



Tennessee Gas Pipeline
Company, L.L.C.
a Kinder Morgan company

Northeast Energy Direct presentation to Amherst, NH -- Q/A

March 23, 2015

1. Kinder Morgan (KM) and Tennessee Gas in particular, have had a number of safety related problems in recent years:

a. How does the percentage of safety related problems for all domestic, onshore transmission pipelines that are attributable to KM transmission pipelines compare with KM's percentage of U. S. onshore transmission pipelines?

Kinder Morgan is committed to public safety, protection of the environment, and operation of its facilities in compliance with all applicable rules and regulations. The natural gas pipelines fall under the regulatory oversight of PHMSA. Kinder Morgan is proud of its safety record and its compliance with all applicable safety regulations.

Pipelines are the safest and most cost-effective means to transport the extraordinary volumes of natural gas that fuel our nation's economy and provide heat and cooking fuel to residential consumers. Pipelines are extremely safe relative to the volumes of gas transported. While the amount of natural gas being used in the United States continues to increase dramatically, the industry's safety performance in recent years has improved significantly and serious accidents are rare.

Kinder Morgan's Environment, Health and Safety Performance measures compared to the rest of the US industry are available on our web page:

http://www.kindermorgan.com/pages/ehs/ehs_performance/default.aspx

The data in this report represents the number of Department of Transportation (DOT) reportable Incidents per 1,000 miles of Transmission and Regulated Gathering pipe that Kinder Morgan operates. It is reported using 12-month and three-year average rates, and compares Kinder Morgan's performance to the industry average. In addition, DOT Incident data categorized as a Rupture is also presented as a rate per 1,000 miles of Onshore Transmission and Regulated Gathering pipe that Kinder Morgan operates. It is reported using annual and three-year average rates, and compares Kinder Morgan's performance to the industry average.

This data shows that for Gas Pipeline ((PHMSA) reportable) Incident Data for a 3 year average, Kinder Morgan's Transmission and Regulated Gathering was 0.25 versus 0.38 for the US Industry Average. For ruptures (defined as a break, burst or failure) on a three year average Kinder Morgan's Transmission and Regulated Gathering was 0.03 versus 0.07 for the US Industry Average. By both metrics, Kinder Morgan has consistently outperformed the industry average.

b. What has been KM's safety record specifically in the Northeast region of the US?

Over the last 5 years, Tennessee has had one incident in the Northeast where a safety device at a company facility, vented a reportable quantity of natural gas. The safety device functioned as designed at no risk to the public.

c. Is KM's / Tennessee's safety incident record better or worse than the industry average? Why?

See the response to question 1a, above.

d. Is KM's / Tennessee's safety incident record better or worse than its major competitors' records? Why?

As noted in the answer to question 1a, we compare our record against the Industry average, and we outperform our peers on 35 of 36 measures. The target comparative measure group is: Natural Gas Transmission Pipelines under the DOT/PHMSA jurisdiction.

e. What assurance is KM offering that the proposed pipeline will be well constructed and without significant safety problems for our town, during construction and for decades thereafter?

Tennessee designs our pipelines to standards dictated in the Federal Code of Regulations CFR 49, Part 192. These codes have been developed over the years and are based on detailed ASME B31.8 calculations. Federal Regulation require the pipeline operator to design, operate and maintain the proposed pipeline to standards for population densities, construction standards, operation standards and maintenance standards. This includes high strength steel pipe quality process starting at the pipe mill through installation. All welds are 100% non-destructively tested, the pipelines are 100% hydrostatically tested, and Tennessee utilizes quality contractors, proven construction practices, and inspection oversight during installation. Additionally, Tennessee applies electrical current, known as cathodic protection, to the pipeline to prevent external corrosion from occurring when the project is operational. Additionally, Tennessee pipelines are monitored 24 hours, seven days a week by our gas control center. In the rare event should a system anomaly be noticed, actions will be taken immediately to isolate a pipeline as necessary, including isolation of impacted pipeline segment by automatic closing shut-off valves. These actions include mobilizing nearby operations personnel who will coordinate with local emergency responders and evacuating local landowners if necessary.

Below is a comprehensive summary of the approach:

The safety of the nation's natural gas pipeline network is regulated by the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), which administers the Natural Gas Pipeline Safety Act of 1968 and subsequent amendments to this statute in the Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011. PHMSA is responsible for implementing pipeline safety laws and regulations, which establish requirements to ensure that pipelines are constructed and operated safely. Here is a sampling of how the design and implementation of the NED Project will follow federal PHMSA regulations:

- a. Design – Tennessee pipeline design includes safety features that increase with population density and land usage along the pipeline. This includes: (i) extra wall thickness in more populated areas, (ii)

extra wall thickness at road crossings, (iii) additional depth of cover in agricultural areas under active cultivation, (iv) corrosion protective coatings, and (v) cathodic protection facilities to protect against corrosion.

- b. Testing – Tennessee further X-rays 100 percent of all pipeline welds and pressure tests the completed pipeline with water at a pressure much higher than it will operate to ensure that it is properly built prior to being placed in service. It also inspects the pipelines internally before placing them in service to help ensure that any anomalies are identified and repaired prior to the line going into service.
- c. Cathodic Protection – Tennessee applies electrical current, known as cathodic protection, to the pipeline to prevent external corrosion from occurring and regularly checks the pipeline to ensure the protection is consistently applied. By applying the electrical current, the pipe is protected from pipe steel being removed by corrosion.
- d. Encroachment – One of the most common causes of pipeline incidents is damage by a third party. We obtain an approximately 50-foot wide permanent right-of-way to distance third party construction activities from accidentally damaging our pipeline. This gives us room to safely operate and maintain the pipeline.
- e. Tennessee actively participates in all applicable One Call programs to help prevent third-party damage. Tennessee will meet landowners and contractors to discuss excavation and marks all pipelines prior to excavation when provided with notification by state One Call programs. Depending on the location of the digging, Tennessee also will have a company employee on site to observe digging operations around its pipelines.
- f. Monitoring – Tennessee closely monitors pipeline operations, including line pressure and surveillance of the pipeline to detect leaks and protect against third-party damage.
- g. Inspection – Tennessee uses state of the art in-line inspection tools, known as smart pigs, to periodically internally inspect the pipeline in accordance with PHMSA requirements for potential damage, erosion or corrosion. Any damage or corrosion detected through this process is repaired or replaced.
- h. Shut Off Valves- Shut off valves installed on the new pipeline facilities will include:
 - Valves that will automatically close when a specified change in pipeline conditions occur.
 - Valves that are monitored 24 hours per day and can be closed remotely from our gas control centers.

2. What is the process by which Kinder Morgan considers and evaluates alternate routes for its proposed pipeline?

Many factors must be considered when evaluating routes for a new pipeline, including finding space to accommodate the proposed pipeline including temporary construction work areas to accommodate safe and cost-effective construction.

FERC regulations (18 CFR Section 380.15(d)) require applicants to consider the use, widening or extension of existing rights-of-way. These regulations also require applicants to avoid, to the extent practicable, historic sites, national landmarks and parks, wetlands, recreational and wildlife areas. If

these sites cannot be avoided, impacts on these areas must be mitigated. Further, avoiding forested areas and steep slopes, minimizing the clearing, maintaining soil stability, disposal of cleared vegetation, avoiding damage to remaining trees and restoring temporary access roads are all required.

The pipeline corridor selected is heavily dependent on the location of the natural gas supply and the location of the end-use markets. Operators then seek to find the best route to avoid or minimize the effects on known sensitive environmental resources, such as wetlands, water bodies, and areas of protected species habitat. We often seek to co-locate a pipeline, which means we seek to build near existing infrastructure or along existing rights of way. The pipeline route also is influenced by special-use or designation lands (parks, wildlife management areas, and conservation areas), and areas of high population density. Typically, a wide corridor is viewed and studied at the start of a project and subsequently narrowed down as routing impacts are understood.

The final route for the NED Project pipeline and the location of any compressor stations or other related facilities will be determined by the FERC in its order issuing a certificate of public convenience and necessity. Tennessee will propose a route and facility siting's when it files its application for a certificate of public convenience and necessity with FERC. As a result of FERC's public scoping process and its environmental review under the National Environmental Policy Act, Tennessee may propose and/or FERC may require additional route changes to mitigate environmental impacts and other effects of the project.

**a. How will KM engage with the towns impacted by the current and/or proposed alternate routes?
How and when will towns be engaged in alternate route discussions?**

Public participation and input is an important component of this project, and the public will have multiple opportunities to provide input to regulators like the FERC and other federal and state agencies during the course of the project.

Tennessee has held or is planning to conduct multiple open houses in the proposed project area to explain the NED Project and receive input from area residents and other interested parties. Tennessee will also solicit input from landowners, community leaders and citizens through face-to-face meetings and the project's web site. Throughout the course of the NED Project, continued dialogue between project team members and the public will be encouraged.

In addition, FERC will also solicit input from the public through its scoping process during the pre-filing and Certificate Application processes for the NED Project.

Finally, by gaining access to landowner's property for survey, we can determine impacts to specific properties or multiple properties and address their impacts with minor route deviations. Without access, this information will not be included as part of the FERC process.

b. What alternate routes through Amherst have already been considered, if any?

As part of our initial route selection Tennessee reviewed a couple of other alternatives, however they were more congested and affected more properties than the currently proposed route.

Most recently a landowner in Amherst provided Tennessee with three alternative routes for a portion of the routing in Amherst. Tennessee is currently evaluating these alternative routes.

Finally, a Milford landowner has suggested an alternate power line be followed to avoid the Federal Hill neighborhoods. This would require a brand new 'greenfield' right of way once the pipeline entered Amherst. Tennessee is in the process of evaluating this request as well.

c. When and how will KM's engage local boards, e.g. Amherst Conservation Commission, Planning Board, etc?

See the response to question 2a above.

3. In regards to cul-de-sac roads, e.g. Simeon Wilson, Patricia Lane, if there were ever a catastrophic accident, how are residents supposed to evacuate the area if the pipeline crosses the one and only exit? People could potentially be trapped without any egress. Also, how will access to people's homes be maintained during construction?

A catastrophic accident is highly unlikely with modern engineering practices and materials of construction. At road crossings there is additional safety factors incorporated into the design including protective coatings and heavier wall pipe.

In the unlikely event of emergency response is required, notifications will be made to 911, internal (control center) and external (National Response Center, State agencies and other county/local and tribal notifications as necessary. An incident command system will be activated with Unified Command. Emergency Responders (fire, police etc.,) will conduct firefighting, search and rescue, evacuations, road closures, perimeter control, hazmat response. The emergency responders will evaluate whether to evacuate or shelter-in-place where the public is advised to remain in their homes.

As part of the construction temporary working area, a travel lane is established. The travel lane, which provides for efficient construction and safety, allows travel along the right-of-way in case of emergency. Access around the construction areas will be provided for landowners.

4. Where is KM in its collocation conversation with Eversource (formerly PS&H)? We understand that "collocation" means "parallel to existing right of ways" and not "contained within existing right of ways". According to KM documents, zero feet of existing right of way will be used in the final path of the pipeline. Will more homeowners (other than the 66 previously identified) in Amherst be affected with the additional land needed for the project?

Tennessee defines collocation as building parallel to a transmission line or foreign pipeline outside of their existing easement.

In new areas, the new permanent easement, or right-of-way, would likely be 50 feet wide, generally 25 feet on either side of the pipeline. In addition to a permanent easement, an additional 50- 75 feet of temporary workspace would be needed for use during construction. Some site specific areas, like road crossings, will require additional temporary workspace to allow for specialized construction techniques and to allow the workers to work safely.

The width of the rights-of-way may differ depending on the location and topography of the land. This will be discussed with each individual landowner during easement discussions.

We continue to have discussions with utilities on co-location near/along utility corridors.

5. How does KM engage with Public Safety organizations (i.e. Police, Fire, EMS) in the towns its pipeline crosses? What types of support, e.g. financial, training, equipment, regular and emergency communications, etc.,) does KM provide to Public Safety providers? What municipal and public training does KM conduct to help educate municipal maintenance crews that may have the responsibility of working near the pipeline?

In the unlikely event of a pipeline emergency, pipeline operations personnel are extensively trained to respond. While the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration, otherwise known as PHMSA, mandates certain basic areas of competency for pipeline operations employees, Tennessee provides extensive additional training.

Specific training on how to recognize and react to abnormal upsets and emergencies is a cornerstone of the training regimen for these workers. While other training consists of specifics related to the properties of the materials transported in the pipelines, a re-occurring focus is placed on how to protect the public, other responders, and the environment in the event of a product release. Pipeline personnel are also extensively trained on the location and functionality of above ground valves, the operation of valves and how to isolate pipeline segments. Because of their extensive training on valves and valve segments, only these employees should operate valves in the event of an emergency.

In the case of a product release, pipeline company responders are equipped with atmospheric monitoring equipment such as combustible gas indicators to aid in leak identification and isolation. In addition to fundamental training on the operation of the equipment, employees are trained using a variety of realistic response scenarios to hone their skills.

Recognizing that public sector responders provide critical assistance in the mitigation of a pipeline incident, employees are provided with an orientation on the Incident Command System so that they can effectively dovetail the company's response structure into that which will be established by the public sector incident commander. In addition, employees participate in realistic tabletop exercises as well as periodic full field mock emergency drills to test the company's response capability and proficiency. These exercises are invaluable tools to assess strategic and tactical decision making, as well as the effectiveness of internal and external communications.

Tennessee conducts annual meetings with first responders, local officials and contractors in all counties, cities and towns where it operates, and will continue this process in any locality after the pipeline is installed. Tennessee's local employees who operate the pipeline attend these meetings to answer questions and provide additional information related to emergency response, safety and local contact information. These employees serve on the Local Emergency Planning Committee and regularly attend meetings within the counties where they live. As the NED Project is constructed, placed in service and operated as part of the Tennessee Gas Pipeline system, Tennessee will continue all of these activities in

counties where its facilities are located, and will begin those activities in counties where new facilities are added.

The meetings held in communities along the Tennessee system provide first responders with information about responding to a natural gas incident. In addition, we conduct mock emergency drills with local responders and hold open houses at our facilities to better familiarize first responders with Tennessee's equipment and facilities. Tennessee's personnel have access to pipeline emergency training materials and, if requested, can provide workshops or training for first responders.