefits that the NED Project will provide. Indeed, the public benefits demonstrated above touch on each of the elements identified by the Commission in the Certificate Policy Statement. In accordance with the requirements of the Commission’s Certificate Policy Statement, the public benefits realized by construction of the NED Project facilities outweigh the minimal adverse impacts of the Project.

The Commission’s goal in evaluating new pipeline construction is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant’s responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain.<sup>152</sup> Under the Certificate Policy Statement, the threshold question in establishing the public convenience and necessity for a project is whether that project can proceed without subsidies from existing customers. When the threshold requirement that a project be independently economically

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<sup>151</sup> *Certificate Policy Statement*, 88 FERC ¶ 61,227 at p. 61,748.

<sup>152</sup> *Id.*, 88 FERC at pp. 61,747-48.

viable is met, the Commission then assesses adverse effects on three interests: (i) existing customers of the pipeline proposing the project, (ii) existing pipelines in the vicinity and their customers, and (iii) landowners and communities affected by the project. If residual adverse effects on these groups of interested or affected parties are identified after efforts have been made to minimize them, the Commission will evaluate the proposed project by balancing the evidence of public benefits to be achieved against these residual effects. As set forth below, the NED Project meets the threshold requirement and the additional tests set forth in the Certificate Policy Statement.

**1. Existing Shippers Will Not Subsidize the NED Project**

Pursuant to the Certificate Policy Statement, an applicant must not rely on subsidies by existing customers to support proposed construction on behalf of incremental markets.<sup>153</sup> Tennessee believes that the proposed construction and operation of the NED Project facilities meets the Commission's threshold requirement as no subsidies are necessary to support the proposed construction. The cost of the NED Project facilities that Tennessee will ultimately construct and operate will be fully supported by contracts for incremental capacity on the Project. As explained above, Tennessee is proposing incremental rates for the Project, and will be at risk for any unsubscribed capacity.

Tennessee is not seeking to change its existing general system rates for transportation service on its existing pipeline system since separate incremental recourse rates for transportation service on the Supply Path Component and Market Path Component facilities are proposed in this proceeding. Exhibit K and Exhibit N attached

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<sup>153</sup> *Id.* at p. 61,746.

to this application, demonstrate the costs and revenues associated with the Supply Path Component and Market Path Component of the Project.

**2. There Will Be No Adverse Impact on Tennessee's Existing Customers**

The construction of the NED Project facilities will not adversely affect Tennessee's existing customers because the Project will not degrade any service currently provided to existing customers. In addition, Tennessee is proposing no changes to its Tariff in this proceeding or to its existing general system rates for transportation service on its existing pipeline system since separate incremental recourse rates for transportation service on the Supply Path Component and Market Path Component facilities are proposed in the instant proceeding.<sup>154</sup>

The NED Project facilities will allow Tennessee to meet the Project Shippers' transportation requirements without any impact to existing customers on Tennessee's system. The flow diagrams and data which demonstrate the effect of the proposed NED Project facilities on the existing operational capabilities and conditions of Tennessee's system are included in Exhibits G and G-II, attached to this application. These exhibits demonstrate that there will be no adverse operational impact on service provided to Tennessee's existing customers as a result of this Project.

Tennessee's proposal to build a separate pipeline instead of expanding existing mainline facilities through the take-up and relay method ensures that its existing customers along Tennessee's 200 Line will not suffer curtailments or interruptions that would have been necessary for such a large take-up and relay construction project and it also results in impacting significantly fewer landowners. Although Tennessee considered

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<sup>154</sup> As explained above, Tennessee will make a separate Tariff filing to effectuate the PowerServe service.



an alternative to the NED Project where it would take-up and relay major portions of its existing pipeline system in New England with a larger diameter pipeline, Tennessee ultimately determined that such a construction method was not feasible for the Project for many reasons. Tennessee would be required to take the existing pipeline out of service and remove it prior to construction of the new, larger pipeline. This would have resulted in reduced capacity or no capacity in the instance of a single line system, to serve Tennessee's customers during the extensive outage period during construction. For the Project's Market Path Component mainline pipeline facilities, utilizing co-location with existing utility corridors results in significantly less landowner disturbance, offers a shorter route, avoids more environmentally sensitive areas than Tennessee's existing pipeline corridor in Massachusetts, and ensures continuity of service to Tennessee's customers during the long construction schedule for the Project. Alternative temporary service solutions, such as portable LNG trucks that often are required during outages for take-up and relay projects, are expensive and, in some cases, do not completely replace the volumes needed until the new pipeline is in service. Although not appropriate for its mainline facilities for the reasons noted above, Tennessee is proposing take-up and relay construction on two of the proposed Project laterals, take-up and relay is the most appropriate construction technique given the congested nature of the existing easement and Tennessee's ability to avoid significant capacity reductions on these laterals.

### **3. Other Pipelines and Their Customers Are Not Adversely Impacted**

Similarly, the construction of the NED Project facilities will not adversely impact existing pipelines in the market and their customers because the Project is not intended to replace existing customers' service on any other existing pipeline. In fact, the NED

Project and the additional capacity that it will create, will help form more liquid natural gas trading points at Wright, New York and Dracut, Massachusetts, benefiting the market as a whole. By providing access to natural gas supplies to markets in the northeastern U.S., which are heavily constrained, the construction of the Supply Path Component and Market Path Component facilities will assist with the Commission's goal of providing more natural gas to markets.

#### **4. Adverse Impact to Landowners and Communities Minimized**

Tennessee has designed the Project facilities in a manner that will minimize the impact on landowners and the environment. The Commission has previously recognized that every natural gas pipeline construction project will cause some short-term impacts to landowners.<sup>155</sup> In order to reduce impacts from the Project, a significant portion of the Supply Path Component and Market Path Component facilities are proposed to be co-located with existing utility corridors (*i.e.*, generally located parallel and adjacent to, and, in certain cases, overlaps existing pipeline or powerline easements). Thus, Tennessee's decision to locate the Market Path Component mainline pipeline with other existing utilities, rather than with Tennessee's existing right-of-way through the Commonwealth of Massachusetts, was part of its efforts to reduce impacts from the Project.

Tennessee's existing system is located in densely populated and developed parts of Connecticut and Massachusetts, and construction along the existing right-of-way would result in greater disruption and impacts than the proposed route. When Tennessee evaluated the market need in New England, and the scope of facilities that would be required to provide the infrastructure that New England needs to reduce its high energy

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<sup>155</sup> *Certificate Policy Statement*, 88 FERC ¶ 61,227, at pp. 61,747-48. *See also Minisink Residents for Envtl. Pres. and Safety v. FERC*, 762 F.3d 97, 112 (D.C. Cir. 2014).

costs and enhance electric reliability, Tennessee conducted an extensive evaluation of options to: (i) construct the pipeline along its existing 200 Line pipeline corridor in southern Massachusetts; (ii) construct a new pipeline along a route across northern Massachusetts, utilizing existing utility corridors where feasible; or (iii) construct a new pipeline along a route across eastern New York, western Massachusetts and southern New Hampshire, utilizing existing utility corridors where feasible. Based on an evaluation that included environmental and landowner impacts, quickest time-to-market gas delivery, constructability, and other factors, Tennessee has selected the New York, Massachusetts, and New Hampshire route which predominantly follows the existing utility corridors for the Market Path Component of the Project. The Market Path Component facilities, including mainline, looping, and lateral facilities are co-located for 86 percent of its route. In addition, the Supply Path Component mainline and looping facilities are co-located with Tennessee's pipeline easement or other utility easements for 84 percent of its route.

Tennessee will seek to acquire necessary ROWs by negotiation where possible to minimize reliance on eminent domain. As discussed more fully in the Environmental Report, attached as Exhibit F-I to this application, Tennessee considered numerous major route alternatives and other minor route deviations for the proposed facilities and selected the proposed routes and facilities because they would offer the least impact to landowners and the environment and were legally permitted. Therefore, Tennessee believes its proposed facilities have been designed in a manner that will minimize the impact on landowners and the environment. As explained above, the most significant mitigation measure Tennessee is proposing is the co-location of a majority of the pipeline route in or

abutting existing energy corridors. Tennessee has also designed its route to avoid sensitive environmental resources to the extent possible and will implement specialized construction techniques for these resources. Resource Report 10, included in the Environmental Report attached as Exhibit F-I to this application, describes the system and routing alternatives that Tennessee evaluated, including system alternatives and other co-location alternatives, among others. After a detailed analysis of these alternatives, which focused on meeting the purpose and need for the Project while balancing other critical factors, including environmental resources, engineering and constructability constraints, landowner impacts, and costs, the proposed Project minimizes adverse impacts on landowners and the environment to the greatest extent practicable. Therefore, Tennessee believes its proposed facilities have been designed in a manner that will minimize the impact on landowners and the environment.

Tennessee's proposal to construct the NED Project along a separate route instead of expanding existing mainline facilities through take-up and relay techniques also minimizes potential landowner and community impacts. As a greenfield project, Tennessee could choose a route for the NED Project that minimized such activities. In contrast, a take-up and relay project by definition is locked into constructing on an existing route, providing fewer alternatives to minimize community and landowner impacts. Moreover, take-up and relay projects are by nature longer in duration due to the additional steps involved in completely removing an existing line, routing new pipeline around certain areas, and potentially expanding the existing ditch for the larger pipe diameter.

In addition, during take-up and relay construction, not all pipe can be removed due to location, structures, and requirements of environmentally sensitive areas. Abandoned pipe would be filled with either an inert gas or some type of grout and then capped. In certain instances, workspace requirements are larger than with conventional lay due to limitations on the use of more efficient trenching technologies; in other instances, workspace could be artificially reduced, increasing the costs and time to complete the project. Finally, a take-up and relay project would likely result in certain additional methane emissions, as the last 50 to 100 pounds per square inch of natural gas in the pipe to be replaced is vented to atmosphere.

#### **5. Public Benefits Outweigh Residual Impacts**

As noted above, the final step under the Certificate Policy Statement is to balance the public benefits of a project with any residual adverse impacts on existing customers, existing pipelines serving the markets, and landowners. In the Certificate Policy Statement, the Commission recognized contracts or precedent agreements for a project “always will be important evidence of demand for a project,” but stated that “the Commission will no longer require an applicant to present contracts for any specific percentage of the new capacity.”<sup>156</sup> As indicated by the executed precedent agreements with the Project Shippers and the numerous studies indicating the great need for the NED Project, there is demonstrable market demand for the Project, and the benefits of the Project outweigh any residual adverse impacts.

As discussed in greater detail herein, New England families and businesses stand to benefit from the additional pipeline capacity that will be created by the NED Project.

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<sup>156</sup> *Certificate Policy Statement*, 88 FERC ¶ 61,227, at p. 61,748.

Due to pipeline constraints, New Englanders have been paying far too much for natural gas and electricity for years. Had the NED Project been in service during the winter of 2013-14 the additional pipeline capacity would have saved New England's businesses and residents \$3.7 billion.<sup>157</sup> In the absence of the Project, however, pipeline capacity constraints will continue. Recognizing the need for additional capacity, the major LDCs in New England, an industrial end-user, natural gas producers, and a new electric generator in New York have all executed contracts for 751,650 Dth per day of capacity on the Supply Path Component and 552,262 Dth per day of capacity on the Market Path Component. New England is becoming more dependent on natural gas for electric generation, and electric costs are likely to continue to rise. Maine, New Hampshire, Massachusetts, and Connecticut are all addressing the capacity constraint problems through state-level proceedings demonstrating the urgent need for pipeline capacity. As explained above, each of these states has recognized the need for additional pipeline capacity and are taking steps to ensure adequate supplies are available for LDCs, electric generators, industrial users, homes, and businesses at lower prices. The NED Project is an integral part of achieving those goals.

Tennessee meets the requirements of the Certificate Policy Statement. Existing shippers will not subsidize the Project; Tennessee has identified no adverse operational impacts to existing customers or to existing pipelines and their customers; and Tennessee has reduced impacts to landowners and communities to the greatest extent possible. As demonstrated in this application, the public benefits of the Project outweigh any residual

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<sup>157</sup> ICF Int'l, New England Energy Market Outlook Demand for Natural Gas Capacity and Impact of the Northeast Energy Direct Project 31, [http://www.kindermorgan.com/content/docs/NED\\_CapacityOutlook.pdf](http://www.kindermorgan.com/content/docs/NED_CapacityOutlook.pdf).

impacts. Given the foregoing, Tennessee submits that the NED Project is in the public convenience and necessity and should be approved by the Commission.

**X.**  
**REQUEST TO CONSTRUCT AND OPERATE THE PROJECT IN PHASES**  
**AS FIRM CONTRACTS ARE EXECUTED**

Given the current and projected demand for pipeline capacity in the northeast U.S., including New York and New England in particular, and the significant contribution the NED Project can make to lower energy prices and increase the access to additional supply sources to the region, Tennessee has designed the Project such that it can be easily scaled up from approximately 0.7 Bcf per day of capacity to the full design capacity of 1.2 and 1.3 Bcf per day on the Supply Path Component and Market Path Component, respectively. As of the date of this application, Tennessee has entered into binding Project Precedent Agreements for firm service on the Market Path Component facilities and on the Supply Path Component facilities for approximately 552,262 Dth per day and 751,650 Dth per day, respectively. Tennessee acknowledges that these commitments represent only a portion of the Project's total available capacity. However, in light of the prolific gas supplies in the region of the Supply Path Component and the increasing demand along both the Supply Path Component and the Market Path Component, together with the ongoing New England state initiatives and Tennessee's proposed new PowerServe firm service to meet the needs of gas-fired electric generation, Tennessee is confident that the full NED Project capacity will be subscribed on a firm basis and all facilities described in this application will be constructed. In this regard, Tennessee is actively engaged in negotiations with various potential shippers, particularly

those that will serve natural gas fired electric generation requirements throughout New England as well as end-users in New York.

However, to the extent that these additional commitments may not be obtained by the time Tennessee receives its requested authorizations or in time to meet the initial in-service date of the Project facilities, Tennessee needs the flexibility to adjust the Project construction process and scope to meet the actual firm contract demand. Thus, while Tennessee is seeking certificate authorization for the construction and operation of all the Project facilities required to transport gas at full design capacity, Tennessee is also seeking approvals to phase in the Project facilities and its associated capacity and to ramp-up construction as required to meet contract demand. Specifically, Tennessee seeks NGA section 7 authority (i) to construct and operate the Project facilities that are necessary to meet the firm contractual obligations that Tennessee is able to implement as of the initial in-service date of the Project (this may be a subset of the full design capacity) as well as (ii) to construct and operate any additional compression and other Project facilities (which are reflected in this application and which will have been reviewed and approved by the Commission in this proceeding) in subsequent phases in order to meet additional firm contractual obligations as those firm contractual obligations develop over time, up to the full design capacity of the Supply Path Component and Market Path Component of 1.2 and 1.3 Bcf per day, respectively.<sup>158</sup> Of course, Tennessee will be entirely at risk for costs of any unsubscribed capacity on the Supply

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<sup>158</sup> Should the phased construction period extend beyond 24 months from the initial in-service date of the Project, Tennessee will update survey data or other information, as needed, as part of the Environmental Report, Exhibit F-I, in this proceeding and its air permits for the particular compression facilities. This will assure that the environmental data supporting the compression facilities has not changed or if it has changed that the basis for the findings are updated.



Path Component and Market Path Component and, therefore, none of Tennessee's existing shippers will subsidize any of the Project's uncontracted-for costs.

In order to facilitate the Commission's understanding of the impacts of the proposed phase-in, if Tennessee were to implement the Project at various capacity levels reflective of potential firm contractual commitments, Tennessee is providing additional information in Exhibit Z-5 attached to this application. Exhibit Z-5 details the scope of facilities, costs of the Project and the initial recourse rates that would result if the Project is phased-in. Significantly, as noted above, even if Tennessee does implement the Project in phases, the phased construction of the Project facilities will only include facilities identified in this proceeding and authorized by the Commission in its certificate order. In the event the Project is not fully subscribed by the in-service date, Tennessee will implement initial rates that reflect the capacity and cost of the facilities actually placed in service at that time. Consistent with this, Tennessee also seeks limited authority under NGA Section 4(e) to make any necessary filings to enable Tennessee to subsequently reduce its initial recourse rates to reflect the additional Project facilities costs and the increased firm contract demand.<sup>159</sup>

Consistent with Commission policy, Tennessee proposes to build the facilities required to serve the demand that it has under contract. The ability to add capacity reflective of contracts over time discourages potential customers from anticipating a "free ride" through interruptible service, and instead, creates an incentive for customers to sign up for firm capacity. At the same time, because of New England's unique situation with regard to natural gas capacity, Tennessee is requesting herein authorization to construct

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<sup>159</sup> 15 U.S.C. § 717c(e).

and operate the Project facilities up to the maximum capacity, which currently is above contracted levels to date. In particular, Tennessee knows that EDC demand exists today, but that certain customers are not in a position to execute firm contracts until they work through the various state processes described above. Tennessee anticipates that stakeholders in these states will resolve many of their outstanding issues as they see capacity being brought to market. Certificating the NED Project's full design capacity of 1.2 Bcf per day on the Supply Path Component and 1.3 Bcf per day on the Market Path Component as requested herein gives Tennessee the flexibility to meet this demand.

This makes good regulatory, practical and business sense—and the Commission has authorized a version of this type of arrangement before.<sup>160</sup> Significantly, Tennessee anticipates that the Environmental Report and the related resource reports submitted in this docket will cover the full scope of the proposed Project facilities and the associated environmental impacts for the Project. Thus, the environmental impact of initially constructing a subset of the Project facilities (should that be necessary) and then phasing in the remaining Project facilities to the full certificated capacity levels will be covered by the Commission's review of the overall Project facilities' environmental impact. Reviewing the entire Project's environmental impact also is consistent with the mandate that the Commission consider all parts of a project in one comprehensive document.<sup>161</sup> On the basis of the substantial record in this proceeding, Tennessee requests the Commission to issue the requested certificate authorizations pursuant to NGA Section 7, including limited NGA Section 4(e) authority previously described.

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<sup>160</sup> *Texas Gas Transmission, LLC*, 123 FERC ¶ 61,118 (2008) (Commission approved Texas Gas' proposal to go in service in phases as shipper commitments ramped-up).

<sup>161</sup> *See Del. Riverkeeper Network v. FERC*, 753 F.3d 1304, 1312 (D.C. Cir. 2014).

**XI.**  
**NOTICE**

Pursuant to 18 C.F.R. 157.6 and 157.9 of the Commission's Regulations, a form of notice of this application, suitable for publication in the Federal Register, is attached.

**XII.**  
**OTHER APPLICATIONS AND FILINGS**

Tennessee is not aware of any other application to supplement or effectuate this application that must or will be filed by Tennessee, its customers, or any other person with any Federal, State, or regulatory body in order to complete the Project.

**XIII.**  
**EXHIBITS**

**TABLE OF CONTENTS**

Exhibit A -- Articles of Incorporation and Bylaws

Submitted as Exhibit A to Tennessee's application in Docket No. CP15-77-000, filed January 30, 2015, and incorporated herein by reference.

Exhibit B -- State Authorizations

Submitted as Exhibit B to Tennessee's application in Docket No. CP16-4-000, filed October 9, 2015, and incorporated herein by reference.

Exhibit C -- Company Officials

Submitted as Exhibit C to Tennessee's application in Docket No. CP16-4-000, filed October 9, 2015, and incorporated herein by reference.

Exhibit D -- Subsidiaries and Affiliations

Submitted as Exhibit D to Tennessee's application in Docket No. CP16-4-000, filed October 9, 2015, and incorporated herein by reference.

Exhibit E -- Other Pending Applications and Filings

Omitted. There are no other applications or filings under sections 1, 3, 4, or 7 of the Natural Gas Act filed by Tennessee which are pending before

the Commission which directly and significantly affect the instant application.

Exhibit F -- Location of Facilities

Submitted herewith in the Environmental Report, Volume I (Public).

Exhibit F-I -- Environmental Report

Submitted herewith in Volumes I and II (Public), Volume III (Privileged and Confidential), and Volume IV (Critical Energy Infrastructure Information, as defined in 18 C.F.R. § 388.113(c)). Accordingly, the information in Volumes III and IV are marked “Contains Privileged Information - Do Not Release” or “Contains Critical Energy Infrastructure Information - Do Not Release”, as applicable.

Exhibit G -- Flow Diagrams Showing Daily Design Capacity and Reflecting Operation with and without Proposed Facilities Added

Submitted herewith. Information for Exhibit G, included as part of Volume VI, is Critical Energy Infrastructure Information and is marked “Contains Critical Energy Infrastructure Information – Do Not Release.”

Exhibit G-I -- Flow Diagrams Reflecting Maximum Capabilities

Omitted. Please see Exhibit G, which provides the maximum capacities utilizing all proposed facilities under the most favorable operating conditions.

Exhibit G-II -- Flow Diagram Data

Submitted herewith. The information for Exhibit G-II is included as part of Volume VI and is marked “Contains Critical Energy Infrastructure Information - Do Not Release.”

Exhibit H -- Total Gas Supply Data

Omitted. Gas supply data is not relevant to the proposed Project.

Exhibit I -- Market Data

Submitted herewith. Exhibit I includes: (i) a summary, in spreadsheet format, of all signed Project Precedent Agreements, along with a list of the end use of the gas by the Project Shippers; (ii) a full version of each Project Precedent Agreement, submitted in Volume V (Privileged and Confidential) and marked as “Contains Privileged Information - Do Not

Release”; (iii) a public copy of each Project Precedent Agreement, with certain commercially sensitive information redacted; and (iv) a public copy of each Gas Transportation Agreement proposed to be executed with a Project Shipper, with deviations from Tennessee’s Form of Service Agreement shown in redline/strikeout format.

Exhibit J -- Federal Authorizations

Submitted herewith.

Exhibit K -- Cost of Facilities

Submitted herewith.

Exhibit L -- Financing

Submitted herewith.

Exhibit M -- Construction, Operation, and Management

Omitted. The proposed new facilities will be installed and modified by one or more independent pipeline construction firms or by Tennessee employees. The proposed new facilities will be operated and managed by Tennessee employees.

Exhibit N -- Revenues-Expenses-Income

Submitted herewith.

Exhibit O -- Depreciation and Depletion

Submitted herewith.

Exhibit P -- Tariff

Submitted herewith.

Exhibit T -- Related Applications

Authorization to construct the facilities proposed to be abandoned herein was granted in:

Federal Power Commission Docket Nos. G-1267 and G-2352.  
Federal Energy Regulatory Commission Docket No. CP95-234.

Exhibit U -- Contracts and Other Agreements

Omitted. There are no contracts or other agreements pertaining to the abandonment of facilities.

Exhibit V -- Flow Diagram Showing Daily Design Capacity and Reflecting Operation of Applicant's System After Abandonment

Omitted. Tennessee's flow diagrams are submitted as Exhibits G and G-II above.

Exhibit W -- Impact on Customers whose Service will be Terminated

Omitted. No service will be terminated.

Exhibit X -- Effect of the Abandonment on Existing Tariffs

Omitted. The abandonment of facilities will have no impact on existing tariffs.

Exhibit Y -- Accounting Treatment of Abandonment

Submitted herewith.

Exhibit Z -- Location of Facilities.

Omitted. The Project facilities are identified on Exhibit F.

Exhibit Z-1 -- Auxiliary and/or Appurtenant Facilities

Submitted herewith.

Exhibit Z-2 -- Non-Disclosure (Form of Protective) Agreement

Submitted herewith.

Exhibit Z-3 -- Open Season Notices and Capacity Reservation Notices

Submitted herewith.

Exhibit Z-4 -- Economic Benefit Studies

Submitted herewith.

Exhibit Z-5 -- Indicative Recourse Rates at Various Capacity Levels

Submitted herewith. Tennessee has prepared indicative rates that reflect the scope of facilities and costs at various capacity levels.

Exhibit Z-6 -- Matrix of Non-conforming Provisions in Project Gas Transportation Agreements

Submitted herewith.

Exhibit Z-7 -- Fuel Study

Submitted herewith.

#### **XIV. MISCELLANEOUS**

Included with this filing is a form of notice suitable for publication in the Federal Register, as required by Section 157.6(b)(7) of the Commission's regulations, 18 C.F.R. § 157.6(b)(7).

In accordance with Section 385.2011 of the Commission's regulations, 18 C.F.R. § 385.2011, Tennessee is submitting this filing with the Commission's Secretary through the eFiling system. Consistent with the Commission's filing guidelines, Tennessee is also providing two complete hard copies of this filing to the Office of Energy Projects and one to the Office of General Counsel. The undersigned submits that the paper copies of this application contain the same information as the electronic media, that the undersigned has read and knows the content of the paper copies and electronic media, that the contents as set forth in the paper copies and the electronic media are true to the best knowledge and belief of the undersigned, and that the undersigned is authorized to sign this filing pursuant to Section 157.6(a)(4) of the Commission's regulations, 18 C.F.R. § 157.6(a)(4).

**XV.**  
**CONCLUSION**

The Northeast Energy Direct Project is an important and truly transformative project for the families and businesses of New England. Authorization of construction and operation of the Project will allow families and businesses to take advantage of the abundant domestic natural gas resources essentially at their doorstep. As demonstrated herein, the NED Project is required by the present and future public convenience and necessity.

WHEREFORE, Tennessee respectfully requests that the Commission issue an order granting (i) the requested certificate and abandonment authority under NGA Section 7, authorizing Tennessee to construct, install, modify, abandon, operate, and maintain the proposed facilities associated with its Northeast Energy Direct Project, including the authority to phase-in the Project facilities to meet actual firm demand as it ramps up over time, as described herein; (ii) approval of Tennessee's proposed incremental recourse rates under Rate Schedules FT-A and IT for transportation service on the Supply Path Component and Market Path Component facilities; (iii) limited NGA Section 4(e) authority to implement, if necessary, reduced initial recourse rates as firm contract demand ramps-up over time and as additional Project facilities are placed in service; and (iv) a determination that no provision of the Gas Transportation Agreements are unduly discriminatory, even if certain of the contractual provisions are construed to constitute a material deviation from Tennessee's Pro Forma Agreement.

Tennessee respectfully requests expedited review of the instant application and the issuance of these requested authorizations during the fourth quarter 2016 in order to permit Tennessee to complete and place the Project facilities in-service no later than



November 1, 2018, the in-service date requested by most of the Project Shippers. Tennessee may seek earlier clearing, construction, and in-service authorizations to reduce schedule risk and meet market demands.

Tennessee also requests that this application be disposed of in accordance with the shortened procedures provided in Rules 801 and 802 of the Commission's Rules of Practice and Procedure, 18 C.F.R. §§ 385.801 and 385.802. Tennessee respectfully requests that the intermediate decision procedure be omitted and waives oral hearing. Finally, Tennessee requests that the Commission grant such other and further authorizations, relief, or waivers as the Commission deems necessary to enable Tennessee to perform the acts contemplated herein.

Respectfully submitted,

TENNESSEE GAS PIPELINE COMPANY, L.L.C.

By: /s/ J. Curtis Moffatt

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