



# Franklin Regional Council of Governments

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

September 23, 2015

**RE: Kinder Morgan – Tennessee Gas Pipeline - Northeast Energy Direct (NED) Project – Docket # PF14-22-000**

Dear Secretary Bose:

The Franklin Regional Council of Governments (FRCOG) submits the following initial comments on the proposed Kinder Morgan Tennessee Gas Pipeline (TGP) Northeast Energy Direct (NED) pipeline project (PF14-22). The FRCOG is the Regional Planning Agency for the 26 communities of Franklin County. The FRCOG serves the eight communities along the proposed route, as well as abutting communities, that will be impacted by the 34 miles of pipeline and large-scale compressor station proposed for our region. We have actively participated in the FERC process and have also formed a Regional Pipeline Advisory Committee, with representatives from the eight communities along the proposed pipeline route, to provide technical assistance on the FERC process.

This is the largest proposed project in Franklin County since the I-91 interstate highway was built. The FRCOG has significant concerns about the environmental, safety and socioeconomic impacts of the NED pipeline project. The resources in Franklin County that would be directly impacted by the proposed pipeline include: public and private drinking water supplies, permanently protected open space, farmland, rare and endangered species habitats, coldwater fisheries, public infrastructure, and historic resources. The short and long-term impacts that the proposed project would have on our communities and region are profound.

It greatly concerns us that our rural communities, which are more reliant on natural resources and have less income and resources to address impacts, are being targeted for the proposed NED pipeline project. The economic and public health of rural residents is closely tied to the health and viability of the natural resource base that will be negatively impacted by the proposed pipeline. Further, the NED pipeline project is proposed to be sited in several Environmental Justice (EJ) Areas, according to a study recently completed by the FRCOG, which are areas of high poverty or minority populations. These EJ Areas include the Northern portion of Deerfield, Western portion of Erving, Non-Urban Area of Montague, and

the Northern portion of Northfield.<sup>1</sup> Consequently, the proposed NED project in Franklin County raises a serious Environmental Justice issue if rural low income or minority populations are impacted by a project that is expected to have adverse air and water quality impacts and which may have a depressing effect on property values given health and public safety concerns.

We ask that the FERC thoroughly evaluate the need for this pipeline, which has only 500,000 dekatherms per day under agreement with gas companies. Even with the recently proposed reduction in pipeline size to 30 inches and 1.3 Bcf/day, this pipeline project still has only 38% of its capacity committed. If the larger 36-inch pipeline with a capacity of 2.2 Bcf/day were permitted, only approximately 23% is committed. Alternatives to the proposed pipeline should be seriously considered by FERC and we hope that the DEIS process will fully explore these alternatives to meet electricity generation and natural gas demand in New England including energy conservation, renewable energy production, LNG storage, expansion of existing gas pipelines and improved operational efficiencies by other pipelines that can result in recapture of leaked gas. We request that a detailed analysis of these alternatives be included in the Draft Environmental Impact Statement (DEIS) to be developed and published for public comment by the FERC.

The FRCOG has attached detailed Study and Information Requests prepared jointly with other Regional Planning Agencies in Massachusetts and New Hampshire for inclusion in the Draft Environmental Impact Statement. In addition to the alternatives analysis requested above, our Study and Information Requests focus on the following areas:

- Protection of Water Resources (public & private drinking water supplies, rivers, lakes, ponds & wetlands)
- Protection of Air Quality
- Protection of Public Safety
- Protection of Critical Habitat Areas for Rare & Endangered Species
- Minimizing Noise Impacts
- Mitigating Impacts on Infrastructure including Roads, Bridges, Culverts and Electric Transmission Lines
- Addressing Impacts on Private & Public Property
- Avoiding Impacts on Permanently Protected Open Space
- Avoiding Impacts on Historic and Archeological Resources
- Addressing Economic Development Impacts on Heritage & Recreational Tourism and Natural Resource Based Businesses including Agriculture and Forestry
- Addressing Fiscal Impacts on Towns

The Study and Information Requests being submitted are directly related to the general headings listed in the FERC Notice of Intent dated June 30, 2015 (Pages 5-6) for the TGP NED project and will provide

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<sup>1</sup> Regional Transportation Equity Analysis for Franklin County; Franklin Regional Council of Governments; July 2015; Environmental Justice Areas are defined as areas where minorities comprise 9% or more of the block group's total population or where at least 12% of the area's population lives below the poverty level (see Tables 1 & 2 and Narrative; Pages 6-8); These definitions have been in use by FRCOG since 2012 for compliance with Title VI of the Civil Rights Act and while the minority percentage figure is lower than the Statewide average, it is the Franklin County average reflecting our rural region; [www.frcog.org](http://www.frcog.org)

the level of information needed for FERC to fully evaluate the environmental, land use, public safety, historic resources, and socioeconomic impacts of the proposed project and make an informed decision. Thus far, the information submitted by the company as part of the pre-filing stage has not been sufficiently detailed to allow for meaningful public comment. Thus, it is our hope that by asking for specific studies, FERC will develop a record of decision that includes adequate detail on the proposed pipeline project so that the public can fully understand and comment on the potential impacts. We request that FERC include the data, information and findings of these Study and Information Requests in the DEIS. However, if FERC does not conduct or require TGP to perform all of these studies, we ask that FERC so notify the Regional Planning Commissions listed to provide us with adequate time to commission these studies, if funding can be secured, in advance of release of the DEIS.

Thank you for this opportunity to provide comments and submit Information–Study Requests on the proposed Kinder Morgan Tennessee Gas Pipeline NED Project. Please contact Peggy Sloan, Director of Planning & Development ([psloan@frcog.org](mailto:psloan@frcog.org)) if you require additional information or have questions on our requests.

Sincerely,



Linda Dunlavy  
Executive Director

cc.: US Senator Elizabeth Warren  
US Senator Edward Markey  
US Representative James McGovern  
US Representative Richard Neal  
MA Senator Stanley Rosenberg  
MA Senator Benjamin Downing  
MA Representative Stephen Kulik  
MA Representative Paul Mark  
MA Representative Susannah Whipps Lee  
Secretary Matthew Beaton, EOEEA  
Mr. Brian Harrington, MADEP  
Ms. Brona Simon, Mass Historic Commission  
FRCOG Executive Committee  
FRPB Executive Committee

## **FERC NOI SCOPING SESSIONS - PF14-22**

### **STUDIES AND INFORMATION REQUESTED AS PART OF THE ENVIRONMENTAL IMPACT STATEMENT (EIS)**

*Kinder Morgan Northeast Energy Direct Project*

*September 23, 2015*

*The following Study and Information Requests have been prepared for submission to the Federal Energy Regulatory Commission (FERC) as part of the scoping process for the Northeast Energy Direct (NED) PF14-22 project. The proposed studies and information requests pertain to information that should be included in either the Resource Reports that will accompany Kinder Morgan – Tennessee Gas Pipeline’s (KM-TGP) Application for the NED project, or evaluated as part of the environmental review process in connection with preparation of the Draft Environmental Impact Statement (DEIS).*

*This request for studies and information has been prepared jointly by the:*

*Berkshire Regional Planning Commission, Berkshire County, MA;  
Franklin Regional Council of Governments, Franklin County, MA;  
Northern Middlesex Council of Governments, Greater Lowell Region, MA;  
Montachusett Regional Planning Commission, Western Worcester County, MA;  
Pioneer Valley Planning Commission, Hampshire County, MA;  
Southwest Region Planning Commission, Southwest NH; and  
Nashua Regional Planning Commission, Southern NH.*

*These Regional Planning Agencies serve the impacted municipalities along the proposed route of the NED project in Massachusetts and New Hampshire. The Resource Report references are to the July 2015 Resource Reports submitted by Tennessee Gas Pipeline Company (TGP) to FERC.*

*By way of background, these Study and Information Requests have been prepared to ensure that both KM-TGP’s application and FERC’s environmental review evaluate issues of significant concern to the Regional Planning Commissions, impacted communities and landowners. KM-TGP’s pre-filing application lacks sufficient information about anticipated project impacts to either fully inform the public or to allow for meaningful comment on and participation in the process consistent with the National Environmental Policy Act (NEPA) and general principles of administrative decision-making.*

*While the study list appears extensive on the surface, it bears noting that some of the information requested and studies sought are already required of KM-TGP by FERC as part of KM-TGP's application, pursuant to Part 380 of FERC's regulations and FERC's Guidance Manual for Environmental Report Preparation, online at <https://www.ferc.gov/industries/gas/enviro/erpman.pdf>. It is our expectation that FERC will strictly enforce its regulations and deem KM-TGP's application deficient if it lacks the level of detail set forth in some of these requests, consistent with FERC regulations.*

*Some of the other studies that we have requested are not expressly covered by FERC's regulations, but nonetheless, are critical to fully evaluating the environmental impacts of the project. Because KM-TGP is sponsoring the NED Project, we believe that it should be responsible for either performing these studies on its own or funding studies by qualified third parties. Nevertheless, if FERC does not conduct or require KM-TGP to perform all of these studies, we ask that FERC so notify the Regional Planning Commissions to provide them with adequate time to commission these studies, if funding can be secured, in advance of the release of the DEIS.*

**1. Conduct detailed Alternative Route Analyses to Avoid Permanently Protected Open Space, Federal and State Rare & Endangered Species Habitat, Water Resources, Forests, and Farmland**

**Goal:**

The goal of this study is to conduct detailed analyses of alternative routes that will reduce impacts on environmental resources and protected open space.

**Context:**

In Massachusetts and New Hampshire, the "Preferred Route" proposed by KM-TGP NED project will impact significant environmental resources including Permanently Protected Open Space, rare and endangered species habitat (e.g. MA Priority Habitat Areas), unfragmented forests, active farmland, coldwater fisheries, and water resource areas. The proposed route will alter and/or disrupt over 3,800 acres in Massachusetts and New Hampshire (Resource Report 1; Pages 1-45 & 1-46), including many important natural and cultural resource areas, an increase of over 35% from the amount of land reported to be impacted in March 2015 KM-TGP Resource Report 1. The project will impact roughly 8,800 acres for the overall project (Resource Report 1; Page 1-40), an increase of 25% from the amount reported in the March 2015 Resource Report 1. The Preferred Route does not appear to prioritize the protection of environmental resources, as one would expect

in order for the project to be in compliance with National Environmental Policy Act (NEPA), but rather emphasizes “constructability” and avoidance of urban congestion. As stated in Resource Report 10, Page 10-19, “The main determinants used to select the proposed route for the Project’s pipeline facilities rather than the alternative routes pertained to minimizing the number of affected landowners, constructability issues and Tennessee’s goal to limit the extent of disruption on the communities that will be potentially affected during construction.” This statement indicates a bias against siting to protect environmental resources. It also suggests that rural low income populations and communities, that are more reliant on natural resources, are given less consideration than suburban or urban areas that may have greater income levels and resources. The economic and public health of rural residents is closely tied to the health and viability of the natural resource base that will be negatively impacted by the pipeline including groundwater, farmland, and forests. Further the alternative analyses presented in Resource Report 10 do not include key resource areas including acres of Federal or State Identified Rare, Threatened or Endangered Species Habitat, acres of Permanently Protected Open Space, miles of coldwater fisheries streams, acres of public water supply recharge areas or the number of vernal pools. While urban congestion and the number of residences are cited as key reasons why the pipeline must be sited in rural environmentally sensitive areas the Tables do not provide the number of residences only TBD (to be determined).

**Requested Information:**

- a. Conduct a detailed analysis of “Alternative” routes along existing pipeline routes and major highway Rights of Way (e.g. I-88, Mass Pike) in comparison to the Preferred Route. Alternative routes that are co-located along existing gas pipeline systems or in existing major highway R.O.W.s should be prioritized for study as the preferred pipeline route rather than electric transmission lines that traverse environmentally sensitive areas or “greenfield” locations.
- b. Present a comparison of the environmental impacts in the Resource Report 10, as well as in the DEIS and FEIS of the proposed NED Wright to Dracut Preferred Route versus the proposed Spectra Energy Partners expansion of its existing system that will also serve the New England market.
- c. Conduct an assessment of the quality of the resources impacted for the Preferred Route and all alternative routes along major highways and existing pipeline routes. For example, are the wetlands along alternative highway routes well-functioning natural systems or are they already impacted by road

runoff and other pollutants, or isolated man-made wetlands resulting from the construction of the road? The Resource Reports simply compile statistics on the miles, acres or lineal feet of different resource areas impacted, rather than describing the quality and integrity of the resources. The Applicant should contact State resource agencies for additional information.

- d. Provide documentation on the sources of the resource statistics and how they have been compiled. Table 10.3-4, a comparison of expanding KM-TGP's Existing 200 Line pipeline route to the "Preferred Route," suggests that there will be more impacts to wetlands, forest and farmland by expanding infrastructure along an existing pipeline route than along the new Preferred Route from Wright to Dracut. Although the existing 200 Line pipeline route is a longer route in terms of miles (approx. 38 miles longer) than the Preferred Route, if the comparisons are based only on "desk top" data for the Preferred Route obtained from aerial photographs and/or publically available GIS datalayers, the resource impacts are likely significantly underestimated. A more thorough study is needed and impacts on critical resources including acres of Federal or State Identified Rare, Threatened or Endangered Species Habitat, acres of Permanently Protected Open Space, miles of coldwater fisheries streams, acres of public water supply recharge areas, and the number of vernal pools impacted should be included in the alternative analyses tables in Section 10.3.1 Major Route Alternatives. Land use impacts to forest, farmland, recreation areas and developed areas should be presented in terms of the acreage affected during construction rather than the number of miles.

In addition, the Cumulative Impact Analysis presented in Resource Report 3 is deficient and provides no quantitative assessment of water quality, critical wildlife habitat, or rare and endangered species impacts caused by construction and clearing of forested areas (e.g. erosion and sedimentation impacts on water quality and cold water fisheries, increased stormwater runoff and nutrient loading to water bodies, estimated increase in water temperature in cold water fisheries streams as a result of forest land cleared, acres of rare species habitat lost, etc.). Approximately 8,800 acres of land will be disturbed by the project yet on Page 3-113 of Resource Report 3, the proponent states that "The geographic extent and duration of disturbances caused by the construction of the Project will be minimal...".

Finally, the Cumulative Impact Analysis should be conducted at the HUC 12 subwatershed scale to provide a better assessment of the cumulative impacts not at the HUC 8 scale as presented. The HUC 12 impacts could then be aggregated within the HUC 12 and at the HUC 10 or watershed

scale, as necessary. For example, impacts to the major tributaries of the Deerfield River should be evaluated at the HUC 12 subwatershed scale. The cumulative impacts to the Deerfield River Watershed (HUC 10) would be the total of the impacts to each of the HUC 12 subwatersheds. The HUC 8 watershed scale does not provide adequate data to provide a meaningful assessment of the impacts.

- e. Provide cross sections of exactly how the pipeline will be “co-located” along the electric utility R.O.W. for the Preferred Route. Resource Report 10 states that the Preferred Route is generally co-located with Tennessee’s existing pipeline or other electric utility infrastructure. Once the proposed pipeline route departs from the existing “200 Line”, 77 miles will be co-located along electric transmission lines. According to Resource Report 1 (pg. 1-2) adjustments may be needed based on ongoing discussions with the electric utility which “may result in the centerline of the pipeline to be located 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.” The Resource Reports should clearly define what “co-located” means and should provide a diagram showing the separation of the pipeline R.O.W. from the high voltage electric transmission lines that will be required for safety reasons. Such separation could result in a “greenfields” project with significant additional forest fragmentation and natural resource impacts. Identify the environmentally sensitive areas, including coldwater fisheries and habitat areas with rare and endangered species that currently exist along the electric transmission lines. In addition, the proposed co-location of the pipeline in Pelham and Hudson, New Hampshire is in direct conflict with an approved expansion of the electric transmission lines known as the Merrimac Valley reliability project. Identify the additional impacts on natural resource areas that will occur when the pipeline is rerouted from the current proposed route to avoid conflicts with the Merrimac Valley reliability project.
- f. Conduct a detailed delineation of wetland resources including an assessment of vernal pools along the proposed route. Wetland resources, particularly forested wetlands and vernal pools may be hidden by the forest canopy and are not readily identified by interpretation of aerial photographs. This can result in serious under-reporting of significant wetland resource areas.
- g. Conduct a detailed assessment of impacts to forest habitat areas that support a variety of rare, threatened or endangered species and identify specific impacts on wildlife including the threatened Northern long-eared bat.

- h. The Connecticut River is a federally designated American Heritage River and the River and its tributaries play a central role in efforts to restore Atlantic salmon runs. The Deerfield and Westfield Rivers and their tributaries in Massachusetts are designated “Coldwater Fisheries,” critical to maintaining rare, threatened, or endangered fish species. Coldwater Fisheries are particularly sensitive habitat areas and changes to land or water can reduce their ability to support coldwater fish. In the Southern New Hampshire, both the Lower Merrimack River and the Souhegan River are "Designated Rivers" under New Hampshire’s Rivers Protection and Management Program (RMPP) per RSA 483.

Specific construction techniques must be used that will avoid potential river contamination with drilling fluids, subterranean gas releases that will disrupt the river bed and shoreline, and fluvial erosion that could compromise the pipeline’s structural integrity. FERC should require specific conditions to ensure that temporary work sites will be replanted after construction is complete, and ensure that there is no restriction on access to and use of the river as a result of this project. In addition, the DEIS and FERC should address the following issues:

- i. Clarify the timing of the release of FERC-required construction plans for water crossings.
- ii. Require that TGP’s construction process includes the use of carrier sleeves for the full-length of the HDD bore.
- iii. Evaluate the adequacy of pig launch and exit locations to ensure that the rivers have successful in-line inspections at a frequency consistent with industry best practices.
- iv. Facilitate emergency planning with all community and public water suppliers nearby rivers where HDD will occur including Pennichuck Water which operates a secondary water supply on the Merrimack River in close proximity downstream to the proposed alignment.

<b>2. Conduct a Comprehensive Analysis of the Need for the KM-TGP NED Pipeline Capacity to meet Natural Gas Demand in New England</b>
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**Goal:**

The goal is to conduct a comprehensive analysis of the need for the KM-TGP NED pipeline project to support natural gas demand and electricity generation in Massachusetts, New Hampshire and New England.

**Context:**

To date, the proponent (Kinder Morgan) has not demonstrated that the proposed pipeline capacity is needed. According to Kinder Morgan's (KM-TGP) Resource Report 1, they have commercial commitments for 500,000 dekatherms/day versus 1.3 Bcf/day of pipeline capacity. The commercial commitments represent only approximately 38% of the capacity of the proposed pipeline. Given the low amount of capacity committed to be purchased from the KM-TGP NED pipeline, if the proposed project is allowed to proceed, a significant portion of the natural gas will likely be exported and will not be used in the United States, depleting scarce domestic resources to meet overseas demand. If the pipeline is expanded to its originally proposed size of 2.2 Bcf/day of pipeline capacity, there are commitments for only approximately 23% of the proposed KM-TGP. Either figure for commercial commitments represents only a small amount of the NED pipeline capacity and raises a serious issue about whether the construction of this pipeline will result in "overbuilding" in direct contradiction to FERC's established policy not to overbuild (Resource Report 10; Page 10-13).

- a. We understand that the Algonquin Incremental Market (AIM) project, an expansion of an existing Spectra Energy Partners gas pipeline, was recently approved by FERC and is expected to provide an additional supply of natural gas for electric power generation in New England, one of the key reasons ISO New England identified the need for additional gas pipeline capacity. Further, KM-TGP appears to have only one electric utility, National Grid, signed up for long term firm transportation capacity according to their list of Shippers. The other purchasers are LDC's and could be served by LNG facilities and/or could invest in reducing the leaks in their distribution systems. CLF reports (CLF; Into Thin Air; Pg. 7) that between 8 and 12 Bcf of methane is leaked annually in Massachusetts alone. In its Alternative Analysis presented in Resource Report 10, KM-TGP acknowledges that the proposed capacity of alternate systems (Table 10.2-1, Pg. 10-17) also will serve the same general market. Other projects such as the Spectra Access Northeast will provide up to 1,000,000 Dekatherms per day and is expected to serve the electric utility generation market which is cited as the primary reason that additional pipeline capacity is needed by KM-TGP. In contrast, the commercial commitments for the TGP NED project will provide gas to the LDCs for residential and commercial heating and industrial uses. Further, on Page 10-2, Resource Report 10 states "Existing natural gas delivery systems may be readily expanded to meet increased demand, while minimizing impacts to the environment." This statement indicates that existing pipeline systems can be readily expanded to meet demand thereby eliminating the need for a new pipeline route that will have significant impacts on natural and

cultural resource areas. A detailed analysis of the “No Action Alternative” should be conducted as part of the DEIS.

**Requested Information:**

- a. Conduct an independent evaluation of the proposed construction of the KM-TGP NED pipeline and the expansion of the Spectra Energy pipeline system to determine if the construction of both will result in excess pipeline capacity for Massachusetts and New England.
- b. Conduct a quantitative analysis of the potential for LNG storage facilities, renewables (solar and hydro), and energy conservation to provide an alternative to the construction of the KM-TGP NED pipeline for 500,000 dekatherms of energy. Resource Report 10 provides no quantitative analysis of the potential for Energy Conservation, Renewables (solar, hydro) and LNG facilities to meet energy demands for heating and electricity. The broad conclusion that additional gas pipeline capacity is needed is unsupported by the data in Resource Report 10. This analysis should take into account each State’s Clean Power Plan goals required by the EPA as well as State and regional Clean Energy & Climate Change plans such as the Massachusetts Clean Energy & Climate Plan for 2020.
- c. Quantify the benefits to the communities along the proposed pipeline route. For instance, in Franklin County, MA the proposed pipeline is anticipated to provide little benefit to the communities directly impacted since the region is largely unserved by natural gas supplies for home heating or businesses. Only two towns along the pipeline route (Deerfield and Montague) have access to natural gas for home heating and business uses. Only five Franklin County towns are served by Berkshire Gas, which has an agreement with Kinder Morgan to purchase 36,000 dekatherms per day, or only approximately 2.8% of the proposed 1.3 Bcf of pipeline capacity. In NH, the situation is much the same with little benefit anticipated for communities impacted by the pipeline as these predominantly rural towns are unlikely to be provided with access to the natural gas being transported through their backyards. Liberty Utilities is the only LDC in NH that has contracted for capacity on the NED project. It has committed to purchase 115,000 dekatherms per day from Kinder Morgan which represents only approximately 8.8% of the 1.3 Bcf/day of pipeline capacity. In the Southwest Region planning district, none of the seven pipeline corridor communities is served by Liberty Utilities.

- d. Quantify the length of time the Marcellus Shale deposits will be able to supply gas for the proposed NED expansion project and evaluate the public benefit of investing in a costly infrastructure project that may be obsolete in a relatively short time frame. In 2011, the U.S. Energy Information Administration reported that the Marcellus Shale deposits contained 410 trillion cubic feet of unproved technically recoverable natural gas, but the following year revised the estimate downwards to 141 trillion cubic feet, only an estimated six years' worth of natural gas consumption in the U.S. (Sources: U.S. Energy Information Administration; Annual Energy Outlook 2012 & Geology.com; Geoscience News and Information). An in-depth study being conducted by petroleum engineers and economists at the University of Texas in Austin is reporting even more conservative estimates with the four big shale plays, including the Marcellus, peaking in 2020 and then declining thereafter (Nature; Volume 516; December 4, 2014).

### **3. Conduct an Analysis of Air Quality Impacts & Greenhouse Gas Emissions Related to the Construction & Operation of the Pipeline**

**Goal:**

The goal is to conduct comprehensive analyses of the air quality impacts of the proposed pipeline during the construction and operation of the entire facility, including the pipeline, compressor stations, metering stations and venting stations and all construction equipment.

**Context:**

There are serious concerns about air quality impacts during the construction and operation of the pipeline and compressor stations. The proposed project is expected to have a significant impact on air quality and some locations in the project area are already “non-attainment areas” for ozone. Although the compressor stations will likely require permits from the state regulatory authority responsible for administering the Clean Air Act, that another agency has jurisdiction over a project does not absolve FERC of its obligation to conduct an independent review to determine whether the project is in the public interest. As such, FERC requires information about air quality to be included in an application as part of Resource Report 9. A comprehensive assessment of the cumulative impacts on air quality related to the construction and operation of the pipeline and related facilities is needed, as well as the identification of potential mitigation strategies and testing requirements that will be followed to protect public health and safety.

### **Requested Information:**

- a. Identify local, state and federal air quality standards that must be complied with and the monitoring requirements and other testing required to determine compliance during the construction and operation for the pipeline, compressor stations and the metering and venting stations, including monitoring required during venting of gas for maintenance procedures, accidental releases, and emergencies.
- b. Provide a detailed explanation of the air quality modeling that will be conducted and provide maps of the areas that are expected to be impacted by emissions from construction equipment and during the operation of the pipeline, compressor stations, and the metering and venting stations. The air quality modeling should be conducted under different meteorological conditions, particularly for Fall/Winter months when inversion occurs, for summer months when there are often high ozone events, and also for different times of day.
- c. Provide maps and a numerical comparison of existing and projected air quality conditions during construction and operation of the facility reflecting cumulative impacts from all of the facilities (e.g. Construction Equipment, pipeline, compressor stations and the metering and venting stations). Such maps and air quality information should provide information on existing and expected conditions during different times of day, different meteorological conditions and during different times of year.
- d. Identify all hazardous pollutants that will be emitted and the air quality monitoring and testing that is proposed to be completed on a daily, weekly or more frequent basis at the compressor stations, metering stations and venting stations during the operation of the facility to protect public health and safety.
- e. There are currently only two air quality monitoring stations in Adams and Greenfield that are somewhat near the proposed pipeline route in Massachusetts. Additional air quality monitoring stations should be installed, at least one in each community where the pipeline is proposed to be sited, with locations selected in consultation with City or Town officials, including local Boards of Health. Additional air quality monitoring stations should be located adjacent to each Compressor Station and all venting and metering stations if the NED Project proceeds. Such ambient air quality stations should be installed at least a year prior to the construction and operation of the pipeline in order to establish baseline conditions. Air quality reports should be provided to Municipal and State officials on a monthly basis. Testing should include O<sub>3</sub>, CO, NO<sub>2</sub>, NO<sub>x</sub>, VOCs, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, GHGs, and HAPs (Hazardous Air Pollutants).

- f. Conduct an analysis of the greenhouse gas emissions expected to be generated by the construction and operation of the proposed KM-TGP NED pipeline. Quantify the impacts of the project on each state's Climate Change initiatives and GHG reduction goals.
- g. Provide a comparison of the air quality impacts and greenhouse gas emissions expected to be generated by an electric-powered compressor station.

#### **4. Archeological & Historic Resources Study of Pipeline Route**

##### **Goals:**

The goals of this analysis would be: (1) to ensure preservation values are factored early into FERC planning and decisions, and (2) to avoid, minimize, or mitigate adverse impacts to historic properties.

##### **Context:**

Relative to cultural and historic resources, communities have noted that too often Section 106 is initiated late in the NEPA process, which threatens opportunities to avoid, minimize, or mitigate adverse impacts to historic properties and cultural resources. In addition, FERC offers guidance on evaluation of cultural resources in its Guidelines for Reporting on Cultural Resources, available online at <http://www.ferc.gov/industries/gas/enviro/culresor.pdf>.

##### **Requested Information:**

The applicant and FERC should include in Resource Report 4 of its application as well as in the DEIS:

- a. A summary of the correspondence between applicant and local heritage/historical commissions which have local knowledge of sites potentially eligible for Historic Register consideration. Although Applicants frequently file this information as "privileged," we note that the FOIA provisions ordinarily governing inter-agency communications do not apply where the comments transmitted pertain to the environmental assessment of the project (see 18 C.F.R. §380.9).
- b. A summary of correspondence between Applicant and State Historic Preservation Officers (SHPOs), particularly in states that do not maintain comprehensive historic inventory databases.
- c. Provide more detail on the predictive model for archaeological site locations including: how the model is validated; how the model results are used specifically; and how river locations, which have a high probability of pre-historic findings, are specifically incorporated into the predictive model.

- d. For the tables of previously-identified sites, many are reported to have “Insufficient Information to Evaluate” or “Unknown.” The Applicant, working in coordination with SHPOs, should conduct additional studies to determine eligibility for National Historic Register listing. For sites that are listed as Not Eligible, the Applicant should identify the entity making that determination and the reason why each is not eligible.
- e. Provide documentation of compliance with state statutory requirements for construction impacts to federal and state-designated scenic roads.
- f. Provide detailed information on the procedures that will be followed if buried historic or prehistoric resources are uncovered during construction including notification of state agencies and Native American Tribal representatives.

## **5. Analysis of Private Property Real Estate Values, Homeowner and Municipal Insurance, and Municipal Tax Revenues**

### **Municipal Tax Revenues**

#### **Goal:**

The goal of the analysis is to accurately quantify the expected impact of the NED project on local tax revenues.

#### **Context:**

As part of their meetings with local communities, representatives of Kinder Morgan provided estimates of expected tax revenues that will be realized from the construction of the pipeline and related infrastructure and facilities. In Massachusetts, the Department of Revenue (DOR) establishes the actual value of the pipeline and local property tax rates are then applied to the value. The figures cited by Kinder Morgan appear to be inconsistent with data provided by DOR on existing pipelines. These numbers can be viewed through an Excel file, which shows the assessed property value of pipelines and related infrastructure in each town in the Commonwealth. It can be found on this web page: [www.mass.gov/dor/local-officials/assessor-info/centrally-valued-utilities/fy2015-pipeline.html](http://www.mass.gov/dor/local-officials/assessor-info/centrally-valued-utilities/fy2015-pipeline.html).

#### **Requested Information:**

- a. KM-TGP should provide a detailed analysis of the tax revenue impacts as a result of the construction of the pipeline. The methodology utilized for developing the revenue figures should be clearly explained. A detailed accounting of the property tax impacts in every community along the main line and proposed laterals should be provided. Any previous inaccuracies or

misstatements made by the proponent should be corrected and explained. The calculations should include the pipeline and all related infrastructure, including the compressor stations, and metering and venting stations. To the extent that KM-TGP is unable to quantify tax benefits to communities, it should be precluded from including any contrary statements in its application and supporting materials.

## **Residential Property Values**

### **Goal:**

To clearly quantify and understand the impact of the proposed project on future property tax revenues and residential property values in each community along the proposed main line and laterals.

### **Context:**

Kinder Morgan asserts that the presence of the pipeline will not negatively impact local property values. However, there are a number of paired-sale studies that suggest that there may be long-term loss of property value due to the presence of a natural gas transmission line. It is difficult to determine the extent to which those published studies reflect transactions involving knowing buyers, who were fully aware of the presence of the pipeline. According to the Pipeline Safety Trust, one reason that there is limited available information about changes in property values is that, in the settlement of eminent domain cases, operators typically require a confidentiality agreement from the affected landowner, promising not to disclose the amount of the payment received by the landowner for the loss in value of the property. Moreover, public awareness of pipeline safety has been elevated as a result of serious accidents in September 2010 in San Bruno, California and in February 2011 in Allentown, Pennsylvania, creating a stigma relative to living in close proximity to such facilities.

According to the Forensic Appraisal Group, Ltd., the effect of a gas pipeline easement is measured by the market. Depending on the size of the pipeline, size of the easement, how it is located on the property, the size of the property, property use, etc., the impact range could be nominal to substantial.<sup>1</sup> It could be as little as 50% of the easement land value, or up to 30% or more of the whole property value. The more intrusive the easement on the land (runs diagonal across the whole property vs. just down the property line), the more impact it will have. If the property were purchased at market value with consideration for the pipeline, the owner may be able to resell it for the price previously paid; assuming overall market conditions do not diminish. Clearly, this will not be the case for most current property owners along the proposed NED right-of-way. There does not appear to be an upside to having a pipeline easement on

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<sup>1</sup> [http://www.forensic-appraisal.com/gas\\_pipelines\\_q\\_a](http://www.forensic-appraisal.com/gas_pipelines_q_a)

a property. Inconvenience, restrictions on use, unsightly paths cut through wooded areas, other negative visual impacts, and potential stigma could have an adverse impact on property values.

**Requested Information:**

- a. The Applicant should provide in the DEIS and FEIS tangible, substantiated data to support claims made regarding the proposed project's negligible impact on local property values. Hard data should be provided outlining the impacts that other projects of this magnitude have had on residential property values and marketability. The Applicant should also disclose a list of right-of-way use restrictions that may apply to the pipeline easement which may impact property values. An assessment of the potential property value impacts in each community along the main line and laterals should be clearly outlined, and the methodology for arriving at the calculations should be thoroughly explained.

**Insurance Issues**

**Goal:**

The goal is to assess the impacts of the project on the ability of homeowners to purchase property insurance; to quantify any potential increase in premium costs for property owners; and to assess liability exposure for municipalities.

**Context:**

Recent anecdotal evidence provided to the Pipeline Safety Trust suggests that insurance underwriters are responding to the presence of gas transmission lines near residential properties, and raising rates, or in some instances, suggesting that insurance might not be available for a new buyer of a property where a transmission line was recently constructed.<sup>2</sup> While it may be true that some underwriters do not consider the presence of a transmission line to be a rate factor, some do.

Gas pipeline line development also has the potential to involve municipalities in lawsuits related to the installation and operation of in-ground pipelines. Municipalities need information on the insurance coverage carried by the gas pipeline company and any exposure that the municipality may have.

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<sup>2</sup> Pipeline Safety Trust, Landowner's Guide, p. 27

**Requested Information:**

- a. The Resource Reports and DEIS should document the potential insurance impacts of the project on private property owners including an independent assessment by a qualified firm of whether property owners will have difficulty purchasing insurance and if insurance premiums will increase due to the presence of the pipeline. This analysis should be verified by assessing the insurance impacts on private property owners in other parts of the United State that have recently been impacted by the construction of a gas pipeline of this size and scale.
- b. Evaluate the liability exposure for every municipality along the pipeline and determine municipalities affected by the proposed project including abutting communities. Require Kinder Morgan to list affected communities as additional insured's on their liability insurance policy and provide to each affected municipality a copy of the insurance policy with the affected municipality listed as an additional insured.

**6. Analysis of Potential Safety Impacts Including Identification of Hazard Zone(s) if Pipeline Fails**

**Potential Safety Impacts During Construction:**

**Goals:**

The goals of this analysis are to: (1) determine the level of impact of construction activities on emergency response times in and around the project area; and (2) determine and quantify potential threats to public safety due to construction activity.

**Context:**

Construction will occur along a long corridor involving suburban towns, rural towns, and significant areas of protected open space in state and non-profit ownership. Much of the road network consists of rural two-lane highways and local roads with limited means of access for relatively large portions of the communities. Much of the existing development pattern consists of scattered rural homes, interspersed with agricultural and forested land and State parkland. Fire protection is provided primarily by local volunteer fire departments, with forest fire support from State agencies, and many areas do not have public water systems that provide fire protection. The preferred route crosses public drinking water supply wellhead protection and drinking watershed areas.

**Requested Information:**

- a. Provide an analysis of the roads that will be impacted by construction activity, such as requiring partial or complete temporary closure, in all communities including abutting communities. Determine the amount of delay or additional travel time and distance created for each impacted road for emergency vehicles to respond to incidents.
- b. Provide an analysis of the impact of construction related activity on each impacted road's condition and its ability to continue to serve local emergency management vehicles responding to emergencies due to the impact of construction related activity on the road's surface, structure, culverts and bridges. Quantify the "worst case" impacts on emergency response times if the road condition deteriorates to a level which makes it impassable for emergency response vehicles.
- c. Provide an analysis of the impact of construction related activity on each impacted road's condition and its ability to continue to serve natural resource based economic development including forestry and any other existing commercial or industrial development. At a minimum pipe materials and construction under any roadway regardless of class should be at the same standard as required of a State road.
- d. Assess the capacity of local fire departments and other public safety personnel to respond to wildfires created by construction activities, or to respond to a construction site accident where workers may be injured. Capacity should include assessment of staffing levels, training, materials and supplies, and equipment.
- e. Determine what hazardous materials and petroleum products will be used during construction and identify threats to public health and safety that these hazardous materials potentially create.
- f. Analyze the impact of blasting necessary to remove rock for the construction project. Clearly identify areas which will be subject to blasting. Determine the area of potential concern regarding rock throw and seismic impacts due to blasting activities. Determine the people, structures and other facilities located within that area of concern. Describe the types of blasting materials that will be used. Require that the "blasting" firm hired not use perchlorate products to avoid potential contamination of drinking water supplies.
- g. Identify the locations of public drinking water supply infrastructure and determine the impact of construction activities on wells, reservoirs, aqueducts and dams, given the age and condition of the infrastructure and possible impacts due to pipeline construction activities. Identify any private wells that may be impacted by the project as a result of construction.
- h. Analyze the noise impacts of construction activities and assess those against State and local noise regulatory standards. To establish baseline noise levels,

measure the existing ambient noise levels along the construction path for both daytime and nighttime and provide quantified assessments of the expected increases in noise and the potential public health impacts resulting from the increases in noise. Noise impacts analyzed should include the operation of machinery used for clearing and construction, for mechanical fracturing of rock, and for blasting necessary to remove rock.

- i. Assess the potential safety risks of trenches and the measures to be used to ensure compliance with, at a minimum, the Massachusetts Excavation & Trench Safety Regulation (Jaclyn's Law).
- j. Assess areas of steep slope for slope failure potential during construction. Determine all areas potentially impacted by slope failure and identify risks to the public using those areas for a variety of purposes. All structures and other facilities or areas used by the public or by private property owners in such areas should be identified.
- k. Identify and require the use of pipeline construction techniques and operation procedures designed to withstand the increased frequency of heavy rainfall events.

## **Potential Safety Impacts During Pipeline Operations**

### **Goals:**

The goals of this analysis would be to: (1) to reduce the possibility of a catastrophic failure of the pipeline or related facilities (compressor stations, meter stations, and main line valves); (2) to minimize risk to the public resulting from catastrophic failure; and (3) to ensure the adequacy and appropriateness of emergency response to all major and minor incidents.

### **Context:**

The pipeline will be operated in an environment where some rural and suburban development already exists along considerable portions of the route, and homes and businesses are in close proximity in a number of instances. There will be additional development which occurs in proximity to the pipeline over the multiple decades during which it will operate. Much of the route is in communities that rely entirely on volunteer fire departments as first responders; they have limited training and equipment, and turnover in membership necessitates ongoing training and replacement of out-of-date specialized supplies and equipment.

### **Requested Information:**

- a. Serious pipeline accidents can result from weld failures. Clearly identify the protocols for inspection of welds during construction. What is the sample number of welds to be subject to inspection by radiological testing? If

radiological testing finds weak welds, will the sample number be increased along the pipeline?

- b. Since many pipeline explosions involve excavation activities by third parties, provide a detailed explanation of the measures that will be taken to clearly identify the pipeline corridor, to regulate/authorize construction activities in the corridor, and to monitor on a frequent basis for unauthorized construction in the easement.
- c. Clearly identify the location of and safety risks associated with all pipeline above ground facilities including compressor stations, valve stations, main line valves, and pig launchers and receivers. Provide a detailed explanation of the measures that will be taken to protect against those safety risks.
- d. Clearly identify the potential impact radius for potential explosions for the entire pipeline infrastructure, based on the proposed size and pressure of the pipeline, including the pipe, each compressor and valve station, each main line valve, and any potential blast hazard at pig launchers and receivers. Document the “High Consequence Areas” and the method used to determine them, including quantification used as the basis for each HCA. Identify all structures located along the pipeline and laterals, including their use, highlight public facilities and areas commonly used by the public (trails, playfields, schools, churches, parks, camping and picnic areas, etc.) within the potential impact radius.
- e. Clearly lay out the ongoing inspection protocols for the pipeline once in operation. What will be the frequency of monitoring for methane and where will the natural gas be odorized? What will be the frequency of internal and external inspections for corrosion or other damage to the pipeline? What will be the standards used for determining when inspections reveal potential issues for further investigation and repair?
- f. Clearly lay out the protocols for the ongoing inspection of the condition of the cathodic protection used. What will be the standards used to determine when inspections reveal potential issues for further investigation and repair?
- g. Since much of the pipeline is proposed to be in proximity to high voltage electric transmission lines and overhead (as well as underground) power lines can induce harmful disturbances on nearby metallic pipelines, assess the:
  - i. Capacitive coupling disturbances for any above ground sections of pipeline that are electrically isolated from the ground. The evaluation of this disturbance should be performed for steady-state operation condition of the power line, assuming the line operates at its maximum operational voltage.
  - ii. Inductive coupling disturbances for any pipelines facilities which are located below-ground. This disturbance should be evaluated taking into account the maximum anticipated levels of steady-state and short-circuit currents.
  - iii. Conductive coupling disturbances for underground sections of the pipeline and for any grounded above-ground sections of the pipeline. This evaluation should be performed only for short-circuit condition of

the power line and taking into account the maximum anticipated level of short-circuit current.

- iv. Under short-circuit condition, the disturbances due to inductive and conductive coupling occur simultaneously.
- v. Assess the adequacy of proposed cathodic protection against corrosion given current research as traditional pipe-to-soil potential measurements do not guarantee efficient protection and identify the frequency of maintenance required to ensure these systems are preventing corrosion of the pipeline.
- vi. What other anti-corrosion methods can be utilized?

*References: "Electrical Risks in Transmission Line-Pipeline Shared Rights-of-Way", Jose R. Daconti, Power Technology, Newsletter Issue 96, October 2004.*

*"AC Corrosion Induced by High Voltage Power Line on Cathodically Protected Pipeline", Ouahdah M'hammed, "Zergoug Mourad, Ziouche Aicha, Touhami Omar, Ibtlouen Rachid, Bouyegh Saida, and Dehchar Cherif, International Conference on Control, Engineering & Information Technology Proceedings, 2014, ISSN 2356-5608.*

- h. Conduct an analysis of the appropriate depth to which the pipeline should be buried to minimize the potential of a pipeline failure based on the climate conditions for Western Massachusetts and Southern New Hampshire given its location under a high voltage electric transmission line. As outlined in Table 1.3-1 of Resource Report 1 (Page 1-78) in normal soil conditions, only 36 inches, and in areas of consolidated rock, only 24 inches of fill is proposed to be placed on top of this high pressure gas pipeline. This depth is well above the frost line in New England and Western, Massachusetts and a significant portion of the pipeline will be above the frost line. Will KM-TGP's "minimum" specification for depth cover which the company states it will use provide adequate protection to the pipeline from temperature changes or frost heaves? We note that failure of welds can lead to a catastrophic explosion that at the proposed pressure could impact homes, businesses and wildlife habitat areas including cold water fisheries and endangered species habitat within approximately 800 feet of the pipeline (30 inch pipeline at MOP of 1,460 psig). Not only would the gas pipeline be damaged but a major electric transmission line critical to the region could be rendered inoperable.
- i. Provide detailed information about the materials used for interstate gas pipelines constructed under electric transmission lines over the last 30 years including the type and gauge of the pipeline and materials used for cathodic protection against corrosion.
- j. Provide a summary and analysis of the safety record of interstate gas pipelines located under electric transmission lines for a period of at least 30 years.

- Provide examples of at least 10 interstate gas pipelines constructed within 100 feet of an electric transmission line and include their safety record.
- k. For the sections of pipeline that are proposed to be co-located with electric transmission lines, assess the impact a catastrophic pipeline explosion may have on the region's electric infrastructure.

## **7. Analysis of Training, Equipment and Facility Needs for Local Emergency Responders**

### **Fire Protection**

#### **Goal:**

The goal of this analysis is to assess local firefighting capabilities in relation to fighting a fire caused by an incident on the proposed pipeline or at a compressor station.

#### **Context:**

Fire departments in most of the towns crossed by the pipeline rely on a volunteer call force. This creates difficulty in scrambling a sufficient number of firefighters even for routine house fires. Because these firefighters have "day jobs," they often don't have time to participate in trainings and exercises to keep up their skills. Purchasing large pieces of firefighting apparatus to fight even routine fires for small, rural towns is proportionately more expensive than in larger cities because the same base level of equipment is needed regardless of population size, but the tax base in a rural town is smaller.

#### **Requested Information:**

- a. Provide a detailed assessment of the ability of local emergency responders to respond to incidents involving above ground facilities and outline resources needed to keep their training, supplies and equipment up to an adequate standard to respond to those incidents.
- b. Provide a time frame for completing a plan for multi-year training and exercises for local first responders, which include provisions for offering trainings in the evenings and on weekends so volunteers may participate. The training should include training on the proper use of gas monitoring equipment.
- c. Provide a list of specialized apparatus, equipment, and personal protective equipment that local fire departments will need if the pipeline is permitted by FERC and constructed.
- d. Provide a list of all substances that will potentially be transmitted through the pipeline and the Material Safety Data Sheets for those substances. TGP

should be required by FERC to notify municipal officials and local fire departments when pipeline contents change so they will have up to the minute information on what hazards they may need to respond to.

- e. Provide information on what methods will be used to ensure that the actual rights of way are delineated on the ground once the pipeline is constructed if approved by FERC and provide local Emergency Management Directors with detailed maps showing the exact location of all pipeline facilities, especially all shut off and venting valves.
- f. Clearly identify the proposed distance between valves and identify which valves will be manually, remotely, or automatically operated in the case of a pipeline system failure. Document how much fuel would be released given the type of valve and the distance between valves in the case of any failure.
- g. Provide information on how long it takes to stop a leak based on the proposed spacing and method of operation (e.g. remote or on-site) of the valves and how long it will take for all of the gas to evacuate from the pipe and dissipate to safe levels under different atmospheric conditions.
- h. Assess the ability of local fire departments to access water from lakes, fire ponds, etc. along the proposed pipeline route in the event of a large fire where water is needed to supplement the water initially brought by the fire trucks.
- i. Assess the capability of the local and regional hazardous materials response team to respond to any incidents involving hazardous materials and petroleum products?

## **Police Monitoring**

### **Goal:**

The goal of this analysis is to determine what kind of security measures will be taken in relation to the pipeline and the compressor stations if they are constructed.

### **Context:**

Unlike rural fire departments, rural police departments do not rely on volunteer labor, but they have small forces.

### **Requested Information:**

- a. Provide an outline of what security measures FERC will require TGP to undertake to prevent terrorism or vandalism events.
- b. Provide information about what routine patrolling of the gas pipeline and compressors station will be required by FERC and carried out by TGP.

- c. Provide information about whether the compressor stations will be manned or remotely monitored. If remotely monitored, specify the length of time that it will take a representative to arrive on-scene if there is an incident.

## **Planning for Emergency Events**

### **Goal:**

The goal of this analysis is to determine what kind of emergency planning process will be conducted before construction and in the long-term if the pipeline and compressor station are constructed.

### **Context:**

With the lack of local public safety resources mentioned above, it is imperative that good emergency operations plans be in place and be regularly exercised with local responders if the pipeline is approved by FERC. Regional emergency planning committees and public health coalitions are integral partners in assisting local responders in preparing for emergencies.

### **Requested Information:**

- a. Provide a time frame for completing a comprehensive emergency operations/response plan and an outline of the contents of the plan if the proposed pipeline is approved by FERC. The plan should be created with input from local and regional public safety entities and they should receive copies of the plan when it is complete and whenever it is updated. Provide a schedule for how often the plan is proposed to be exercised with local responders.
- b. Provide a time frame and information on what kind of an evacuation plan will be created if the pipeline is approved by FERC. This should include local and regional input and be exercised with local responders.
- c. Provide information on what measures will be taken to plan for evacuation of residents that will be isolated or trapped if an incident occurs.
- d. Provide information on what measures will be taken to notify the public in case of an emergency. The public notification plan should have redundant communication methods built in, especially in areas where cell phone service is not available or reliable.
- e. Provide information on how frequently contact lists, which include TGP emergency contacts and local responder contacts, will be updated and distributed to municipal officials and local responders.

## **8. Analysis of Impact on Heritage & Recreational Tourism and Forestry**

### **Temporary Disruptions to Heritage & Recreational Sites during Construction**

#### **Goal:**

The goal of this analysis is to identify all heritage and recreational sites and determine if temporary construction impacts will significantly harm the site's viability as a destination for all types of visitors.

**Context:** Rural economies are supported by the region's natural, scenic, historic and open spaces resources. Certain recreational aspects of the proposal are discussed in Draft Resource Report 8, submitted by Tennessee Gas Pipeline Company. Parks, trails, tracts of land, tourist destinations, vistas, and other sites under all types of ownership exist throughout the study area. Direct economic patronage to and indirect expenditures associated with visits to these sites may be disrupted by construction activities associated with a pipeline construction project.

#### **Requested Information:**

- a. Provide an inventory of heritage and recreational sites and Federal and State Scenic Byways and National Scenic Trails along the proposed route, including their locations and extents.
- b. Provide the locations, total areas, and durations of impacts, such as temporary road closures in the vicinity of each inventoried site.
- c. Determine how the operation of sites will be disrupted as a result of temporary construction impacts through a fiscal impact analysis quantifying loss of revenue due to required closures, decreased patronage, and other disruptions.
- d. For each site impacted by the proposal, provide a mitigation plan to ensure their continued operation during any construction activities.

### **Long-term Disruptions to Heritage & Recreational Sites and Forestry Businesses**

#### **Goal:**

The goal of this analysis is to identify all heritage and recreational sites and determine if the presence of a natural gas pipeline, its associated facilities, or rights of way will significantly harm the site's continued viability as a destination for all types of visitors. A second goal is to assess the potential impacts on forestry related business.

#### **Context:**

Direct economic patronage to and indirect expenditures associated with visits to these heritage and recreational sites may be permanently disrupted by the

proposed project and its associated facilities. Changes to scenic vistas, the physical character of the land, and liabilities/restrictions on certain activities near the facilities in question will impact these sites and their public benefit. Additional fragmentation of forested areas may impact businesses relying on this resource.

**Requested Information:**

- a. Determine whether a site's operations and visitor attractions, Federal and State Scenic Byways or National Scenic Trails will be disrupted as a result of permanent installation of a natural gas pipeline, its associated facilities, or its rights of way.
- b. Summarize the acreage of heritage and recreational land that will be permanently impacted by the proposed facilities.
- c. Determine the occupancy of recreational and heritage sites throughout the year, and during appropriate peak times where number of visitors and human impacts on an area may be significantly higher than normal.
- d. Determine how the operation of heritage and recreational sites will be disrupted as a result of permanent construction impacts through a fiscal impact analysis.
- e. Provide a mitigation plan for heritage and recreational sites to address potential losses in views, changes to the physical character of the land, and any potential hazards due to pipeline activities.
- f. Address impacts on the safety of visitors to each heritage and recreational facility, and to assets of the facility, including insurances, emergency preparedness, and increased liabilities associated with the proposed facilities.
- g. Conduct an economic impact study showing the potential negative impacts on recreational and heritage tourism and forestry businesses in terms of lost revenue, income, and jobs as a result of the pipeline.

**9. Analysis of Impacts on Private & Public Water Supplies and Water Resources related to Construction (blasting & drilling), Pipeline Operation and Hazardous Materials Storage & Use**

**Goal:**

Conduct a comprehensive analysis of the water quality impacts of the proposed pipeline during the construction and operation of the entire facility including the Pipeline, Compressor Stations, Metering Stations, Venting Stations, Pig Launchers and Receivers and construction equipment.

**Context:**

There are significant concerns about potential impacts to drinking water supplies and water resources related to the construction and operation of the proposed pipeline, compressor stations and related facilities. A comprehensive assessment of the surficial geology along the proposed pipeline route, identification of potential impacts to public and private drinking water supplies, and plans for monitoring of water quality is needed to protect public health and safety and environmental resources. This includes identification of potential mitigation strategies and testing requirements. There are locations along the proposed pipeline route where there is a shallow depth to bedrock and homes and businesses in those areas rely on bedrock wells that could be negatively impacted by blasting. There is also concern that any hazardous materials transported in the pipeline or used during the construction and operation of the pipeline and compressor station could be released and contaminate groundwater and other water resource areas.

**Requested Information:**

- a. Identify local, state and federal water quality standards that must be met and the monitoring and testing requirements proposed to determine compliance during the construction and operation of the Pipeline, Compressor Stations, Metering and Venting Stations, and Pig Launchers and Receivers.
- b. Conduct a hydrologic analysis and provide a description, inventory and analysis of existing groundwater conditions and an assessment and mapping of surficial and bedrock geology, including location of bedrock faults and high transmissivity fractures. This analysis should include consultation with the State Geologists in NY, MA and NH. This analysis should focus on both surface water and groundwater and include a discussion of potential impacts to these resources as a result of the construction and operation of the pipeline, compressor stations and other above ground facilities. Identify measures to reduce or mitigate the identified impacts.
- c. Based on the assessment of the surficial and bedrock geology along the pipeline route, clearly identify locations where there are public water supply recharge areas, including Zone II areas and Interim Wellhead Protection Areas mapped and defined by State agencies (e.g. MassDEP Source Water Assessment Program), Outstanding Water Resource areas, and/or high or medium yield aquifers within ½ mile of the proposed pipeline and compressor stations. Outline methods and testing proposed to protect public and private drinking water supplies particularly if blasting or drilling is required during construction.
- d. Based on the assessment of surficial and bedrock geology, identify locations where there is shallow depth to bedrock and identify and map all residences

and businesses that rely on bedrock wells within a ½ mile of the proposed pipeline and compressor stations. Outline methods and testing proposed to protect public and private drinking water supplies relying on bedrock wells, particularly if blasting or drilling is required during construction.

- e. In accordance with State standards for proper sampling and laboratory protocol, identify pre-construction and post-construction water quality analysis and flow rate (gpm) testing that will be conducted for each existing public or private groundwater well within 750 feet of the pipeline unless surficial geology warrants a greater testing area. Water quality testing should be completed by an independent State certified water testing laboratory and parameters to be tested should include, but not be limited to: methane, chloride, sodium, TDS, pH, arsenic, barium and strontium, radon, and a subgroup of the volatile organic chemicals (VOCs) called BTEX (benzene, toluene, etc.).
- f. Identify the locations where water quality testing will be conducted on an annual or more frequent basis to ensure that public and private drinking water supplies are adequately protected from potential impacts from the pipeline and related facilities during their operation and identify remediation strategies that will be undertaken if contamination is found.
- g. Identify all hazardous materials that could be contained in the pipeline and all hazardous materials that will be used during construction of the pipeline including drilling and blasting materials.
- h. Provide a hazardous materials handling and response plan that proposes methods to ensure that releases will not occur and identifies methods to mitigate accidental releases. Specify how the plan will be implemented by the operator, contractor and subcontractors utilizing or storing hazardous materials in excess of household quantities during the construction and operation of the pipeline and related facilities, including training that will be required for their employees.
- i. Identify FERC's requirements for the applicant, operator and or construction contractor(s) to replace or remediate contaminated drinking water supplies or to remediate releases to water resource areas (lakes, ponds, streams, and wetlands) caused by the construction or operation of the pipeline and related facilities.
- j. Identify potential contamination pathways resulting from drilling underneath rivers and between aquifers or from Brownfield sites located along the pipeline route that could adversely impact surface and groundwater resources.
- k. Describe the water quality testing required for the water used for hydrostatic testing of the pipeline, disposal alternatives for this water, and permits required before it is released to any surface water or to groundwater.

## 10. Analysis of Impacts on Rare & Endangered Species

### **Goal:**

The goal of this requested analysis is to identify what impacts the construction and operation of the pipeline will have on the vitality and long term sustainability of rare and endangered species and their associated habitat. The study should look beyond just localized impacts and consider cumulative impacts to the species' statewide or ecosystem-scale habitat.

### **Context:**

The proposed NED right-of-way is slated to mostly fall alongside existing utility ROW corridors. In areas where this occurs, the result will be a widening of deforested areas or potential fragmentation of contiguous forestland. In other segments, the pipeline is slated to cut through undisturbed habitat supporting state and federally listed endangered species.

The Resource Report submitted by Tennessee Gas to FERC in July 2015 notes that areas converted from forest to open grassland areas due to de-vegetation "will naturally re-vegetate in 1-2 years" and will "provide additional open land habitat" (Page 3-51). It is important to note that the regeneration of a full-canopy forest takes well more than 1-2 years. The Resource Report also notes that some species are "adaptive to changing habitat conditions" (Page 3-52), but does not specify which and whether they include endangered or rare species. TGP acknowledges that its project will create the displacement of habitat and thus alter the cascade of species that depend on them: "Vegetation clearing between HDD entry and exit work spaces will be avoided if possible. Clearing of vegetation will permanently reduce available habitat cover and food sources for certain species of wildlife (i.e., those that primarily rely on forested habitats). However, following a relatively short period of regeneration within TWS and permanently maintained ROWs, there will be more terrestrial grassland and PSS habitats that provide important cover and a greater diversity and density of food sources for a different complex of wildlife species." (Page 3-51).

State regulatory agencies are charged with protection of and overseeing the recovery of rare and endangered species due to their importance to ecosystem health and biodiversity, not simply exchanging them for new types of habitat and wildlife. Because this project will remove old habitat and create new ones, studies are needed to understand how these new types of habitat, and the wildlife they support, will influence the recovery of any rare and endangered species within the counties affected.

**Requested Information:**

- a. Determine the location and abundance of rare and endangered species communities that will be immediately displaced by the proposed project.
- b. Determine the impact of loss of habitat on these rare and endangered species, and the potential for these impacted communities to adapt to new types of habitat.
- c. Determine the impact on new types of habitat and the wildlife they support on displaced rare and endangered species.
- d. Determine the cumulative impacts of the proposed project on the statewide or ecosystem-scale health and recovery of rare and endangered species.
- e. Determine how the loss of impacted rare and endangered species in the proposed project area will affect other sensitive wildlife or vegetation communities in adjacent areas.
- f. Outline the mitigation that will be implemented to avoid or minimize the project's impact on rare and endangered species. Identify locations where the project will result in a "take" of a rare or endangered species and outline what mitigation will be pursued to compensate.

**11. Analysis of Impacts of Construction and Equipment on Existing Infrastructure (Roads, Bridges, Culverts, Water, Sewer, etc.) and Impacts from new Access Roads and Staging Areas**

**Goal:**

The goal of this analysis is to avoid, minimize, or mitigate impacts and adverse effects from pipeline construction on existing infrastructure (which includes access roads and staging areas).

**Context:** Particular areas of concern noted by municipalities include the potential for general damage from the construction process including: damage to roads, particularly rural and Class VI roads not suitable for heavy equipment; traffic control and communication during construction; general landscape disturbances; and impacts to existing utilities, such as sewer, water, and drainage. These issues will dictate the strategies communities will need to use to replace/repair infrastructure adjacent to the proposed pipeline.

## **Requested Information:**

The following information should be provided in the DEIS and FEIS:

- a. A table listing the new and modified access roads that are proposed for use, including the location by milepost, the size, and the type of modification required on existing roads.
- b. The expected construction start date for each segment of pipeline, pipeline lateral, and compressor stations, discuss the number of spreads and workers per spread required for the proposed laterals; clarify whether the construction workers and timeframes provided for compressor and meter stations are those required for each individual facility, or for each type of facility combined; provide the number of permanent staff anticipated during operation; and provide locations for the new operations offices or district offices that would be required for operation, or clarify that none would be needed.
- c. Specify the distance between the existing and proposed permanent rights-of-way and indicate the potential for further overlap that would allow abutting of the permanent rights-of-way. In addition, specify the maximum overlap of existing rights-of-way allowable by the law, as stated throughout Resource Report 1.
- d. Include a discussion and consideration of direct pipe trenchless pipeline installation technology.
- e. Identify any deviations from the FERC Plan and Procedures, if applicable, and include the section of the Plan or Procedures for the requested deviation, the deviation itself, justification for the deviation, and how the deviation would provide equal or greater mitigation. If major modifications to the FERC Plan and Procedures are proposed, the Applicant should provide its own modified versions of the documents that would be used during construction and operation of the Project.
- f. Provide a more detailed discussion on the environmental training that would be conducted for construction personnel, if the Project were approved. Specify which construction personnel would receive training, when and how often the training would occur, and what documents would be provided (e.g., the FERC Plan and Procedures, or the TGP Plan and Procedures, as appropriate). In addition, discuss measures to ensure contractor compliance with the required mitigation including provision of an independent project monitor.
- g. Specify whether power, water, or other utility lines would be constructed for the proposed aboveground facilities.

## 12. Quantification of Benefits of Reduced Natural Gas Prices as a Result of the NED Pipeline Capacity

### Goal:

The goal is to determine the impact of the proposed project on future electricity costs for residential, commercial and industrial customers in New England, and to quantify the project's impact on economic development throughout the region.

### Context:

Kinder Morgan has asserted that construction of the NED pipeline will relieve gas supply and transmission capacity deficits in the region during the winter months. This relief will lead to lower wholesale gas prices for electric generators, reducing electricity costs for businesses and residents. Kinder Morgan further contends that winter peak gas shortages cannot be addressed using any other means.

### Requested Information:

- a. Quantify the reduction in electric rates that residential, commercial and industrial consumers will realize once the proposed project goes online. In addition, the implications of the reduced electric rates in attracting economic development should be evaluated. Particular attention should be paid as to how well Massachusetts and New Hampshire will compete with other areas of the country, in terms of lower energy costs, due to the presence of additional natural gas supply in the region.
- b. Provide documentation as to why market reforms, clean energy investments, energy conservation measures and the availability of LNG are not adequate to meet our future energy needs.

*This past winter, a more diverse fuel supply mix reduced price volatility despite harsher weather. Over this time period, wholesale electric prices were 43% lower on average from December 2014-February 2015, when compared to December 2013-February 2014 (ISO New England).*

- c. Assess the potential impacts of overbuilding pipeline capacity, and assess the volatility of the natural gas market, as seen in the recent unexpected plunge in the price of LNG and oil on the global markets.

*Taken together with the Access Northeast project, New England could see its pipeline capacity increase by 78%. Will electric customers be saddled with the cost of constructing the pipeline? Adding this much capacity could mean that New Englanders will pay for infrastructure largely used to transport gas to*

*Canada and other export markets. Kinder Morgan has already stated that they intend to reverse the direction of the Maritimes and Northeast pipeline for this purpose. Many experts have stated that increasing exports in this fashion will result in much higher natural gas prices in New England, as we suddenly find ourselves competing with consumers in other countries. Kinder Morgan should evaluate the potential impact of such an export plan on energy prices in New England and outline how they expect to finance the construction of the proposed pipeline.*

### **13. Quantification of the Increase in Natural Gas Service that will be provided to New England as a result of the NED Pipeline**

#### **Goal:**

The goal is to determine benefits of the proposed project within states, regions and municipalities as a result of natural gas availability to residential, commercial and industrial customers and associated cost savings.

#### **Context:**

One of the benefits asserted by the Applicant of the NED project is that it will increase the quantity of natural gas available in New England. It is suggested that this, coupled with the lower cost of natural gas in comparison with other energy sources, will reduce energy costs and make us more economically competitive. Recent winter seasons, in particular the winter of 2013/14, demonstrate that parts of New England run the risk of severe spikes in energy costs due to shortages of fuel used to operate power plants. The NED pipeline proposes to address this situation by providing enhanced supplies of dependable, lower-cost natural gas as fuel for power plants and LDCs. Furthermore, it has been suggested that LDCs, such as Liberty Utilities in New Hampshire and Berkshire Gas Company in Massachusetts, can construct additional lateral lines from the main NED pipeline to provide fuel for indoor heating and to benefit economic development activities in certain communities within proximity to the pipeline. It is unclear what factors drive decisions for constructing these additional lateral facilities.

#### **Requested Information:**

To assist in quantifying the benefits to be provided by installation of the NED pipeline proposal, Kinder Morgan should be required to:

- a. Provide data which indicates the natural gas demand anticipated for each New England State versus the current available supply, and describe why the

proposed infrastructure project will serve the need identified better than other pipeline projects now under development or other energy alternatives, such as LNG or renewables.

- b. Indicate locations in which additional lateral pipeline facilities (beyond those identified in the proposal) are anticipated, including the geographic areas they would serve.
- c. Provide data indicating the volume of fuel anticipated for each additional lateral pipeline identified in item 13.b. above, for use in corresponding geographic areas.
- d. Conduct a cost benefits/savings analysis of reduced fuel costs via pipeline distribution for each of the above, including cost breakdowns for each geographic area along the proposed NED pipeline corridor and along the laterals it would serve.

#### **14. Analysis of Noise Impacts from Pipeline Construction & Operation and Compression Stations (to be provided)**

##### **Goal:**

Conduct a comprehensive analysis of the noise impacts of the proposed pipeline during the construction and operation of the facility including the Pipeline, Compressor Stations, Metering Stations, Venting Stations, Pig Launchers and Receivers and construction equipment.

##### **Context:**

There are significant concerns about noise impacts from the proposed pipeline given the proposed location in very rural areas with varied topography. Many towns have very low ambient noise levels (est. 20-40 dBA) and contain critical habitat areas for rare, threatened or endangered species including the Northern Long-eared bat. A comprehensive assessment of the noise impacts on humans and wildlife and potential mitigation measures should be undertaken.

##### **Requested Information:**

- a. Identify local, state and federal noise standards that must be met and the monitoring requirements proposed to determine compliance during the construction and operation of the Pipeline, Compressor Stations, Metering and Venting Stations, and Pig Launchers and Receivers.
- b. Conduct studies to determine ambient noise levels at the nearest property line of a residence and any public building, school, hospital, or other High On-site Population location or at 300 feet from the nearest residence or

public building, hospital, or other High On-site Population location, whichever point is closer to the pipeline and related facilities. High on-site populations are defined as the following: retirement housing; assisted living facilities; congregate living facilities; convalescent services; parks; detention facilities; day care services (commercial); hospitals; and educational facilities (public or private). Ambient noise level should be measure at a minimum every ¼ mile along the proposed route. “Ambient” is defined as the background A-weighted sound level that is exceeded 90% of the time measured during the quietest part of the day or night. All testing should be done by a qualified licensed professional acoustical engineer in accordance with the professional standards of the appropriate accrediting agencies and the sound level meter used in conducting any evaluation shall meet the American National Standard Institute's standard for sound meters or an instrument and associated recording and analyzing equipment.

- c. Conduct modeling of expected noise impacts during construction and operation of the pipeline based on the topography of the proposed pipeline route and identify potential impacts to humans and sensitive receptors such as wildlife, including Northern long-eared bats.
- d. Identify measures that the Applicant will undertake to mitigate sound levels for humans and sensitive receptors. Identify what devices or other equipment the Applicant will employ, including the use of electric motors at the compressor stations, to mitigate sound levels to ensure that the noise level standards at residential or public buildings, hospitals or other High On-site Population locations are not exceeded and sensitive wildlife receptors are not adversely impacted.
- e. Identify noise monitoring that will be conducted once the facility is operational and a process to address noise complaints so the facility will remain in compliance with noise limits.

## **15. Analysis of Invasive Species Impacts during Construction & Operation of the Pipeline**

### **Goals:**

The goals of this study is to determine the types of invasive species likely to become established along the corridor and associated access roads; their impacts on surrounding habitat, particularly those of unique quality, special concern, or supporting rare or endangered species; and the long-term monitoring and control strategy needed (past construction and restoration) to combat the establishment or spread of invasive species. The impacts of any control strategies, such as application of herbicides and/or

pesticides, on cold water fisheries, water resources and drinking water supplies should also be studied.

**Context:**

Tennessee Gas acknowledges that there is potential for the introduction of invasive or noxious weeds through this project (Page 3-116, July 2015 Resource Report 3). The disturbance of soils due to foot and vehicle traffic, as well as altering the soil composition of forest areas through clearing and compaction, can aid the establishment of invasive species, which are then notoriously difficult to eradicate or control. Japanese knotweed, for example, can lay dormant for years after applications of herbicide before rebounding in growth, and thus requires years of vigilant attention in order to suppress regrowth. It is widely known that invasive species spread and thrive along utility corridors due to soil disturbance, increased light, and increased dispersal opportunities (such as foot traffic). Invasive species may be present along the utility corridors with which this project will co-locate. The continued spread of invasive species into forest cores and other habitats through which this project will traverse is concerning, particularly in light of a 2015 study by the New England Wildflower Society that finds 21% of New England's native plants are already rare or endangered, and 31% of plants are non-native.<sup>3</sup>

A project of this scale and breadth can accelerate the loss of plant diversity, which is already being fueled by climate change and pesticide use, through the introduction of invasive species on land that was previously untouched or resilient. Furthermore, as this project intersects with habitats of special concern or value, the potential impacts of invasive species on these unique areas should be studied. The potential for invasive species to spread into adjacent property owned by others should also be thoroughly assessed. TGP proposes to address the treatment of invasive species through a general approach, which will meet the minimum requirements per state, Commonwealth, or local requirements. But this general approach may not adequately prevent and control individual invasive species or their effect on wildlife. In addition, the July 2015 Resource Report 3 only addresses the use of herbicides when needed to control invasive species in the new ROW and states "New areas permanently maintained during operation of the Project facilities will be maintained in an herbaceous/early successional stage of vegetation. Tennessee will not use herbicides as part of routine vegetation maintenance along the ROW except when required for the control of invasive plant species as permitted..." (Page 3-79). Pursuant to 18 CFR 380.15, a company can use herbicide/pesticide only with consent of landowner. The Applicant should also be required to provide a "Plan B," if a landowner refuses use of herbicides, such as an organic farm within the vicinity of the pipeline. Measures should

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<sup>3</sup> <http://www.newenglandwild.org/consERVE/state-of-the-plants>

also be planned to monitor and control invasive species that may enter nearby forested or other areas outside the edge of the ROW.

**Requested Information:**

- a. Create a predictive model and analysis of likely invasive species establishment along the corridor, based on existing invasive species in the project area as well as soil types, using GIS or other modeling techniques.
- b. Identify impacts that anticipated invasive species will have on surrounding habitats, with particular study of impacts on habitats of special concern or those that support rare and endangered species.
- c. Identify impacts that anticipated invasive species will have on wildlife populations along the corridor, particularly rare and endangered species.
- d. Identify necessary prevention, monitoring, and control techniques tailored to anticipate invasive species that extend beyond the edge of the new ROW and persist after construction and restoration.
- e. Evaluate and quantify the potential impacts of any control strategies such as application of herbicides and/or pesticides on cold water fisheries, water resources and drinking water supplies along the proposed pipeline route.

**16. Analysis of Impacts to Agricultural Lands and Economy**

**Goal:**

The goal of this study is to understand the impacts of the pipeline on the productivity of agricultural lands and the local and regional agricultural economy.

**Context:**

The July 2015 Resource Report 7 submitted by TGP outlines several prevention and mitigation measures to protect soil compaction and loss of agricultural productivity. Approximately 16% or roughly 300 acres of prime farmland along the proposed route is anticipated to be permanently lost to construction and overall 1,900 acres will be impacted by construction (Page 7-14), which is a significant amount. After several decades of declining farmland and with the current scarcity of agricultural land available for new generations of farmers, the loss of any additional farmland (particularly prime) is extremely detrimental to the agricultural economy.

TGP plans to engage in compaction prevention techniques (Page 7-11), topsoil segregation practices (Page 7-13), drainage/erosion issues, and prevention of bedrock migrating to topsoil (Page 7-9). Despite these mitigation activities, it is important to provide an analysis of potentially lost agricultural land (i.e. pipeline ROW located amid

other active crops, grazing areas, rotational fields, etc.) and to evaluate the impact of the lost acreage on the viability and economy of scale of agricultural crops. Long-term crop-specific and livestock impacts of the pipeline and related activities that will impact the productivity of agricultural lands should be understood. For example, mature orchard trees lost to construction or ROW may not be replaced, despite achieving restored soil conditions.

**Requested Information:**

- a. Identify the types of agricultural land directly and indirectly impacted by acreage, number of owners, and soil types and anticipated radius of impact.
- b. Identify impacts of soil disturbance, altered drainage patterns, and mitigation activities on the various types of agricultural activities, including disruption of economies of scale.
- c. Identify impacts of the pipeline itself to long-term soil productivity, due to increased temperatures, altered drainage, and/or anticipated maintenance activities (such as applications of herbicides).
- d. Provide a fiscal impact study showing the value of lost agricultural productivity on the local and regional economy, in terms of lost revenue, income, and jobs.
- e. Provide an assessment of the potential impacts on access to local food for area residents.
- f. Provide an assessment of impacts on organic farms potentially impacted along the pipeline route.
- g. Provide an assessment of the potential loss of tourism revenues for farms that host visitors (e.g. agri-tourism).