PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
SPECIAL PERMIT

FINAL ENVIRONMENTAL ASSESSMENT and
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

Docket Number:	PHMSA-2016-0004
Requested By:	Tennessee Gas Pipeline Company, L.L.C.
Operator ID#:	19160
Date Requested:	January 11, 2016
Original Issuance Date:	September 1, 2016
Effective Dates:	September 1, 2016 to September 1, 2021
Code Section(s):	49 CFR §§ 192.611(a) and (d), 192.619(a), and 192.5

I. Background

The National Environmental Policy Act (NEPA), 42 USC §§ 4321 – 4375, Council on Environmental Quality regulations, 40 CFR §§ 1500-1508, and DOT Order 5610.1C, require that PHMSA analyze a proposed action to determine whether the action will have a significant impact on the human environment. PHMSA analyzes special permit requests for potential risks to public safety and the environment that could result from our decision to grant or deny the request. As part of this analysis, PHMSA evaluates whether a special permit would impact the likelihood or consequence of a pipeline failure when compared to operation of the pipeline in full compliance with the Pipeline Safety Regulations.

PHMSA may grant the special permit request with additional conditions or deny the request. PHMSA developed this assessment to determine the effects of our decision, if any, on the environment.

Pursuant to 49 USC § 60118(c) and 49 CFR § 190.341, PHMSA may only grant special permit requests that are not inconsistent with pipeline safety. PHMSA will impose conditions in the special permit if we conclude they are necessary for safety, environmental protection, or are otherwise in the public interest. If PHMSA determines that a special permit would be inconsistent with pipeline safety or is not justified, the application will be denied.

II. Purpose and Need

- *Describe the purpose of the requested special permit. What will it allow the operator to do that it could not do under the existing regulations?*

Pursuant to 49 CFR §190.341, Tennessee Gas Pipeline Company, L.L.C. (TGP)[1] requests a special permit seeking relief from 49 CFR §§ 192.611(a) and (d), 192.619(a), and 192.5 for pipeline segments where the class location of the segment had been changed in accordance with 192.5(c), cluster rule, and where additional dwellings for human occupancy have been built within the sliding mile for class location changes outside of the cluster area. TGP found a regulatory compliance issue with past TGP procedure methodology for the determination of class location boundaries using the clustering and sliding mile criteria in 49 CFR § 192.5(c) and has updated operating procedures for usage of 49 CFR § 192.5(c), cluster rule, and the sliding mile for confirmation of maximum allowable operating pressure (MAOP).

Following the purchase of TGP, Kinder Morgan, notified PHMSA of code violation issues it discovered in the TGP procedures for evaluating class locations, where pipe had been previously updated to meet class location changes from Class 1 to 3 locations in accordance with § 192.5. TGP had misapplied the usage of the sliding mile and cluster rule portions of § 192.5. TGP had properly conducted pipe upgrades to meet the cluster provisions in § 192.5, but had not later upgraded the pipe when a single or more dwelling were added in the sliding mile area outside the cluster area.

This special permit is requested by TGP in order to postpone in some cases and waive in others cases compliance with certain regulations for the determination of class location boundaries using the clustering criteria in 49 CFR § 192.5(c). This change in clustering methodology due to misapplication of 49 CFR § 192.5(c) in TGP procedures resulted in a number of new class location units, and more specifically class 3 locations, for which pressure testing or pipe replacements are now required. This misapplication impacted 192 special permit segments[2] and 49.00 miles of TGP mainline piping located in the states of Kentucky, Louisiana, Mississippi, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Texas and West Virginia as detailed in Attachment A for Type A and B special permit segments. These clustered class location units are identified as "Special Permit Segments." The proposed special permit would: 1) require the replacement or pressure testing of approximately 11.22 miles of natural gas transmission pipe (Type A[3]) and provides a schedule for this replacement or pressure testing work

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[1] Tennessee Gas Pipeline Company, L.L.C. is owned by Kinder Morgan, Inc.

[2] In the 192 segments TGP has 11.22 miles of pipe to replace or pressure test (Type A special permit segments) and other special permit segments including special permit inspection areas will implement integrity management procedures and the special permit conditions during the entire 5-year period.

[3] Type A special permit segments include those special permit segments where there is a cluster, as described in 49 CFR § 192.5(c), of more than 10 buildings intended for human occupancy in a "class location unit" and for which the maximum allowable operating pressure (MAOP) has not been confirmed in accordance with 49 CFR § 192.611(a). Type A special permit segments must be replaced so that the MAOP is commensurate with the present class location within five (5) years of issuance of this special permit. There are 21 segments and 11.22 miles of Type A special permit segments and of this total 10.59 miles must be replaced and 0.63 miles must be pressure tested as listed on Attachment A.

and 2) establish enhanced integrity management procedures to maintain pipe integrity and protect both the public and the environment for the class location units in which the Special Permit Segments are located for the other 37.78 miles of pipe that are not replaced (Type B[4]). All of the proposed Special Permit Segments, even those not replaced or pressure tested would be treated as high consequence areas (HCAs) with the implementation of integrity management (IM) practices. In addition, TGP would comply with Conditions as provided in the terms of the special permit for all the impacted Special Permit Segments and the designated "Special Permit Inspection Area" in the proposed special permit. The Special Permit Inspection Area is defined as a one (1) mile continuous segment on both sides of the Special Permit Segment (Type A and Type B) plus the footage in the Special Permit Segment and extending 220 yards on each side of the centerline. In the instance that the pipeline does not extend a full mile either upstream from the beginning of the Special Permit Segment or downstream from the end of the Special Permit Segment, the Special Permit Inspection Area will not extend beyond the pipeline initiation or termination points. The Special Permit Inspection area will total 433.71 miles of pipe as detailed in Attachment A. In those cases where the proposed special permit would allow for the current pipeline segments to remain in place, the Conditions as prescribed in the proposed special permit would provide an additional level of safety without the impacts of excavation to remove existing pipe and install the replacement pipe. Due to the significant number of new class location segments that will require replacement or pressure testing, a special permit with IM based conditions would allow TGP a more reasonable time interval to schedule the required pipeline outages. The replacement and pressure testing of the 11.22 miles of pipe will be in accordance with the applicable sections of 49 CFR §§ 192.105, 192.611, 192.619, and Subpart J for the current class location.

PHMSA found in reviewing TGP's response that a misapplication of § 192.5 had been used (under procedures in use before the Kinder Morgan acquisition) after installing upgraded pipe in a cluster area. Attachment A shows the segment locations with the number of dwellings outside of the cluster area but inside the sliding mile area. PHMSA considered both a Consent Agreement and Safety Order in reviewing the issues of the TGP request. Since the operator notified PHMSA of the violation, PHMSA considered a special permit with integrity management concepts in a special permit with conditions an appropriate mechanism for this situation to maintain safety. Also, the special permit conditions would ensure the special permit segments were maintained while the segments could be upgraded with pipe replacements or pressure tests. With integrity management procedures being effective in other safety situations, PHMSA considers this to be an effective approach for the sliding mile areas with

[4] Type B special permit segments include those special permit segments where there is a cluster, as described in 49 CFR § 192.5(c), of 10 or fewer buildings intended for human occupancy in a "class location unit" and for which the MAOP has not been confirmed in accordance with 49 CFR § 192.611. There are 171 segments and 37.78 miles of Type B special permit segments and 3.84 miles of this total must be pressure tested as listed on Attachment A.

10 or fewer dwellings or structures for human occupancy, which is the case for over 89 percent (171 of 192 segments) of the TGP 192 special permit segments. Special permit conditions are measures to assess, evaluate, and implement measures to manage and eliminate threats to pipe integrity and public safety in areas of high consequence such as these sliding mile special permit segments.

- *List the regulation(s) for which the operator seeks the permit.*

  The special permit would address the requirements of 49 CFR §§ 192.5, 192.611(a) and (d), and 192.619(a).

- *Describe the need for the requested special permit. How would a special permit benefit the operator? Would a special permit benefit the public? If so, please explain how.*

  Implementation of the special permit conditions would allow TGP to avoid the replacement of 37.78 miles of pipeline. Instead, the special permit would require implementation of the special permit conditions, including enhanced integrity management procedures. The special permit would benefit the public by reducing any disruptions due to construction activities near their homes in the Special Permit Segments.

- *Indicate whether this is an existing or proposed pipeline.*

  This special permit impacts only existing pipeline facilities as outlined in Attachment A.

- *Describe pipeline, the materials transported in the pipeline, and specify the counties and states where the affected segments of the pipeline are or would be located.*

  The TGP pipeline transports natural gas in the pipeline segments included in the special permit that are located in the states of Kentucky, Louisiana, Mississippi, New Jersey, New York, Ohio, Pennsylvania, Tennessee, Texas and West Virginia. The pipeline Special Permit Segments are generally short in length, not contiguous and are located in multiple States and counties/parishes within those states. Attachment A (Pipeline Segments and Map) outlines the specific locations – state and county – of the Special Permit Segments.

III. Alternatives

- **Alternative 1: Granting the Special Permit Request With Conditions**
  - **Describe Alternative:** *Describe what PHMSA would do under this alternative. i.e. grant a permit that allows operator to schedule the replacement or pressure testing of certain pipeline segments and leave certain pipeline segment in place under added integrity measures defined*

in the Conditions of the special permit and while also treating all of the identified pipeline segments as high consequence areas.

TGP proposes a special permit with conditions that includes two types of class location units (special permit segments) with clusters that impact approximately 49.00 miles of pipe. These units would be designated as either Type A or Type B special permit segments.

The Type A special permit segments are those with more than 10 dwellings intended for human occupancy and for which the MAOP has not been confirmed in accordance with 49 CFR § 192.611. Approximately 11.22 miles of pipe located in these special permit segments would be replaced or pressure tested. A special permit would provide a schedule for the completion of the required pipe replacements and/or pressure testing for the Type A special permit segments.

Type B special permit segments that have 10 or fewer dwellings would also be subject to the Conditions of the special permit for its term. All of these special permit segments would be treated as high consequence areas (HCAs) under an integrity management (IM) program (49 CFR Part 192, Subpart O) as a requirement of the special permit. Approximately 37.78 miles of pipe are located in Type B locations.

The special permit would incorporate conditions (enhanced integrity management activities) to maintain pipeline integrity. All of the permit conditions are attributes of a robust IM program (49 CFR Part 192, Subpart O). These proposed Conditions include conducting periodic: close interval surveys, cathodic protection reliability improvements, stress corrosion cracking direct assessment, running inline inspection (ILI) assessments (smart pigs), interference current control surveys, remediating ILI findings through anomaly evaluation and repairs, pipe seam evaluations, pipe properties records review and documentation, and maintaining line-of-sight markers. Many of these proposed integrity activities are currently required in 49 CFR Part 192, Subpart O for an IM program to manage high consequence areas (HCAs) at specified reassessment intervals. The assessment and reassessment intervals, the level of remediation and the maintenance activities in a proposed special permit would be more stringent to maintain pipe integrity and protect both the public and the environment for the class location units in which the Special Permit Segments are located.

The enhanced integrity management activities that TGP would implement as proposed special permit conditions for the pipeline segments include:

1. TGP would incorporate the pipeline segments into its written integrity management program (IMP) as a "covered segment" in a "HCA" in accordance with 49 CFR §192.903.
2. TGP would perform a close interval survey (CIS) along the entire length of pipeline segments and remediate any areas of inadequate cathodic protection no later than three (3) years after the issuance of this special permit. TGP will perform periodic CIS of the pipeline segments with a reassessment interval not to exceed seven (7) years.
3. TGP would implement a plan to improve cathodic protection reliability and perform inspections for stress corrosion cracking (SCC) during all excavations.
4. TGP would perform Stress Corrosion Direct Assessments to evaluate pipeline segments where the risk of SCC is present.
5. TGP would perform integrity assessments along the pipeline segments using appropriate assessment methods based on threats identified during the risk assessment process including both high resolution magnetic flux leakage (HR-MFL) and either HR-geometry or HR-deformation tools. TGP would reassess the pipeline segments at an interval not to exceed seven (7) years from the last assessment in accordance with 49 CFR § 192.939.
6. TGP would not let this special permit be a basis for deferring any of its assessments for HCAs in accordance with 49 CFR Part 192, Subpart O.
7. TGP would address induced alternating current (AC) from parallel electric transmission lines and other interference issues such as direct current (DC) along the pipeline segments that may affect the pipeline.
8. TGP would identify any pipeline segment that may be susceptible to pipe seam issues because of the vintage of the pipe, the manufacturing process of the pipe, or other issues.
9. TGP would install and maintain line-of-sight pipeline markers on the pipeline segments except in agricultural areas or large water crossings such as lakes where line-of-sight signage is not practical.
10. TGP would maintain data integration of all integrity findings and remediation along the pipeline segments.
11. For long term pipeline system flow reversals occurring after the effective date of the Special Permit and exceeding 90 days, TGP would prepare a written plan in accordance with ***Advisory Bulletin (ADB-2014-04)*** prior to implementing the pipeline system flow reversal through the Special Permit Segment.
12. TGP would maintain the following records for each pipeline segment: documentation showing that each Special Permit Segment has received a 49 CFR § 192.505, Subpart J, hydrostatic test for eight (8) continuous hours and at a minimum pressure of 1.25 times MAOP, documentation of mechanical and chemical properties including pipe toughness (mill test reports) showing that the pipe in each Special Permit Segment meets the wall thickness, yield strength, tensile

strength and chemical composition of either the API Standard 5L, 5LX, or 5LS in usage at the time of manufacturing.

- **Alternative 2: Denial of the Request**

  - **Describe Alternative:**
    Denial of the special permit would require the replacement and pressure testing of all the pipeline segments associated with this special permit request, which includes approximately 49.00 miles of mainline pipe. If TGP opted not to replace or pressure test the relevant segments of pipeline, 49 CFR § 192.611 requires a reduction in the pipeline maximum allowable operating pressure (MAOP).[5]

- **Summary**
  - A special permit allows TGP to continue to operate the pipeline segments at their current maximum allowable operating pressure (MAOP). However, according to the special permit, the pipeline segments must be replaced, hydrostatically tested, or operated in accordance with the special permit conditions. The Federal pipeline safety regulations in 49 CFR § 192.611(a) require natural gas pipeline operators to confirm or revise the MAOP of a pipeline segment after a change in class location. A special permit would allow TGP to continue to operate each of the 192 special permit segments at their existing MAOP's despite a change in class location for the special permit specified time interval.
  - A special permit would require TGP to replace or pressure test all segments that have over 10 dwelling in the sliding mile area that are outside the Cluster area to meet § 192.611. Segments within the sliding mile and outside the Cluster area will be allowed to implement the special permit conditions and integrity management procedures with the sliding mile and one-mile on either side of the segment. This would be similar to requiring a Class 1 location to implement integrity management procedures (49 CFR Part 192, Subpart O) for all mileage, whether it meets the definition of a high consequence area or not.
  - Background on Class Location Special Permits: On June 29, 2004, PHMSA published in the Federal Register (69 FR 38948) the criteria it uses for the consideration of class location change waivers, now being granted through special permits. First, certain threshold requirements must be met for a pipeline section to be further evaluated for a class location change special permit. Second, the age and manufacturing process of the pipe; system design and construction; environmental, operating and maintenance histories; and integrity management program elements are evaluated as significant criteria. These significant criteria are presented in matrix form and can be reviewed in the FDMS, Docket

[5] These regulatory options are specified in 49 CFR § 192.611 Change in class location: Confirmation or revision of maximum allowable operating pressure.

Number PHMSA–RSPA-2004-17401. Third, such special permits will only then be granted when pipe conditions and the operator's integrity management program provides a level of safety equal to a pipe replacement or pressure reduction.

IV. Site Description

- *Describe the environment in the vicinity of the portions of pipeline that would be subject to the special permit.*

The pipeline segments are generally short in length, not contiguous and are located in multiple States and counties/parishes within those states. Attachment A outlines the specific locations – state and county – of the proposed Special Permit Segments. Due to the number of Special Permit Segments and the multiple locations and topography of each proposed location varies.[6] The pipeline segments identified as part of this special permit that include approximately 49.00 miles of mainline pipe.

TGP proposes a special permit that includes two types of class location units (units) with clusters that impact approximately 49.00 miles of pipe. These units would be designated as either Type A or Type B special permit segments.

The Type A special permit segments are those with more than 10 dwellings intended for human occupancy and for which the MAOP has not been confirmed in accordance with 49 CFR § 192.611. Approximately 11.22 miles of pipe located in these units would be replaced or pressure tested. A special permit would provide a schedule for the completion of the required pipe replacements and/or pressure testing for the Type A units.

Type B special permit segments that have 10 or fewer dwellings would also be subject to the Conditions of the special permit for its term. All of these special permit segments would be treated as high consequence areas (HCAs) under an integrity management (IM) program (49 CFR Part 192, Subpart O) as a requirement of the special permit.

V. Environmental Impacts of Each Alternative

In this section, you must describe the different alternatives for agency action on your special permit request. Describe at least two alternatives.

- **Alternative 1: Granting the Special Permit Request With Conditions**

[6] The TGP pipeline facilities described in Attachment A, which include the Special Permit Segments, are regulated by the Federal Energy Regulatory Commission (FERC). Prior to approving natural gas pipeline siting, FERC analyzes the environmental impacts of siting, construction, and operation along the proposed pipeline routes.

- **Describe Alternative:** *Describe what PHMSA would do under this alternative. i.e. grant a permit that allows operator to schedule the replacement or pressure testing of certain pipeline segments and leave certain pipeline segment in place under added integrity measures defined in the Conditions of the special permit and while also treating all of the identified pipeline segments as high consequence areas..*

  The special permit includes two types of class location units (units) with clusters that impact approximately 49.00 miles of pipe. These units would be designated as either Type A or Type B special permit segments. The Type A special permit segments are those with more than 10 dwellings intended for human occupancy and for which the MAOP has not been confirmed in accordance with 49 CFR § 192.611. Approximately 11.22 miles of pipe located in these units would be replaced or pressure tested. The special permit provides for a schedule for the completion of the required pipe replacements and/or pressure testing for the Type A special permit segments. Type B special permit segments that have 10 or fewer dwellings would also be subject to the Conditions of the special permit for its term. All of these special permit segments would be treated as high consequence areas (HCAs) under an integrity management (IM) program (49 CFR Part 192, Subpart O) as a requirement of the special permit.

  The special permit would incorporate a minimum of 12 enhanced integrity management activities described above. All of the proposed special permit conditions are attributes of a robust IM program. These Conditions include conducting periodic: close interval surveys, cathodic protection reliability improvements, stress corrosion cracking direct assessment, running inline inspection (ILI) assessments (smart pigs), interference current control surveys, remediating ILI findings through anomaly evaluation and repairs, pipe seam evaluations, pipe properties records review and documentation, and maintaining line-of-sight markers. All of these integrity activities are currently required in 49 CFR Part 192 for either normal operational activities or within an IM program at some reassessment intervals. The assessment and reassessment intervals, the level of remediation and the maintenance activities in the special permit are more stringent to maintain pipe integrity and protect both the public and the environment for the class location units in which the pipe segments are located.

- **Safety Risks**: *Describe what, if any, safety risks would result if the regulation were waived as compared to the safety risks in the absence of a special permit.*

  Sections 192.5, 192.611(a) and (d), and 192.619(a) are in the gas pipeline regulations to maintain the safety of the pipeline based upon maximum

allowable operating pressure (MAOP), population (Class locations) and population growth along the pipeline. Class locations are based upon the population (dwellings for human occupancy) within a "class location unit" which is defined as an onshore area that extends 220 yards on either side of the centerline of any continuous 1-mile of pipeline. These locations are determined by surveying the pipeline for population growth. The more conservative safety factors are required as dwellings for human occupancy (population growth) increases near the pipeline. Pipeline operators must conduct surveys and document population growth within 220 yards on either side of the pipeline. A higher population along the pipeline may trigger any of the following for the pipeline segment with the higher population: a reduced MAOP, a new pressure test at a higher pressure, or new pipe with either or both heavier walled or higher grade pipe to protect against integrity risks to occupants along the pipeline segment.

The proposed special permit enhanced integrity management conditions would be designed to identify and mitigate integrity issues that could threaten the pipeline segment and cause failure. The effect of the monitoring and maintenance requirements in the proposed special permit conditions will ensure the integrity of the pipe and protection of the population living near the pipeline segment to a similar degree of a lower MAOP, new pressure test, or a thicker walled or higher grade pipe without the enhanced IM protections.

If PHMSA were to deny the special permit request, TGP would be required to reduce the pressure in the affected pipeline segments. In this situation, the consequences, and the PIR (a separate question and response) would be less than if the permit is granted because the pipeline would operate at a higher operating pressure under the special permit. In most cases a pressure reduction would be approximately 20 percent of current operating pressures. This reduction would be the difference in a Class 1 versus Class 2 location design safety factor (0.72 versus 0.60). A pressure reduction would reduce gas flow volumes to customers.

The safety risk with respect to this request for a special permit focuses on maintaining the integrity of the pipeline and on the risk it poses to the increased population to mitigate a failure of this pipeline. Granting this special permit does not increase the potential impact radius (PIR (the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property)) of the pipeline. However, the risk from the increased human population around the pipeline would be mitigated through IM procedures.

PIR is the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property. The current PIR's for these pipeline segments are calculated using Section 3 of ASME

B31.8S-2004, "Managing System Integrity of Gas Pipelines, incorporated by reference by 49 CFR §192.903. The formula and resulting calculation are as follows: (see Attachment D for a more in depth discussion of PIR).

r = radius of the circular area in feet surrounding the point of failure, otherwise known as the PIR
d = nominal diameter of the pipeline in inches;
p = pipeline segment's maximum allowable operating pressure (MAOP), psig
Note: the coefficient for natural gas is 0.69. This number will vary for other gases depending on their heat of combustion.

$$r = 0.69 * d * \sqrt{p}$$

TGP proposes to increase integrity management inspections for pipeline segments adjacent to the Special Permit Segments, which would lower the risk in areas beyond the special permit. TGP proposes to conduct IM type procedures (proposed Conditions in the Special Permit) on the Special Permit Inspection Areas (433.71 miles) as defined in the Special Permit. TGP would implement the proposed condition in Type B Special Permit Inspection Areas for the duration of the special permit, and in Type A Special Permit Inspection Areas until the Special Permit Segment has been replaced with new pipe.

Special permit conditions would include the enhanced IM protections in Section III – Alternative , Items 1 through 12, which would require conducting periodic: close interval surveys, cathodic protection reliability improvements, stress corrosion cracking direct assessment, running inline inspection (ILI) assessments (smart pigs), interference current control surveys, remediating ILI findings through anomaly evaluation and repairs, pipe seam evaluations, pipe properties records review and documentation, and maintaining line-of-sight markers to identify, assess, and mitigate threats to the integrity of the pipeline both for Special Permit Segments and the larger Special Permit Inspection Area.

The special permit conditions will require TGP to conduct hydrostatic pressure tests on any Type B special permit segments that have not been pressure tested to 1.25 times MAOP or greater to be pressure tested. None of the special permit segments have MAOPs established using 192.619(c) Grandfather Clause, which operate above 72 percent pipe design factor or without a prior pressure test for a Class 1 location.

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Requiring most of the special permit conditions to be applicable to the Special Permit Inspection Areas, which extends a mile out from either side of the special permit segments, larger areas of the pipeline will be assessed and remediated for threats to the integrity of the pipeline than a PIR that is

used to establish a high consequence area (HCA). Attachment A gives the integrity management PIR for each TGP pipeline segment, which in all cases is less 760 feet or less and is much less than the 1-mile length used to establish the Special Permit Inspection Area.

Performance of the Conditions in the special permit provides an equivalent or greater level of safety for the public and environment; and imposes no additional safety risks as a result of the waived regulation. As already noted, all of the pipeline segments included under the special permit would be treated as HCAs with the additional risk analysis and remedial activities associated with this designation. The special permit also includes a number of conditions that address potential safety risks. Among these are incorporation of these segments into the Kinder Morgan Integrity Management Program, additional close interval corrosion surveys, implementation of a cathodic protection reliability improvement plan, a more comprehensive stress corrosion cracking direct assessment program, an in-line inspection (ILI) program with intervals not to exceed seven years, anomaly evaluation and repair meeting more stringent criteria, additional testing and remediation of interference currents caused by induced alternating current sources, pipe seam evaluations, criteria for the identification of pipe properties, installation of line-of-sight markers and the integration of all inspection and remediation data. This comprehensive list of additional risk related Conditions incorporated in the special permit is intended to provide for a significant added level of safety for the existing pipeline segments.

- *Would operation under a special permit change the risk of rupture or failure?*

  Operation under the special permit would not be expected to have an impact on the risk of failure or rupture as the operating conditions of the pipeline segments have not changed. Segments in the special permit would have inspections at intervals similar to IM program intervals, which would maintain the integrity of the pipe segments over the life of the special permit.

- *If a failure occurred, would consequences and spill or release volumes be different if PHMSA granted the permit? Increase risk, decrease risk, no change?*

  The consequences of any spill or release would not be impacted as a result of the special permit and the potential for such an event is expected to be less likely with the added safety programs noted above.

- *Would the Potential Impact Radius (PIR) of a rupture change under the special permit? Would more people be affected by a failure if we granted the permit?*

  The PIR as calculated in accordance with 49 CFR § 192.903 would not change under the special permit since maximum operating pressure and pipe diameter will not change, thus there would be no additional impact on the public.

- *Would operation under the special permit have an effect on pipeline longevity or reliability? Would there be any life cycle or maintenance issues?*

  Operation under the Special Permit Conditions that provide an additional level of safety is expected to have a positive impact on pipeline longevity and reliability. TGP does not anticipate any deleterious life cycle or maintenance issues related to operation of the pipeline with the special permit and conditions based upon IM type procedures.

Implementation of the proposed conditions in the special permit provides an equivalent level of safety for the public and environment; and imposes no additional safety risks as a result of the waived regulation.

As already noted, all of the pipeline segments included under the special permit would be replaced with new pipe (Type A) or treated as HCAs with the additional risk analysis and remedial activities associated with this designation (Type B). The special permit also includes a number of proposed Special Permit Conditions that would address potential safety risks. Among these are incorporation of these segments into the Kinder Morgan Integrity Management Program, additional close interval corrosion surveys, implementation of a cathodic protection reliability improvement plan, a more comprehensive stress corrosion cracking direct assessment program, an in-line inspection (ILI) program with intervals not to exceed seven years, anomaly evaluation and repair meeting more stringent criteria, additional testing and remediation of interference currents caused by induced alternating current sources, pipe seam evaluations, criteria for the identification of pipe properties, installation of line-of-sight markers and the integration of all inspection and remediation data. This comprehensive list of additional risk related conditions incorporated in the special permit is intended to provide for a significant added level of safety for the existing pipeline segments.

- **Environmental Impacts:** *Explain how operation under the special permit would impact the environment as compared to the status quo in the absence of a special permit, either positively, negatively, or not at all.*

Approval of the special permit would have a positive impact for those units that do not require pressure testing or replacement, since TGP's activities would have negligible, if any, environmental impact. TGP would avoid disturbing the right of way of property owners except for the additional inspections that may be required to satisfy the conditions of the special permit such those related to the Integrity Management Program for HCAs, additional SCCDA verification digs, and potential anomaly evaluations/repairs.

While the special permit would avoid the full replacement of affected pipe, the proposed special permit conditions require monitoring and maintenance that could lead to excavations and repair or replacement of some pipe. TGP will evaluate the potential environmental consequences and affected resources of land disturbances and water body crossings caused by construction activities (including adding, modifying, replacing or removing any facility) for the related environmental permits associated with any TGP activity. This evaluation is outlined in Kinder Morgan's Operating and Maintenance Procedure (O&M) 1205: Land Disturbance, Construction, and Environmental Permits, and referenced forms and procedures, which requires obtaining the required permits prior to conducting any construction activity. These procedures ensure that all activities resulting in land disturbances or construction of new or modified facilities comply with the requirement to obtain all applicable environmental permits and other applicable environmental authorizations. These procedures contain information required to identify activities subject to Federal, State, and Local environmental authorizations related to the work and to obtain those authorizations. The procedures require a review by TGP Environmental Services staff prior to the start of work, incorporation of environmental requirements into the project implementation, and ensuring outstanding (environmental) requirements are incorporated into facility operation.

If the activities do not qualify under the requirements of the Federal Energy Regulatory Commission (FERC) "General Rules and Regulations" Section 2.55(a) or 2.55(b) facilities or the blanket certificate, TGP will pursue authorization in accordance with Section 7 of the Natural Gas Act.

- *Explain whether and how operation under the special permit would impact each of the environmental resources set out in the Site Description portion of this document: land use planning, surface waters (including wetlands), drinking water, soils and vegetation, wildlife habitats (including fisheries), cultural resources, socioeconomics, Native Americans, etc. ? Focus on environmental aspects that are impacted. Are there any geologic hazards? Would any of these impacts be significant?*

As already noted, this special permit involves pipeline facilities at various locations. Each of the environmental resources potentially impacted that are listed would be addressed in accordance with the applicable Kinder Morgan procedures and FERC requirements. Although the environmental impacts are not expected to be significant it must be kept in mind that for those units requiring pressure testing or pipe replacements (Type A) there will be excavation related activities, along with water sourcing and water disposal issues at a minimum. These impacts will occur whether or not the Special Permit is granted. For the Type B segments, approval of the special permit request would avoid disturbance to the environment, public roadways, businesses and homes since pipe replacement would not be required at this time. PHMSA may require pipe replacement at a later date if integrity issues are found with the pipe or if the segment grows to over 10 dwellings for human occupancy in the sliding mile length that is outside the upgraded Cluster area.

- *Discuss direct, indirect and cumulative impacts.*

  The majority of the pipeline segments addressed by this special permit have been buried and undisturbed for many years. The current pipeline cover has therefore returned to its original state in most cases. Any activity related to pressure testing or pipe replacement will be temporary in nature and the pipeline right of way would be restored in accordance with required environmental regulations. Direct, indirect, or cumulative impacts associated with activities related to the special permit would not be significant.

- *Briefly summarize environmental aspects that will not be impacted. Explain why these resources won't be impacted.*

  As already noted, those pipeline segments that do not require pressure testing or pipe replacements will be operated in nearly the same manner as they are currently. The special permit would allow approximately 37.78 miles of Type B[7] Special Permit Segments to remain in their current state and not require excavation or disruption of landowner activities. Unless localized excavations are needed, right of way activities (such as additional pipeline markers) may increase in frequency due to the special permit conditions, but it is anticipated that there would be a very minimal added environmental impact related to those activities.

[7] Type B special permit segments total 37.78 miles of pipe of which 3.84 miles will require pressure testing.

All ILI Tool inspections to determine any pipeline integrity issues due to corrosion or third party damage would be propelled down the pipeline by gas flow volumes pushing ILI tools through the pipeline segment. Other IM inspections would be performed along the pipeline segment right of way.

- **Special Permit Conditions**: *[Describe the additional safety measures you propose to implement in lieu of compliance with the regulations. You may reference information already provided in your special permit request, as relevant.]*

  The Conditions related to this special permit are described in detail in the special permit.

  - *[Explain whether and how each of these safety measures addresses the safety risks and environmental impacts, if any, of granting the permit.]*

    Each of the special permit conditions have been included and designed to address the anticipated safety risks and environmental impacts of the TGP pipeline segments covered by the proposed special permit.

  - *[Explain whether, even with the safety measures you propose, there would be any safety risks or environmental impacts beyond those that would exist in the absence of a special permit.]*

    There are currently no known safety risks or environmental impacts that are not addressed by the special permit conditions. The pipeline segments included in the proposed special permit are currently operating safely and are expected to continue to perform in that same manner.

  - *[Would implementation of the safety measures themselves have any environmental impacts? If so, would they be significant? Discuss direct, indirect and cumulative impacts.]*

    The additional safety measures provided by the proposed special permit conditions are not expected to have any significant environmental impacts other than the potential issues already noted that are related to the required pressure tests and/or pipe replacements. Please see Section III, Site Description, which outlines the environmental review process followed by TGP prior to any excavation being implemented. TGP follows a rigorous procedural process as dictated by federal, state and local entities to

assure compliance with all environmental regulations and requirements as outlined in this prior section.

PHMSA has reviewed the Part 192 requirements for replacing the pipeline and the conditions of the special permit including integrity management practices and considers both to have similar environmental and right-of-way impacts. These impacts will be mitigated by following the FERC procedures outlined in Section V.

- **Alternative 2: Denying the Special Permit Request and Requiring Full Compliance with 49 CFR Part 192.**

  - **Describe Alternative:** Applicant would be required to comply with 49 CFR §§ 192.5, 192.611(a) and (d), and 192.619(a). TGP would be required to replace existing pipe with heavier walled pipe.

    Denial of the permit and full adherence to the Code would afford the protections described above that are associated with either: a lower MAOP, new pressure test, or heavier walled or higher grade pipe. Denial of the special permit would mean for most of these pipeline segments that the enhanced integrity management portions of a special permit conditions would probably not be implemented.

    Denial of the special permit would require excavation to remove existing pipe, acquiring environmental permits where necessary, and pressure testing of the replacement pipeline segments. This action would create an impact to vegetation, soils and possibly waterways due to the excavation, use of public roadways, and the impacted right of way during construction.

    TGP will evaluate the potential environmental consequences and affected resources of land disturbances and water body crossings caused by construction activities (including adding, modifying, replacing or removing any facility) for the related environmental permits associated with any TGP activity. This evaluation is outlined in Kinder Morgan's Operating and Maintenance Procedure (O&M) 1205: Land Disturbance, Construction, and Environmental Permits, and referenced forms and procedures, which requires obtaining the required permits prior to conducting any construction activity. These procedures ensure that all activities resulting in land disturbances or construction of new or modified facilities comply with the requirement to obtain all applicable environmental permits and other applicable environmental authorizations. These procedures contain information required to identify activities subject to Federal, State, and Local environmental authorizations related to the work and to obtain those authorizations. The procedures require a

review by TGP Environmental Services staff prior to the start of work, incorporation of environmental requirements into the project implementation, and ensuring outstanding (environmental) requirements are incorporated into facility operation.

If the activities do not qualify under the requirements of 2.55(a) or 2.55(b) facilities or the blanket certificate, TGP will pursue authorization in accordance with Section 7 of the Natural Gas Act.

VI. Public Comments

In this section, PHMSA is summarizing public comments received for this proposed special permit.

- PHMSA received one public comment letter in response to the draft EA and draft special permit from "Pipeline Safety Trust" dated March 24, 2016, concerning this proposed special permit. Questions asked by Pipeline Safety Trust are answered throughout this document and the letter can be reviewed on the docket (PHMSA-2016-0004) at www.regulations.gov. A summary of the questions asked by Pipeline Safety Trust are below:
  - Only PHMSA announcement of the permit noted the fact that the operator's previous class locations had been in error. (FONSI Review: Section II)
  - The 5-year waiver to accomplish this seems unreasonably long. (FONSI Review: Section II, Footnote 2)
  - The Pipeline Safety Trust had several concerns with the information presented in the application and the environmental assessment.
    - Claimed environmental and safety benefit of the permit would occur from the elimination of the methane emissions from pipeline blowdowns; (FONSI Review: Section VIII)
    - Application fails in a couple of cases to provide a complete comparison of the effects of granting or denying the permit including the impact on adjacent right-of-way owners by allowing the existing pipe to remain in-service; (FONSI Review: Section V)
    - In the section of Safety Risks the operator indicates that the consequence of a failure would be no different if the permit is granted or is denied, without an indication of whether denying the permit would result in a reduction of pressure or pipe replacement; (FONSI Review: Section V)
  - There appears to be many segments included in the application which have never been tested in that their MAOP was determined by the Grandfather Clause (§ 192.619(c)). (FONSI Review: The special permit conditions would require as a minimum pressure tests for any segments that had not been pressure tested. Four segments have never been pressure tested and are listed on Attachment A as KM segments 103, 181, 310, and 311. These segments will be either pressure tested or replaced.)

- The application fails to give a complete useful response to § 190.341(c)(4). (FONSI Review: Section II)
- Rather than use the special permit process in a situation like this, PHMSA should consider entering a consent agreement with the operator with both acknowledging the operator is out of compliance. PHMSA risks regulating many individual operators by special permit, without any justification for why the regulations should not be met, in effect negating the safety factors in place under § 192.611 or other regulations. (FONSI Review: Section II - The special permit requires replacement or pressure testing of segments with over 10 dwelling. The special permit has conditions and integrity management procedures for the special permit inspection area, 433.71 miles of pipeline.)

VII. Reporting

In this section, you must describe the different reporting activities to other agencies and reporting basis (such as quarterly or annually) of right-of-way activities that require permits for this proposed special permit.

- TGP will submit an annual report to the FERC pursuant to Section 2.55(b) concerning replacement activities performed in the prior calendar year that were exempt from the advance notification requirements as specified in Section 2.55(b)(2). The following items are provided to FERC:

  - (i) A brief description of the pipeline facilities to be replaced (including pipeline size and length, compression horsepower, design capacity, and cost of construction);
  - (ii) Current U.S. Geological Survey 7.5-minute series topographic maps showing the location of the facilities to be replaced; and
  - (iii) A description of the procedures to be used for erosion control, revegetation and maintenance, and stream and wetland crossings.

- TGP will submit an annual report of Blanket Certificate Activities performed pursuant to Sections 157.208, and 385.2011 of the FERC regulations. The following information will be provided pursuant to the applicable blanket certificate regulation:

  - Section 157.208 (Construction, acquisition, operation, replacement, and miscellaneous rearrangement of facilities):
    - (1) A description of the facilities installed pursuant to this section, including a description of the length and size of pipelines, compressor horsepower, metering facilities, taps, valves, and any other facilities constructed;
    - (2) The specific purpose, location, and beginning and completion date of construction of the facilities installed, the date service commenced, and, if applicable, a statement indicating the extent to which the facilities were jointly constructed;

- (3) The actual installed cost of each facility item listed pursuant to paragraph (e)(1), separately stating the cost of materials and labor as well as other costs allocable to the facilities;
- (4)(i) A description of the contacts made, reports produced, and results of consultations which took place to ensure compliance with the Endangered Species Act, the National Historic Preservation Act and the Coastal Zone Management Act;
- (ii) Documentation, including images, that restoration of work areas is progressing appropriately;
- (iii) A discussion of problems or unusual construction issues, including those identified by affected landowners, and corrective actions taken or planned; and
- (5) For acquisitions of facilities:
- (i) A statement referencing the date of issuance, docket number and title of the proceeding for any certificate issued by the Commission authorizing the facilities acquired; and
- (ii) The amounts recorded in the accounts of the vendor (seller or lessor) that apply to the facilities acquired and the accumulated provisions for depreciation, depletion, and amortization.

VIII. Finding of No Significant Impact (FONSI)

PHMSA has carefully analyzed the safety and environmental risks associated with the above alternatives.

PHMSA believes there are minimal differences in environmental benefits from Alternative 1 (Granting the Special Permit Request With Conditions) or Alternative 2 (Denial) in eliminating methane emissions. Some methane emissions will occur from blowdowns in anticipation of hydrotesting or pipe replacement for either alternative. TGP must use operating practices to minimize gas volumes in the pipe prior to segment blowdown for either Alternative 1 or 2.

PHMSA will require Type A special permit segments[8] to be replaced with new upgraded pipe in accordance with 49 CFR §§ 192.611(a) and 192.619(a) requirements for a Class 3 location or pressure tested so that the MAOP is commensurate with the present class location. Type B special permit segments[9] will be required to implement IM procedures and the conditions in the special permit.

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[8] Type A special permit segments include those special permit segments where there is a cluster, as described in 49 CFR § 192.5(c), of more than 10 buildings intended for human occupancy in a "class location unit" and for which the MAOP has not been confirmed in accordance with 49 CFR § 192.611(a).

[9] Type B special permit segments include those special permit segments where there is a cluster, as described in 49 CFR § 192.5(c), of 10 or fewer buildings intended for human occupancy in a "class location unit" and for which the MAOP has not been confirmed in accordance with 49 CFR § 192.611.

PHMSA will grant TGP a special permit with conditions as outlined in Alternative 1 and Reporting sections above. TGP will implement additional special permit conditions to maintain safety and will follow the FERC and any other applicable Federal, state, and local regulations for evaluating and mitigating the potential environmental consequences and affected resources of land disturbances and water body crossings caused by construction activities (including adding, modifying, replacing or removing any facility) for the related environmental permits associated with any TGP activity.

PHMSA has imposed conditions on this special permit designed to protect the public, property, and the environment from the risk of a pipeline leak or failure. These conditions are designed to ensure that the likelihood of a leak or failure is not greater than it would be in the absence of the special permit. Therefore, we believe there are no significant environmental impacts associated with the issuance of a special permit to TGP.

The TGP special permit conditions will maintain safety and the environment for the 49.00 miles of pipe in the special permit segments until replaced with upgraded pipe or pressure tested and will require integrity management concepts to be implemented for 433.71 miles of special permit inspection areas.

IX. List of Preparers

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X. Agencies and Persons Consulted

No other agencies were consulted, but PHMSA considered environmental information, special permit conditions, and documents submitted by TGP.

Attachments:

Attachment A – Listing of TGP Special Permit Segments

Attachment B – Guidance of Repairs to Interstate Natural Gas Pipelines Pursuant to FERC Regulations (July 2005)

Location Map: A map showing the geographic location of the Special Permit Segments can be reviewed at: regulations.gov at Docket: PHMSA-2016-0004.

keep the public informed about their integrity management efforts. This plan shall provide information to be communicated to each stakeholder about the integrity plan and the results achieved. Paragraph 10 provides further information about communications plans.

2.4.4 Management of Change Plan. Pipeline systems and the environment in which they operate are seldom static. A systematic process shall be used to ensure that, prior to implementation, changes to the pipeline system design, operation, or maintenance are evaluated for their potential risk impacts, and to ensure that changes to the environment in which the pipeline operates are evaluated. After these changes are made, they shall be incorporated, as appropriate, into future risk assessments to ensure that the risk assessment process addresses the systems as currently configured, operated, and maintained. The results of the plan's mitigative activities should be used as a feedback for systems and facilities design and operation. Paragraph 11 discusses the important aspects of managing changes as they relate to integrity management.

2.4.5 Quality Control Plan. Paragraph 12 discusses the evaluation of the integrity management program for quality control purposes. That paragraph outlines the necessary documentation for the integrity management program. The paragraph also discusses auditing of the program, including the processes, inspections, mitigation activities, and prevention activities.

3 CONSEQUENCES

3.1 General

Risk is the mathematical product of the likelihood (probability) and the consequences of events that result from a failure. Risk may be decreased by reducing either the likelihood or the consequences of a failure, or both. This paragraph specifically addresses the consequence portion of the risk equation. The operator shall consider consequences of a potential failure when prioritizing inspections and mitigation activities.

The B31.8 Code manages risk to pipeline integrity by adjusting design and safety factors, and inspection and maintenance frequencies, as the potential consequences of a failure increase. This has been done on an empirical basis without quantifying the consequences of a failure.

Paragraph 3.2 describes how to determine the area that is affected by a pipeline failure (potential impact area) in order to evaluate the potential consequences of such an event. The area impacted is a function of the pipeline diameter and pressure.

3.2 Potential Impact Area

The refined radius of impact for natural gas is calculated using the formula

$$r = 0.69 \cdot d\sqrt{p} \qquad (1)$$

where

d = outside diameter of the pipeline, in.
p = pipeline segment's maximum allowable operating pressure (MAOP), psig
r = radius of the impact circle, ft

EXAMPLE: A 30 in. diameter pipe with a maximum allowable operating pressure of 1,000 psig has a potential impact radius of approximately 660 ft.

$$r = 0.69 \cdot d\sqrt{p}$$
$$= 0.69(30\text{ in})\sqrt{1{,}000\text{ lb/in}^2}$$
$$= 654.6\text{ ft} \approx 660\text{ ft}$$

Use of this equation shows that failure of a smaller diameter, lower pressure pipeline will affect a smaller area than a larger diameter, higher pressure pipeline. (See GRI-00/0189.)

NOTE: 0.69 is the factor for natural gas. Other gases or rich natural gas shall use different factors.

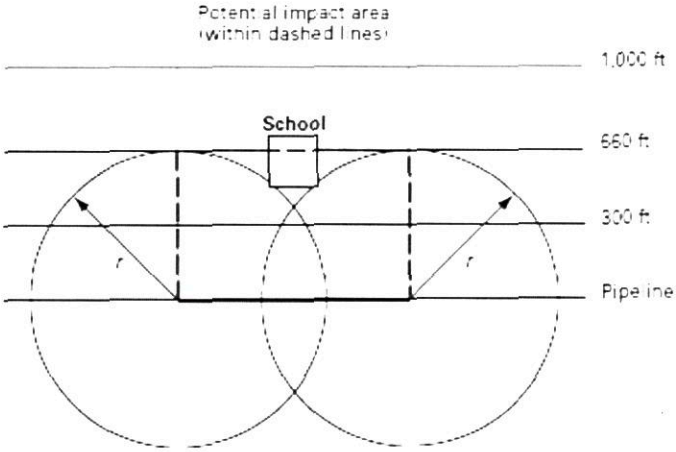
Equation (1) is derived from

$$r = \sqrt{\frac{115{,}920}{\pi} \cdot \mu \cdot I_t \cdot A \cdot C_d \cdot H_c \cdot \frac{Q}{I_h} \cdot \frac{pd^2}{I_h}}$$

where

C_d = discharge coefficient
H_c = heat of combustion
I_h = threshold heat flux
Q = flow factor $= \gamma \left(\frac{2}{\gamma+1}\right)^{\frac{\gamma+1}{\gamma-1}}$
R = gas constant
T = gas temperature
a_s = sonic velocity of gas $= \sqrt{\frac{\gamma RT}{m}}$
d = line diameter
m = gas molecular weight
p = line pressure
r = refined radius of impact
γ = specific heat ratio of gas
A = release rate decay factor
μ = combustion efficiency factor
I_t = emissivity factor

In a performance-based program, the operator may consider alternate models that calculate impact areas and consider additional factors, such as depth of burial, that may reduce impact areas. The operator shall count the number of houses and individual units in buildings within the potential impact area. The potential impact area extends from the center of the first affected circle to the center of the last affected circle (see Fig. 3). This housing unit count can then be used to help determine the relative consequences of a rupture of the pipeline segment.



GENERAL NOTE: This diagram represents the results for a 30 in. pipe with an MAOP of 1,000 psig.

Fig. 3 Potential Impact Area

The ranking of these areas is an important element of risk assessment. Determining the likelihood of failure is the other important element of risk assessment (see paras. 4 and 5).

3.3 Consequence Factors to Consider

When evaluating the consequences of a failure within the impact zone, the operator shall consider at least the following:

(a) population density

(b) proximity of the population to the pipeline (including consideration of manmade or natural barriers that may provide some level of protection)

(c) proximity of populations with limited or impaired mobility (e.g., hospitals, schools, child-care centers, retirement communities, prisons, recreation areas), particularly in unprotected outside areas

(d) property damage

(e) environmental damage

(f) effects of unignited gas releases

(g) security of gas supply (e.g., impacts resulting from interruption of service)

(h) public convenience and necessity

(i) potential for secondary failures

Note that the consequences may vary based on the richness of the gas transported and as a result of how the gas decompresses. The richer the gas, the more important defects and material properties are in modeling the characteristics of the failure.

4 GATHERING, REVIEWING, AND INTEGRATING DATA

4.1 General

This paragraph provides a systematic process for pipeline operators to collect and effectively utilize the data elements necessary for risk assessment. Comprehensive pipeline and facility knowledge is an essential component of a performance-based integrity management program. In addition, information on operational history, the environment around the pipeline, mitigation techniques employed, and process/procedure reviews is also necessary. Data are a key element in the decision-making process required for program implementation. When the operator lacks sufficient data or where data quality is below requirements, the operator shall follow the prescriptive-based processes as shown in Nonmandatory Appendix A.

Pipeline operator procedures, operation and maintenance plans, incident information, and other pipeline operator documents specify and require collection of data that are suitable for integrity/risk assessment. Integration of the data elements is essential in order to obtain complete and accurate information needed for an integrity management program.

4.2 Data Requirements

The operator shall have a comprehensive plan for collecting all data sets. The operator must first collect the data required to perform a risk assessment (see para.

Attachment A: Listing of Tennessee Gas Pipeline (TGP) special permit segments

OPID 19160

PHMSA REGION	PHMSA No.	KM No.	State	County	Line Name	Special Permit Segment Stationing (Beginning) Valve - Station	Special Permit Segment Stationing (Ending) Valve - Station	Special Permit Segment Type	Special Permit Inspection Area Stationing (Beginning) Valve - Station	Special Permit Inspection Area Stationing (Ending) Valve - Station	Class (present)	Class (pipe)	HCA	Latest HCA Assessment and Date	Special Permit Inspection Area Length (ft)	Special Permit Segment Length not meeting present Class (ft)	Replace Length (ft)	Pressure Test Length (ft)	Dwellings in length not meeting present Class	Pipe Diameter (in)	MAOP (psig)
SOUTHERN	1	69	KY	MADISON	100-1	102-1A - 68849	102-1A - 69473	B	102-1A - 63569	102-1A - 74753	3	1	NO	N/A	11183.76	623.76	543.90	79.86	3	24	750
SOUTHERN	2	70	KY	MADISON	100-1	102-1A - 71157	102-1A - 71170	B	102-1A - 65877	102-1A - 76450	3	1	NO	N/A	10572.7	12.70	12.70	0.00	1	24	750
SOUTHERN	3	71	KY	MADISON	100-1	102-1A - 77036	102-1A - 77204	B	102-1A - 71756	102-1A - 82484	3	1	NO	N/A	10728.34	168.34	168.34	0.00	1	24	750
SOUTHERN	4	72	KY	BATH	100-2	108-2 - 33270	108-2 - 33876	B	108-2 - 27990	108-2 - 39156	3	1	NO	N/A	11166.6	606.60	606.60	0.00	6	26	750
SOUTHERN	5	73	KY	BATH	100-2	108-2 - 33922	108-2 - 35519	A	108-2 - 28642	108-2 - 40799	3	1	NO	N/A	12156.9	1,596.90	1,596.90	0.00	11	26	750
SOUTHERN	6	74	KY	BATH	100-2	108-2 - 40523	108-2 - 42039	B	108-2 - 35243	108-2 - 47319	3	1	NO	N/A	12075.3	1,515.30	1,515.30	0.00	6	26	750
SOUTHERN	7	75	KY	BATH	100-2	108-2 - 44555	108-2 - 44899	B	108-2 - 39275	109-2 - 597	3	1	NO	N/A	10904.2	344.20	344.20	0.00	7	26	750
SOUTHERN	8	76	KY	ROWAN	100-2	109-2 - 1131	109-2 - 1467	B	108-2 - 45434	109-2 - 6747	3	1	NO	N/A	10895.85	335.85	335.85	0.00	1	26	750
SOUTHERN	9	77	KY	ROWAN	100-2	109-2 - 19148	109-2 - 22306	A	109-2 - 13868	109-2 - 27586	3	1	NO	N/A	13717.39	3,157.39	3,157.39	0.00	11	26	750
SOUTHERN	10	78	KY	MADISON	100-3	102-3 - 53420	102-3 - 54095	B	102-3 - 48140	103-3 - 5236	3	1	NO	N/A	11234.03	674.03	674.03	0.00	10	30	750
SOUTHERN	11	79	KY	MADISON	100-3	103-3 - 1904	103-3 - 2440	B	102-3 - 50762	103-3 - 7720	3	1	NO	N/A	11096.3	536.30	536.30	0.00	2	30	750
SOUTHERN	12	80	KY	MADISON	100-3	103-3 - 8570	103-3 - 9377	B	103-3 - 3290	103-3 - 14657	3	1	YES	ILI - 2008	11366.72	806.72	806.72	0.00	1	30	750
SOUTHERN	13	82	KY	ROWAN	100-3	108-3 - 52941	108-3 - 53995	B	108-3 - 47661	109-3 - 4870	3	1	NO	N/A	11614.07	1,054.07	1,054.07	0.00	10	26	750
SOUTHERN	14	83	KY	ROWAN	100-3	108-3 - 54035	108-3 - 54402	B	108-3 - 48755	109-3 - 5277	3	1	NO	N/A	10926.6	338.70	338.70	0.00	10	26	750
SOUTHERN	15	84	KY	ROWAN	100-3	109-3 - 472	109-3 - 1385	B	108-3 - 49597	109-3 - 6665	3	1	NO	N/A	11472.96	912.96	912.96	0.00	6	26	750
SOUTHERN	16	85	KY	ROWAN	100-3	109-3 - 24240	109-3 - 27383	A	109-3 - 18960	109-3 - 32663	3	1	NO	N/A	13702.35	3,142.35	3,130.65	11.70	16	26	750
SOUTHERN	17	86	KY	BOYD	100-3	112-3 - 47754	112-3 - 48425	B	112-3 - 42474	112-3A - 53705	3	1	NO	N/A	11230.87	655.37	655.37	0.00	1	26	790
SOUTHERN	18	87	KY	BOYD	100-3	112-3A - 48525	112-3A - 49019	B	112-3 - 43245	112-3A - 54299	3	1	YES	ILI/Caliper - 2009	11054.4	494.40	494.40	0.00	1	26	790
SOUTHERN	19	88	KY	MADISON	100-4	103-4 - 15933	103-4 - 16455	B	103-4 - 10653	103-4 - 21735	3	1	NO	N/A	11081.39	521.39	521.39	0.00	1	30	750
SOUTHERN	20	89	KY	MADISON	100-4	103-4 - 17254	103-4 - 17861	B	103-4 - 11974	103-4 - 23141	3	1	YES	MFL/Caliper - 2013	11167.56	607.56	607.56	0.00	2	30	750
SOUTHERN	21	90	KY	MADISON	800-2	874-2 - 69802	874-2 - 71493	B	874-2 - 64522	874-2 - 76773	3	1	NO	N/A	12250.82	1,690.82	1,690.82	0.00	2	36	936
SOUTHWEST	22	100	LA	SABINE	100-1	36-1 - 45060	36-1 - 46910	A	36-1 - 39780	36-1 - 52190	3	1	NO	N/A	12409.64	1,849.64	1,467.94	381.70	18	24	750
SOUTHWEST	23	101	LA	SABINE	100-1	36-1 - 47580	36-1 - 48240	B	36-1 - 42300	36-1 - 53520	3	1	NO	N/A	11219.8	659.80	337.90	321.90	4	24	750
SOUTHWEST	24	102	LA	NATCHITOCHES	100-1	39-1 - 57784	39-1 - 58902	B	39-1 - 52504	39-1 - 64182	3	1	NO	N/A	11678.3	1,118.30	1,118.30	0.00	4	24	750
SOUTHWEST	25	103	LA	NATCHITOCHES	100-1	40-1D - 25649	40-1D - 26260	B	40-1D - 20369	41-1 - 1753	3	2	NO	N/A	11170.56	610.76	0.00	610.76	9	24	750
SOUTHWEST	26	105	LA	SABINE	100-2	36-2 - 45462	36-2 - 47125	A	36-2 - 40182	36-2 - 52405	3	1	NO	N/A	12223.31	1,653.31	1,126.01	527.30	15	30	750
SOUTHWEST	27	106	LA	SABINE	100-2	36-2 - 47604	36-2 - 47906	B	36-2 - 42324	36-2 - 53186	3	1	NO	N/A	10862.5	302.50	302.50	0.00	2	30	750
SOUTHWEST	28	108	LA	NATCHITOCHES	100-2	39-2 - 57758	39-2 - 58879	B	39-2 - 52478	39-2 - 64159	3	1	NO	N/A	11681.16	1,121.16	1,121.16	0.00	4	31	604
SOUTHWEST	29	109	LA	OUACHITA	100-2	47-2D - 10183	47-2D - 11104	B	47-2D - 4903	47-2D - 16384	3	1	NO	N/A	11480.8	920.80	920.80	0.00	3	26	750
SOUTHWEST	30	110	LA	SABINE	100-3	36-3 - 45072	36-3 - 46877	A	36-3 - 39792	36-3 - 52157	3	1	NO	N/A	12364.93	1,804.93	1,558.23	246.70	15	30	750
SOUTHWEST	31	111	LA	SABINE	100-3	36-3 - 47467	36-3 - 48221	B	36-3 - 42187	36-3 - 53501	3	1	NO	N/A	11313.9	753.90	306.70	447.20	2	30	750
SOUTHWEST	32	113	LA	NATCHITOCHES	100-3	39-3 - 57763	39-3 - 58870	B	39-3 - 52483	39-3 - 64150	3	1	NO	N/A	11666.96	1,106.96	1,106.96	0.00	5	30	750
SOUTHWEST	33	115	LA	OUACHITA	100-3	47-3D - 10212	47-3D - 11459	B	47-3D - 4932	47-3D - 16739	3	1	NO	N/A	11806.61	1,246.61	1,246.61	0.00	3	30	750
SOUTHWEST	34	116	LA	OUACHITA	100-4	47-4D - 9988	47-4D - 11402	B	47-4D - 4708	47-4D - 16682	3	1	NO	N/A	11974.14	1,414.14	1,373.54	40.60	3	30	750
SOUTHWEST	35	117	LA	VERMILION	500-1	511-1 - 8439	511-1 - 10644	A	511-1 - 3167	511-1 - 15924	3	1	YES	MFL/Caliper - 2008	12765.49	2,205.49	2,205.49	0.00	17	24	973
SOUTHWEST	36	118	LA	VERMILION	500-1	511-1 - 10843	511-1 - 11716	B	511-1 - 5572	511-1 - 16996	3	1	NO	N/A	11432.7	872.70	872.70	0.00	6	24	973
SOUTHWEST	37	119	LA	VERMILION	500-1	511-1 - 15728	511-1 - 18734	B	511-1 - 10448	511-1 - 24014	3	1	NO	N/A	13565.66	3,005.66	3,005.66	0.00	10	24	973
SOUTHWEST	38	120	LA	IBERIA	500-1	512-1 - 45271	512-1 - 46129	B	512-1 - 39991	512-1 - 51409	3	1	NO	N/A	11418.5	858.45	858.45	0.00	3	24	973
SOUTHWEST	39	121	LA	CALCASIEU	800-1	821-1A - 70063	821-1A - 73174	A	821-1A - 64783	821-1A - 78396	3	1	NO	N/A	13671.52	3,111.52	3,111.52	0.00	11	30	936
SOUTHWEST	40	122	LA	CALCASIEU	800-1	821-1A - 73870	821-1A - 74077	B	821-1A - 68590	821-1A - 79299	3	1	NO	N/A	10766.64	206.64	206.64	0.00	4	30	936
SOUTHWEST	41	124	LA	FRANKLIN	800-1	834-1 - 77986	834-1 - 78101	B	834-1 - 72707	834-1 - 83381	3	1	NO	N/A	10674.06	114.82	114.82	0.00	1	30	936
SOUTHWEST	42	125	LA	FRANKLIN	800-1	834-1 - 78142	834-1 - 79401	B	834-1 - 72862	834-1 - 84682	3	1	NO	N/A	11819.86	1,259.31	1,259.31	0.00	1	30	936
SOUTHWEST	43	126	LA	FRANKLIN	800-1	835-1 - 694	835-1 - 2025	B	834-1 - 80806	835-1 - 7305	3	1	NO	N/A	11891.13	1,331.13	1,331.13	0.00	1	30	936
SOUTHERN	44	131	MS	WASHINGTON	100-1	53-1B1 - 95339	53-1B1 - 96070	B	53-1B1 - 90059	53-1B1 - 101350	3	1	NO	N/A	11291.04	731.04	731.04	0.00	1	24	750
SOUTHERN	45	132	MS	WASHINGTON	100-1	53-1B1 - 101306	53-1B1 - 102270	B	53-1B1 - 96026	53-1B1 - 107550	3	1	NO	N/A	11524.23	964.40	964.40	0.00	1	24	750
SOUTHERN	46	134	MS	WASHINGTON	100-2	53-2B - 95230	53-2B - 95343	B	53-2B - 89950	53-2B - 100623	3	1	NO	N/A	10672.4	112.40	112.40	0.00	1	26	750
SOUTHERN	47	135	MS	WASHINGTON	100-2	53-2B - 95383	53-2B - 97479	B	53-2B - 90103	53-2B - 102759	3	1	NO	N/A	12656.83	2,096.83	2,096.83	0.00	2	26	750
SOUTHERN	48	136	MS	BENTON	100-3	69-3 - 3436	69-3 - 4635	B	68-3 - 59355	69-3 - 9915	3	1	NO	N/A	11758.98	1,198.98	1,198.98	0.00	2	30	750
SOUTHERN	49	137	MS	BENTON	100-4	69-4 - 3494	69-4 - 4728	B	68-4 - 59426	69-4 - 10008	3	1	NO	N/A	11794.46	1,234.46	1,234.46	0.00	2	30	750
SOUTHERN	50	139	MS	HANCOCK	500-1	530-1 - 71166	530-1 - 72659	B	530-1 - 65886	530-1 - 77939	3	1	NO	N/A	12053.14	1,493.14	1,493.14	0.00	2	30	936
SOUTHERN	51	140	MS	FORREST	500-1	535-1 - 38349	535-1 - 38831	B	535-1 - 33069	535-1 - 44111	3	1	NO	N/A	11042.4	482.40	482.40	0.00	1	30	936
SOUTHERN	52	141	MS	FORREST	500-1	535-1 - 38884	535-1 - 40254	B	535-1 - 33604	535-1 - 45534	3	1	NO	N/A	11930.49	1,370.49	1,370.49	0.00	2	30	936
SOUTHERN	53	142	MS	LAUDERDALE	500-1	540-1 - 77758	540-1 - 79233	B	540-1 - 72478	540-1 - 84513	3	1	NO	N/A	12034.9	1,474.90	1,474.90	0.00	9	30	936
SOUTHERN	54	143	MS	LAUDERDALE	500-1	540-1 - 83303	540-1 - 86280	A	540-1 - 78023	541-1 - 5226	3	1	NO	N/A	13536.8	2,976.80	2,875.80	101.00	12	30	936
SOUTHERN	55	144	MS	LAUDERDALE	500-1	541-1 - 00042	541-1 - 00313	B	540-1 - 81096	541-1 - 5593	3	1	NO	N/A	10831.08	257.20	247.70	9.50	4	30	936
SOUTHERN	56	146	MS	LOWNDES	500-1	545-1 - 66055	545-1 - 66745	B	545-1 - 60775	545-1 - 72025	3	1	YES	ILI - 2014	11249.8	689.80	689.80	0.00	5	30	936
SOUTHERN	57	147	MS	LOWNDES	500-1	545-1 - 72300	545-1 - 73241	B	545-1 - 67020	546-1 - 4529	3	1	NO	N/A	11501.2	941.20	941.20	0.00	4	30	936
SOUTHERN	58	148	MS	LOWNDES	500-1	546-1 - 26190	546-1 - 27149	B	546-1 - 20910	546-1 - 32429	3	1	NO	N/A	11519.21	959.21	891.01	68.20	3	30	936

Attachment A: Listing of Tennessee Gas Pipeline (TGP) special permit segments

OPID 19160

PHMSA REGION	PHMSA No.	KM No.	State	County	Line Name	Special Permit Segment Stationing (Beginning) Valve - Station	Special Permit Segment Stationing (Ending) Valve - Station	Special Permit Segment Type	Special Permit Inspection Area Stationing (Beginning) Valve - Station	Special Permit Inspection Area Stationing (Ending) Valve - Station	Class (present)	Class (pipe)	HCA	Latest HCA Assessment and Date	Special Permit Inspection Area Length (ft)	Special Permit Segment Length not meeting present Class (ft)	Replace Length (ft)	Pressure Test Length (ft)	Dwellings in length not meeting present Class	Pipe Diameter (in)	MAOP (psig)
SOUTHERN	59	150	MS	LOWNDES	500-1	546-1 - 34988	546-1 - 36570	B	546-1 - 29708	546-1 - 41850	3	1	NO	N/A	12141.69	1,581.69	1,581.69	0.00	3	30	936
SOUTHERN	60	152	MS	HANCOCK	500-2	530-2 - 71038	530-2 - 72527	B	530-2 - 65758	530-2 - 77807	3	1	NO	N/A	12048.68	1,488.68	1,488.68	0.00	2	36	936
SOUTHERN	61	153	MS	FORREST	500-2	535-2 - 38304	535-2 - 40214	B	535-2 - 33024	535-2 - 45494	3	1	NO	N/A	12469.29	1,909.29	1,869.39	39.90	2	36	936
SOUTHERN	62	154	MS	LAUDERDALE	500-2	540-2 - 77710	540-2 - 79150	B	540-2 - 72430	540-2 - 84430	3	1	NO	N/A	11999.84	1,439.84	1,439.84	0.00	9	36	936
SOUTHERN	63	155	MS	LAUDERDALE	500-2	540-2 - 83326	540-2 - 86270	A	540-2 - 78046	541-2 - 5214	3	1	NO	N/A	13503.9	2,943.90	2,789.70	154.20	13	36	936
SOUTHERN	64	157	MS	LOWNDES	500-2	546-2 - 34989	546-2 - 36574	B	546-2 - 29709	546-2 - 41854	3	1	NO	N/A	12145.26	1,585.26	1,505.76	79.50	3	36	936
SOUTHERN	65	158	MS	HANCOCK	500-3	530-3 - 70819	530-3 - 72178	B	530-3 - 65539	530-3 - 77458	3	1	NO	N/A	11918.93	1,358.93	1,358.93	0.00	1	36	936
EASTERN	66	159	NJ	SUSSEX	300-1	324-1A - 55004	324-1A - 57967	B	324-1A - 49724	324-1A - 63237	3	2	NO	N/A	13513.04	2,947.18	0.00	2,947.18	10	24	1170
EASTERN	67	160	NJ	SUSSEX	300-1	324-1A - 63558	324-1A - 64196	B	324-1A - 58278	324-1A - 69476	3	1	NO	N/A	11198.57	638.14	638.14	0.00	1	24	1170
EASTERN	68	162	NJ	SUSSEX	300-1	325-1 - 16351	325-1 - 16837	B	325-1 - 11071	325-1A - 22117	3	1	NO	N/A	11046.5	486.50	486.50	0.00	5	24	1170
EASTERN	69	163	NJ	SUSSEX	300-1	325-1 - 17148	325-1 - 18277	B	325-1 - 11868	325-1A - 23557	3	1	NO	N/A	11688.64	1,118.84	436.76	682.08	8	24	1170
EASTERN	70	164	NJ	SUSSEX	300-1	325-1A - 38824	325-1A - 39647	B	325-1A - 33544	326-1 - 3531	3	1	YES	SCCDA/MFL/Caliper - 2008	11383.33	823.33	823.33	0.00	2	24	1170
EASTERN	71	166	NJ	SUSSEX	300-1	326-1 - 8121	326-1 - 8582	B	326-1 - 1841	326-1 - 13862	3	1	NO	N/A	11021.62	461.62	461.62	0.00	2	24	1170
EASTERN	72	167	NJ	SUSSEX	300-1	326-1 - 11732	326-1 - 13479	B	326-1 - 6452	326-1 - 18759	3	1	NO	N/A	12306.24	1,746.24	950.24	796.00	2	24	1170
EASTERN	73	168	NJ	BERGEN	300-1	328-1 - 29030	328-1 - 30884	A	328-1 - 23750	328-1 - 36164	3	1	NO	N/A	12413.5	1,841.60	1,229.60	612.00	12	24	1170
EASTERN	74	177	NY	ONTARIO	200-1	236-1 - 5396	236-1 - 7119	A	236-1 - 116	236-1 - 12399	3	1	NO	N/A	12283.32	1,723.32	1,723.32	0.00	11	24	760
EASTERN	75	178	NY	ONTARIO	200-1	236-1 - 13357	236-1 - 14012	B	236-1 - 8077	236-1 - 19292	3	1	NO	N/A	11214.33	654.33	654.33	0.00	2	24	760
EASTERN	76	179	NY	MADISON	200-1	243-1 - 11491	243-1 - 15551	A	243-1 - 6211	243-1 - 20831	3	1	YES	MFL/Caliper - 2008	14620.14	4,060.14	4,048.14	12.00	12	24	760
EASTERN	77	180	NY	MADISON	200-1	243-1 - 20334	243-1 - 21827	B	243-1 - 15054	243-1 - 27107	3	1	NO	N/A	12052.73	1,492.73	1,492.73	0.00	3	24	760
EASTERN	78	181	NY	ONEIDA	200-1	244-1 - 21246	244-1 - 21803	B	244-1 - 15966	244-1 - 27083	2	1	NO	N/A	11117.12	557.12	0.00	557.12	2	24	760
EASTERN	79	182	NY	ALBANY	200-1	251-1 - 18683	251-1 - 19837	B	251-1 - 13403	251-1 - 25117	3	1	NO	N/A	11713.88	1,153.88	1,153.88	0.00	1	24	760
EASTERN	80	183	NY	ALBANY	200-1	251-1 - 34314	251-1 - 35374	B	251-1 - 29034	252-1 - 2901	3	1	YES	MFL/Caliper - 2014	11619.96	1,059.96	1,059.96	0.00	1	24	760
EASTERN	81	186	OH	CARROLL	200-1	213-1 - 27955	213-1 - 32095	A	213-1 - 22675	213-1 - 37375	3	1	NO	N/A	14699.46	4,139.46	4,139.46	0.00	12	26	790
EASTERN	82	187	OH	CARROLL	200-1	213-1 - 35693	213-1 - 38385	B	213-1 - 30413	213-1 - 43665	3	1	YES	MFL/Caliper - 2011	13251.92	2,691.92	2,691.92	0.00	6	26	790
EASTERN	83	188	OH	COLUMBIANA	200-1	215-1 - 37377	215-1 - 39422	B	215-1 - 32097	215-1 - 44702	3	1	NO	N/A	12604.66	2,044.66	2,044.66	0.00	8	26	790
EASTERN	84	189	OH	COLUMBIANA	200-1	215-1 - 44383	215-1 - 45653	B	215-1 - 39103	215-1 - 50933	3	1	NO	N/A	11830.1	1,270.10	1,270.10	0.00	3	26	790
EASTERN	85	190	OH	COLUMBIANA	200-1	215-1 - 46382	215-1 - 47765	B	215-1 - 41102	215-1 - 53045	3	1	NO	N/A	11942.31	1,382.31	1,382.31	0.00	1	26	790
EASTERN	86	191	OH	ATHENS	200-2	205-2 - 8795	205-2 - 9953	B	205-2 - 3515	205-2 - 15233	3	1	NO	N/A	11717.94	1,157.94	1,157.94	0.00	3	26	790
EASTERN	87	192	OH	CARROLL	200-2	213-2 - 27040	213-2 - 31544	A	213-2 - 21760	213-2 - 36824	3	1	NO	N/A	15063.91	4,503.91	4,424.11	79.80	27	26	790
EASTERN	88	193	OH	CARROLL	200-2	213-2 - 35739	213-2 - 38466	B	213-2 - 30459	213-2 - 43746	3	1	YES	ILI - 2015	13286.95	2,726.95	2,726.95	0.00	6	26	790
EASTERN	89	194	OH	COLUMBIANA	200-2	216-2 - 15651	216-2 - 16947	B	216-2 - 10371	216-2 - 22227	3	1	NO	N/A	11856.36	1,296.36	1,296.36	0.00	5	26	790
EASTERN	90	195	OH	CARROLL	200-3	213-3 - 26889	213-3 - 28192	B	213-3 - 21609	213-3 - 33470	3	1	NO	N/A	11860.67	1,302.87	1,302.87	0.00	5	26	790
EASTERN	91	196	OH	CARROLL	200-3	213-3 - 28311	213-3 - 31130	A	213-3 - 23033	213-3 - 36410	3	1	NO	N/A	13377	2,819.20	2,819.20	0.00	18	26	790
EASTERN	92	197	OH	CARROLL	200-3	213-3 - 35492	213-3 - 36384	B	213-3 - 30212	213-3 - 41664	3	1	YES	MFL/Caliper - 2011	11452.2	892.20	892.20	0.00	5	26	790
EASTERN	93	198	OH	CARROLL	200-4	213-4 - 27918	213-4 - 32112	A	213-4 - 22638	213-4 - 37392	3	1	YES	MFL/Caliper - 2012	14754.03	4,194.03	3,568.83	625.20	12	36	790
EASTERN	94	200	OH	CARROLL	200-4	213-4 - 35689	213-4 - 38338	B	213-4 - 30409	213-4 - 43618	3	1	YES	MFL/Caliper - 2012	13208.75	2,648.75	2,648.75	0.00	6	36	790
EASTERN	95	201	OH	COLUMBIANA	200-4	215-4 - 37485	215-4 - 39436	B	215-4 - 32205	215-4 - 44716	3	1	NO	N/A	12510.62	1,950.62	1,950.62	0.00	8	36	790
EASTERN	96	202	OH	COLUMBIANA	200-4	215-4 - 44504	215-4 - 45766	B	215-4 - 39224	215-4 - 51046	3	1	NO	N/A	11821.5	1,261.50	598.90	662.60	3	36	790
EASTERN	97	203	OH	COLUMBIANA	200-4	215-4 - 46470	215-4 - 47844	B	215-4 - 41190	215-4 - 53124	3	1	NO	N/A	11933.93	1,373.93	1,126.93	247.00	1	36	790
EASTERN	98	205	PA	LAWRENCE	200-1	217-1 - 38468	217-1 - 40404	B	217-1 - 33188	217-1 - 45684	3	1	NO	N/A	12495.75	1,935.75	1,935.75	0.00	5	26	790
EASTERN	99	206	PA	MERCER	300-1	219-2D - 22726	219-2D - 23573	B	219-2D - 17446	219-2D - 28853	3	1	NO	N/A	11406.47	846.47	846.47	0.00	1	24	877
EASTERN	100	207	PA	MERCER	300-1	219-2D - 28609	219-2D - 29100	B	219-2D - 23329	219-2D - 34380	3	1	NO	N/A	11051.7	491.70	491.70	0.00	1	24	877
EASTERN	101	208	PA	MERCER	300-2	219-3 - 22832	219-3 - 23723	B	219-3 - 17552	219-3 - 29003	3	1	NO	N/A	11450.88	890.88	890.88	0.00	1	30	877
EASTERN	102	209	PA	MERCER	300-2	219-3 - 27079	219-3 - 29227	B	219-3 - 21799	219-3 - 34507	3	1	NO	N/A	12707.8	2,147.80	599.90	1,547.90	1	30	877
SOUTHERN	103	213	TN	DICKSON	100-1	82-1C - 18258	82-1C - 18849	B	82-1C - 12978	82-1C - 24129	3	1	NO	N/A	11150.98	590.98	590.98	0.00	2	24	750
SOUTHERN	104	215	TN	CHEATHAM	100-1	83-1A - 78304	83-1A - 81086	B	83-1A - 73024	83-1A - 86366	3	1	NO	N/A	13342.53	2,782.53	2,782.53	0.00	10	24	750
SOUTHERN	105	216	TN	CHEATHAM	100-1	83-1A - 97294	83-1A - 98785	B	83-1A - 92014	83-1A - 104065	3	1	NO	N/A	12050.6	1,490.60	1,490.60	0.00	7	24	750
SOUTHERN	106	217	TN	CHEATHAM	100-1	83-1A - 105135	83-1A - 105164	B	83-1A - 99855	83-1A - 110444	3	1	NO	N/A	10588.61	28.61	28.61	0.00	1	24	750
SOUTHERN	107	220	TN	ROBERTSON	100-1	84-1 - 49133	84-1 - 49815	B	84-1 - 43853	85-1 - 5224	3	1	NO	N/A	11241.91	681.91	681.91	0.00	5	24	750
SOUTHERN	108	221	TN	ROBERTSON	100-1	85-1 - 150	85-1 - 1509	B	84-1 - 44741	85-1 - 6789	3	1	NO	N/A	11919.86	1,359.86	1,359.86	0.00	7	24	750
SOUTHERN	109	223	TN	DICKSON	100-2	82-2C - 49652	82-2C - 50206	B	82-2C - 44372	82-2C - 55486	3	1	NO	N/A	11114.05	554.05	554.05	0.00	1	26	750
SOUTHERN	110	224	TN	DICKSON	100-2	82-2C - 59530	82-2C - 59708	B	82-2C - 54250	83-2 - 2036	3	1	NO	N/A	10737.44	177.44	177.44	0.00	1	26	750
SOUTHERN	111	226	TN	LEWIS	500-1	557-1 - 27029	557-1 - 27604	B	557-1 - 21749	557-1 - 32884	3	1	NO	N/A	11134.4	574.40	574.40	0.00	1	30	936
SOUTHERN	112	227	TN	LEWIS	500-1	557-1 - 32179	557-1 - 32906	B	557-1 - 26899	557-1 - 38186	3	1	NO	N/A	11287.33	727.33	727.33	0.00	1	30	936
SOUTHERN	113	228	TN	LEWIS	500-1	557-1 - 33305	557-1 - 34682	B	557-1 - 28025	557-1 - 39962	3	1	NO	N/A	11936.94	1,376.94	1,376.94	0.00	4	30	936
SOUTHERN	114	232	TN	CHEATHAM	500-1	560-1 - 37132	560-1 - 37885	B	560-1 - 31852	560-1 - 43165	3	1	NO	N/A	11312.49	752.49	752.49	0.00	1	30	936
SOUTHERN	115	233	TN	CHEATHAM	500-1	560-1 - 42304	560-1 - 43310	B	560-1 - 37024	560-1 - 48590	3	1	YES	ILI - 2001	11566	1,006.00	848.20	157.80	10	30	936
SOUTHERN	116	234	TN	CHEATHAM	500-1	560-1 - 43428	560-1 - 44207	B	560-1 - 38148	560-1 - 49487	3	1	YES	ILI - 2001	11338.61	778.61	539.01	239.60	7	30	936

Attachment A: Listing of Tennessee Gas Pipeline (TGP) special permit segments

OPID 19160

PHMSA REGION	PHMSA No.	KM No.	State	County	Line Name	Special Permit Segment Stationing (Beginning) Valve - Station	Special Permit Segment Stationing (Ending) Valve - Station	Special Permit Segment Type	Special Permit Inspection Area Stationing (Beginning) Valve - Station	Special Permit Inspection Area Stationing (Ending) Valve - Station	Class (present)	Class (pipe)	HCA	Latest HCA Assessment and Date	Special Permit Inspection Area Length (ft)	Special Permit Segment Length not meeting present Class (ft)	Replace Length (ft)	Pressure Test Length (ft)	Dwellings in length not meeting present Class	Pipe Diameter (in)	MAOP (psig)
SOUTHERN	117	235	TN	CHEATHAM	500-1	560-1 - 98120	560-1 - 99452	B	560-1 - 92840	562-1 - 2902	3	1	NO	N/A	11892.21	1,331.81	1,331.81	0.00	1	30	936
SOUTHERN	118	236	TN	CHEATHAM	500-1	560-1 - 99840	560-1 - 100511	B	560-1 - 94560	562-1 - 3961	3	1	NO	N/A	11230.56	649.36	637.26	12.10	2	30	936
SOUTHERN	119	237	TN	CHEATHAM	500-1	562-1 - 35	562-1 - 1061	B	560-1 - 96585	562-1 - 6341	3	1	YES	ECDA - 2012	11585.85	1,007.75	985.90	21.85	6	30	936
SOUTHERN	120	238	TN	CHEATHAM	500-1	562-1 - 1259	562-1 - 1269	B	560-1 - 97810	562-1 - 6549	3	2	YES	ECDA - 2012	10569.9	9.90	0.00	9.90	1	30	936
SOUTHERN	121	239	TN	CHEATHAM	500-1	562-1 - 6239	562-1 - 7606	B	562-1 - 959	562-1 - 12886	3	1	NO	N/A	11927.1	1,367.10	1,367.10	0.00	1	30	936
SOUTHERN	122	240	TN	ROBERTSON	500-1	563-1 - 29453	563-1 - 31925	B	563-1 - 24173	563-1 - 37205	3	1	NO	N/A	13032.57	2,463.07	2,036.57	426.50	7	30	936
SOUTHERN	123	241	TN	ROBERTSON	500-1	563-1 - 42160	563-1 - 45772	B	563-1 - 36880	563-1 - 51052	3	1	NO	N/A	14171.84	3,611.84	2,978.54	633.30	8	30	936
SOUTHERN	124	242	TN	ROBERTSON	500-1	564-1 - 14347	564-1 - 16298	B	564-1 - 9067	564-1 - 21578	3	1	NO	N/A	12511.47	1,951.47	1,951.47	0.00	5	30	936
SOUTHERN	125	243	TN	ROBERTSON	500-1	564-1 - 20668	564-1 - 23931	B	564-1 - 15388	564-1 - 29211	3	1	NO	N/A	13822.8	3,262.84	3,182.94	79.90	10	30	936
SOUTHERN	126	244	TN	LEWIS	500-2	557-2 - 27013	557-2 - 27483	B	557-2 - 21733	557-2 - 32763	3	1	YES	ILI/Caliper - 2012	11029.38	469.38	469.38	0.00	1	36	936
SOUTHERN	127	245	TN	LEWIS	500-2	557-2 - 32134	557-2 - 32888	B	557-2 - 26854	557-2 - 38168	3	1	NO	N/A	11314.04	754.04	754.04	0.00	1	36	936
SOUTHERN	128	250	TN	CHEATHAM	500-2	560-2 - 37151	560-2 - 38470	B	560-2 - 31871	560-2 - 43750	3	1	NO	N/A	11878.68	1,318.68	1,318.68	0.00	3	36	936
SOUTHERN	129	251	TN	CHEATHAM	500-2	560-2 - 43790	560-2 - 44171	B	560-2 - 38510	560-2 - 49451	3	1	YES	MFL/Caliper - 2011	10941.21	381.21	381.21	0.00	5	36	936
SOUTHERN	130	252	TN	CHEATHAM	500-2	560-2 - 99058	560-2 - 100024	B	560-2 - 93778	562-2 - 3915	3	1	YES	ECDA - 2012	11526.61	966.61	846.31	120.30	2	36	936
SOUTHERN	131	253	TN	CHEATHAM	500-2	562-2 - 551	562-2 - 1054	B	560-2 - 96661	562-2 - 6334	3	1	YES	ECDA - 2012	11062.7	502.70	487.40	15.30	6	36	936
SOUTHERN	132	254	TN	CHEATHAM	500-2	562-2 - 1253	562-2 - 1270	B	560-2 - 97362	562-2 - 6550	3	2	YES	ECDA - 2012	10576.9	16.90	0.00	16.90	1	36	936
SOUTHERN	133	255	TN	CHEATHAM	500-2	562-2 - 5572	562-2 - 7598	B	562-2 - 292	562-2 - 12878	3	1	NO	N/A	12585.96	2,025.96	2,025.96	0.00	2	36	936
SOUTHERN	134	256	TN	ROBERTSON	500-2	563-2 - 29422	563-2 - 30424	B	563-2 - 24142	563-2 - 35704	3	1	NO	N/A	11561.81	1,001.81	911.41	90.40	4	36	936
SOUTHERN	135	257	TN	ROBERTSON	500-2	563-2 - 30503	563-2 - 31930	B	563-2 - 25223	563-2 - 37210	3	1	YES	MFL/Caliper - 2011	11986.43	1,426.43	1,267.53	158.90	6	36	936
SOUTHERN	136	258	TN	ROBERTSON	500-2	563-2 - 42134	563-2 - 42438	B	563-2 - 36854	563-2 - 47718	3	1	YES	MFL/Caliper - 2011	10863.7	303.70	293.70	10.00	1	36	936
SOUTHERN	137	259	TN	ROBERTSON	500-2	563-2 - 42518	563-2 - 45775	B	563-2 - 37238	563-2 - 51055	3	1	NO	N/A	13817.08	3,257.08	2,680.60	576.48	8	36	936
SOUTHERN	138	260	TN	ROBERTSON	500-2	564-2 - 14379	564-2 - 16326	B	564-2 - 9099	564-2 - 21606	3	1	NO	N/A	12506.58	1,946.58	1,946.58	0.00	5	36	936
SOUTHERN	139	261	TN	ROBERTSON	500-2	564-2 - 20671	564-2 - 20890	B	564-2 - 15391	564-2 - 26170	3	1	NO	N/A	10779.1	219.10	208.80	10.30	6	36	936
SOUTHERN	140	262	TN	ROBERTSON	500-2	564-2 - 20965	564-2 - 23936	B	564-2 - 15685	564-2 - 29216	3	1	NO	N/A	13530.93	2,970.93	2,960.63	10.30	10	36	936
SOUTHERN	141	271	TN	CHEATHAM	800-1	861-1 - 44265	861-1 - 44666	B	861-1 - 38985	861-1 - 49946	3	1	NO	N/A	10960.95	400.95	400.95	0.00	1	30	936
SOUTHERN	142	272	TN	CHEATHAM	800-1	861-1 - 99945	861-1 - 100526	B	861-1 - 94665	863-1 - 3910	3	1	NO	N/A	11141.5	581.50	581.50	0.00	2	30	936
SOUTHERN	143	273	TN	CHEATHAM	800-1	863-1 - 94	863-1 - 1199	B	861-1 - 96711	863-1 - 6479	3	1	YES	ECDA - 2012	11664.3	1,104.30	972.70	131.60	5	30	936
SOUTHERN	144	275	TN	CHEATHAM	800-1	863-1 - 6197	863-1 - 7564	B	863-1 - 917	863-1 - 12844	3	1	NO	N/A	11926.34	1,366.34	1,366.34	0.00	1	30	936
SOUTHERN	145	276	TN	ROBERTSON	800-1	864-1 - 29457	864-1 - 30426	B	864-1 - 24177	864-1 - 35706	3	1	NO	N/A	11528.97	968.97	968.97	0.00	4	30	936
SOUTHERN	146	277	TN	ROBERTSON	800-1	864-1 - 30649	864-1 - 31930	B	864-1 - 25369	864-1 - 37210	3	1	NO	N/A	11840.45	1,280.45	1,280.45	0.00	6	30	936
SOUTHERN	147	278	TN	ROBERTSON	800-1	864-1 - 42177	864-1 - 45792	B	864-1 - 36897	864-1 - 51072	3	1	NO	N/A	14174.31	3,614.31	3,614.31	0.00	8	30	936
SOUTHERN	148	279	TN	ROBERTSON	800-1	865-1 - 14335	865-1 - 16327	B	865-1 - 9055	865-1 - 21607	3	1	NO	N/A	12551.43	1,991.43	1,991.43	0.00	5	30	936
SOUTHERN	149	280	TN	ROBERTSON	800-1	865-1 - 20783	865-1 - 23917	B	865-1 - 15503	865-1 - 29197	3	1	NO	N/A	13693.48	3,133.48	3,133.48	0.00	7	30	936
SOUTHWEST	150	289	TX	NUECES	100-1	1-1D - 32112	1-1D - 32137	B	1-1D - 26832	1-1D - 37417	3	1	NO	N/A	10585.02	25.02	25.02	0.00	3	24	750
SOUTHWEST	151	290	TX	WALLER	100-1	19-1 - 21876	19-1 - 24570	B	19-1 - 16596	19-1 - 29850	3	1	YES	MFL/Caliper - 2011	13254.69	1,677.99	1,677.99	0.00	6	24	750
SOUTHWEST	152	291	TX	HARRIS	100-1	20-1 - 35995	20-1 - 37071	B	20-1 - 30715	20-1 - 42340	3	1	NO	N/A	11635.35	1,075.35	1,075.35	0.00	2	24	750
SOUTHWEST	153	292	TX	SABINE	100-1	36-1 - 13320	36-1 - 13995	B	36-1 - 8040	36-1 - 19275	3	1	NO	N/A	11235	675.00	548.00	127.00	1	24	750
SOUTHWEST	154	293	TX	SABINE	100-1	36-1 - 18211	36-1 - 19750	B	36-1 - 12931	36-1 - 25030	3	2	NO	N/A	12099.3	1,539.30	0.00	1,539.30	8	24	750
SOUTHWEST	155	294	TX	SABINE	100-1	36-1 - 20133	36-1 - 20706	B	36-1 - 14853	36-1 - 25986	3	2	NO	N/A	11133.4	573.40	0.00	573.40	3	24	750
SOUTHWEST	156	295	TX	WALLER	100-2	19-2 - 21943	19-2 - 23622	B	19-2 - 16663	19-2 - 28902	3	1	YES	MFL/Caliper - 2011	12238.93	472.53	472.53	0.00	3	30	750
SOUTHWEST	157	297	TX	HARRIS	100-2	19-2 - 47755	19-2 - 48989	B	19-2 - 42475	20-2 - 5219	3	1	NO	N/A	11794.7	1,234.70	1,234.70	0.00	4	30	750
SOUTHWEST	158	298	TX	HARRIS	100-2	20-2 - 00048	20-2 - 01438	B	19-2 - 43818	20-2 - 6718	3	1	NO	N/A	11950.45	1,390.45	1,158.35	232.10	5	30	750
SOUTHWEST	159	299	TX	SABINE	100-2	36-2 - 17089	36-2 - 19687	B	36-2 - 11809	36-2 - 24967	3	1	YES	MFL/Caliper - 2011	13157.7	2,597.70	1,069.90	1,527.80	8	30	750
SOUTHWEST	160	300	TX	WALLER	100-3	19-3 - 22006	19-3 - 23684	B	19-3 - 16726	19-3 - 28964	3	1	YES	MFL/Caliper - 2011	12237.69	449.79	449.79	0.00	3	30	750
SOUTHWEST	161	301	TX	WALLER	100-3	19-3 - 41139	19-3 - 42867	B	19-3 - 35859	19-3 - 48147	3	1	NO	N/A	12287.52	1,727.52	1,727.52	0.00	3	30	750
SOUTHWEST	162	302	TX	HARRIS	100-3	19-3 - 48100	19-3 - 49125	B	19-3 - 42820	20-3 - 5225	3	1	NO	N/A	11584.5	1,024.50	1,014.20	10.30	5	30	750
SOUTHWEST	163	303	TX	HARRIS	100-3	20-3 - 61	20-3 - 278	B	19-3 - 43960	20-3 - 5558	3	1	NO	N/A	10777	217.00	217.00	0.00	2	30	750
SOUTHWEST	164	304	TX	HARRIS	100-3	20-3 - 398	20-3 - 2162	B	19-3 - 44297	20-3 - 7442	3	1	YES	ILI - 2011	12323.65	1,733.65	1,733.65	0.00	5	30	750
SOUTHWEST	165	306	TX	HARRIS	100-3	20-3 - 36109	20-3 - 37211	B	20-3 - 30829	20-3 - 42491	3	1	NO	N/A	11661.34	1,101.34	1,101.34	0.00	2	30	750
SOUTHWEST	166	307	TX	SABINE	100-3	36-3 - 18156	36-3 - 19658	B	36-3 - 12876	36-3 - 24938	3	2	NO	N/A	12062.4	1,502.40	0.00	1,502.40	8	30	750
SOUTHWEST	167	310	TX	BROOKS	400-2	405-2 - 23830	405-2 - 24934	B	405-2 - 18550	405-2 - 30214	2	1	NO	N/A	11664.09	1,104.09	0.00	1,104.09	1	26	860
SOUTHWEST	168	311	TX	BROOKS	400-2	405-2 - 32982	405-2 - 34341	B	405-2 - 27702	405-2 - 39621	2	1	NO	N/A	11918.83	1,358.83	0.00	1,358.83	1	26	860
SOUTHWEST	169	312	TX	HIDALGO	409A-100 DONNA LINE	409A-101.1 - 5411	409A-101.1 - 6648	B	409A-101.1 - 131	409A-101.1 - 11928	3	1	YES	MFL/Caliper - 2010	11797.01	1,237.01	1,237.01	0.00	2	24	933
SOUTHWEST	170	313	TX	HIDALGO	409A-100 DONNA LINE	409A-101.1 - 13130	409A-101.1 - 15880	A	409A-101.1 - 7850	409A-101.1 - 21160	3	1	NO	N/A	13310.04	2,750.04	2,750.04	0.00	13	24	933
SOUTHWEST	171	316	TX	HIDALGO	409A-100 DONNA LINE	409A-102 - 10073	409A-102 - 11643	B	409A-102 - 4793	409A-102 - 16923	3	1	NO	N/A	12129.98	1,569.98	1,569.98	0.00	4	24	933
SOUTHWEST	172	317	TX	HIDALGO	409A-100 DONNA LINE	409A-102 - 35417	409A-102 - 37204	B	409A-102 - 30137	409A-102 - 42484	3	1	NO	N/A	12347.31	1,787.31	1,787.31	0.00	7	24	933
EASTERN	173	318	WV	KANAWHA	100-1	118-1 - 50540	118-1 - 51890	B	118-1 - 45260	118-1 - 57170	3	1	NO	N/A	11909.06	1,349.06	1,349.06	0.00	1	20	910
EASTERN	174	319	WV	KANAWHA	100-1	118-1 - 53912	118-1 - 55181	B	118-1 - 48632	118-1 - 60461	3	1	YES	MFL/Caliper - 2012	11829.84	1,269.84	1,269.84	0.00	2	20	910

Attachment A: Listing of Tennessee Gas Pipeline (TGP) special permit segments

OPID 19160

PHMSA REGION	PHMSA No.	KM No.	State	County	Line Name	Special Permit Segment Stationing (Beginning) Valve - Station	Special Permit Segment Stationing (Ending) Valve - Station	Special Permit Segment Type	Special Permit Inspection Area Stationing (Beginning) Valve - Station	Special Permit Inspection Area Stationing (Ending) Valve - Station	Class (present)	Class (pipe)	HCA	Latest HCA Assessment and Date	Special Permit Inspection Area Length (ft)	Special Permit Segment Length not meeting present Class (ft)	Replace Length (ft)	Pressure Test Length (ft)	Dwellings in length not meeting present Class	Pipe Diameter (in)	MAOP (psig)
EASTERN	175	320	WV	KANAWHA	100-1	118-1 - 70005	118-1 - 70589	B	118-1 - 64725	118-1 - 75869	3	1	YES	MFL/Caliper - 2012	11144.46	584.46	584.46	0.00	1	20	910
EASTERN	176	322	WV	KANAWHA	100-1	121-1 - 19093	121-1 - 21342	B	121-1 - 13813	121-1 - 26622	3	1	NO	N/A	12809.91	2,249.91	2,249.91	0.00	3	20	936
EASTERN	177	323	WV	WAYNE	100-2	115-2 - 18573	115-2 - 21231	B	115-2 - 13293	115-2 - 26511	3	1	NO	N/A	13217.51	2,657.51	2,657.51	0.00	4	24	973
EASTERN	178	326	WV	PUTNAM	100-2	119-2 - 3970	119-2 - 5913	B	118-3 - 65930	119-2 - 11193	3	1	YES	ILI/Caliper - 2009	12503.22	1,943.22	1,943.22	0.00	5	24	938
EASTERN	179	327	WV	PUTNAM	100-2	119-2 - 13276	119-2 - 16704	A	119-2 - 7996	119-2 - 21984	3	1	NO	N/A	13988.57	3,428.57	2,871.47	557.10	16	24	938
EASTERN	180	328	WV	CABELL	100-3	115-3 - 52772	115-3 - 53741	B	115-3 - 47492	115-3 - 59021	3	1	NO	N/A	11529.77	969.77	969.77	0.00	2	26	991
EASTERN	181	329	WV	CABELL	100-3	117-3 - 37414	117-3 - 37852	B	117-3 - 32134	117-3 - 43132	3	2	NO	N/A	10998.1	438.10	0.00	438.10	2	26	910
EASTERN	182	330	WV	PUTNAM	100-3	118-3 - 25714	118-3 - 27130	B	118-3 - 20434	118-3 - 32410	3	1	NO	N/A	11975.75	1,415.75	1,415.75	0.00	2	30	910
EASTERN	183	331	WV	PUTNAM	100-3	118-3 - 31972	118-3 - 32863	B	118-3 - 26692	118-3 - 38143	3	1	NO	N/A	11451.2	891.20	891.20	0.00	3	30	910
SOUTHWEST	184	334	TX	WALLER	100-1	19-1 - 40866	19-1 - 44295	A	19-1 - 35586	20-1 - 572	3	1	NO	N/A	13989.29	3,429.29	3,429.29	0.00	11	24	750
SOUTHWEST	185	335	TX	HARRIS	100-1	19-1 - 47777	19-1 - 48959	B	19-1 - 42497	20-1 - 5235	3	1	NO	N/A	11741.7	1,181.70	1,181.70	0.00	3	24	750
SOUTHWEST	186	336	TX	HARRIS	100-1	20-1 - 34	20-1 - 709	B	19-1 - 43757	20-1 - 5989	3	1	NO	N/A	11235.07	675.07	661.17	13.90	3	24	750
EASTERN	187	340	WV	KANAWHA	100-2	121-2 - 54382	121-2 - 55616	B	121-2 - 49102	121-2 - 60896	3	1	NO	N/A	11793.7	1,233.70	1,233.70	0.00	2	24	910
SOUTHERN	188	341	TN	CHEATHAM	100-4	83-4B - 114836	83-4B - 115333	B	83-4B - 109556	84-4 - 3287	3	1	NO	N/A	11057.5	497.50	497.50	0.00	6	30	750
SOUTHERN	189	342	KY	MADISON	100-4	103-4 - 7517	103-4 - 8889	B	103-4 - 2237	103-4 - 14169	3	1	NO	N/A	11932.39	1,342.49	1,342.49	0.00	1	30	750
SOUTHERN	190	343	KY	MADISON	100-4	103-4 - 9445	103-4 - 9687	B	103-4 - 4165	103-4 - 14967	3	1	NO	N/A	10802.74	242.74	242.74	0.00	1	30	750
SOUTHERN	191	348	MS	LAUDERDALE	500-2	541-2 - 72	541-2 - 383	B	540-2 - 81127	541-2 - 5663	3	1	NO	N/A	10871.51	311.51	311.51	0.00	4	36	936
SOUTHWEST	192	360	LA	CALCASIEU	800-1	821-1A - 76685	821-1A - 78674	A	821-1A - 71463	821-1A - 83954	3	1	YES	MFL/Caliper - 2014	12549.64	1,913.54	1,913.54	0.00	17	30	936

2,289,985.38	258,738.88	235,144.23	23,594.65	FOOTAGE
433.71	49.00	44.53	4.47	MILEAGE

LEGEND

DSAW - Double Submerged Arc Weld
EFW - Electric Fusion Weld
ERW- Electric Resistance Weld
EW - Electric Weld (SAW or DSAW, not ERW)
FW - Flash Weld
SAW - Submerged Arc Weld
SMLS - Seamless
NLP - 'Not Like Pipe' for Leaks
NSLP - 'Non-Susceptible Location or Pipe' for SCC
PIR - Potential Impact Radius
MAOP - Maximum Allowable Operating Pressure
MLV - Mainline Valve
HCA - High Consequence Area
SCC^1 - Stress Corrosion Cracking - Bellhole Inspection
SCC^2 - Stress Corrosion Cracking - Hydrotest Failure
SCC^3 - Stress Corrosion Cracking - In-Service Failure
SCC^4 - Stress Corrosion Cracking - Special Permit segment located in upstream compressor segment from SCC indication (within 20 miles), Segment deemed not susceptible to SCC
SSWC - Selective Seam Weld Corrosion
MPS - Maximum Pressure in 5 Years Preceding 7/1/1970

NOTES

1. When a segment has multiple pipe attributes (test pressure, seam, coating, etc.), the attributes for the weakest pipe element is displayed
2. The actual length of the special permit segment from begin station to end station may be greater than the length not meeting present class due to compliant pipe in the segment.
3. Pipeline stationing subject to change due to station equations, centerline changes, etc.

07/21/2016 rev

PHMSA No.	KM No.	Test Pressure (psig)	Pipe Design Pressure @ 0.72 (psig)	Pipe Wall Thickness (in)	PIR (ft)	Pipe Grade (psig)	Pipe Seam Type	Pipe Coating	Pipe Installation Date	Distance to MLV Upstream/ Downstream (mi)	Compressor Station Spacing (mi)	MAOP Established per 192.619	Aerial Photography	Material/ Pressure Test Documents	Leak/SCC/SSWC (w/i 20 mi of segment)	Segment Pressure Tested after Leak/SCC/SSWC	In-Line Inspected	MP5 only or MP5 record (to back up 'test')
1	69	949	750	0.25	454	50000	FW	HOT APPLIED WAX	1971	1.8 / 2.5	89.2	(a)(1)	2012	Y / Y	Leak (11/15/1986)	NLP	YES	N/A
2	70	1148	876.72	0.281	454	52000	SAW	HOT APPLIED WAX	1971	2.3 / 2.2	89.2	(a)(1)	2012	Y / Y	Leak (11/15/1986)	YES	YES	N/A
3	71	949	750	0.25	454	50000	FW	HOT APPLIED WAX	1971	3.4 / 1.0	89.2	(a)(1)	2012	Y / Y	Leak (11/15/1986)	NLP	YES	N/A
4	72	1029	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1948	6.3 / 3.0	42.9	(a)(3)	2012	Y / Y	Leak (4/11/1984)	YES	YES	N/A
5	73	1029	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1948	6.4 / 2.6	42.9	(a)(3)	2012	Y / Y	Leak (4/11/1984)	YES	YES	N/A
6	74	1029	809.28	0.281	491	52000	FW	FUSION BONDED EPOXY	1948	7.6 / 1.4	42.9	(a)(3)	2012	Y / Y	Leak (4/11/1984)	YES	YES	N/A
7	75	1029	809.28	0.281	491	52000	FW	FUSION BONDED EPOXY	1948	8.4 / 0.9	42.9	(a)(3)	2012	Y / Y	Leak (4/11/1984)	YES	YES	N/A
8	76	1040	809.28	0.281	491	52000	FW	FUSION BONDED EPOXY	1948	0.2 / 13.1	42.9	(a)(3)	2012	Y / Y	Leak (4/11/1984)	YES	YES	N/A
9	77	1040	809.28	0.281	491	52000	FW	HOT APPLIED WAX	1948	3.6 / 9.2	42.9	(a)(3)	2012	Y / Y	Leak (4/11/1984)	YES	YES	N/A
10	78	978	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1950	10.0 / 0.0	89.2	(a)(3)	2012	Y / Y	Leak (6/1/1965)	YES	YES	N/A
11	79	1045	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1950	0.4 / 7.8	89.2	(a)(3)	2012	Y / Y	Leak (6/1/1965)	YES	YES	N/A
12	80	1045	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1950	1.6 / 6.5	89.2	(a)(3)	2012	Y / Y	Leak (6/1/1965)	YES	YES	N/A
13	82	1034	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1949	10.0 / 0.1	42.9	(a)(3)	2012	Y / Y	Leak (4/2/1998)	NO	YES	N/A
14	83	1022	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1949	10.2 / 0.0	42.9	(a)(3)	2012	Y / Y	Leak (4/2/1998)	NO	YES	N/A
15	84	1022	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1949	0.1 / 12.1	42.9	(a)(3)	2012	Y / Y	Leak (4/2/1998)	NO	YES	N/A
16	85	1020	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1949	4.6 / 7.2	42.9	(a)(3)	2012	Y / Y	Leak (2/15/1983)	YES	YES	N/A
17	86	1029	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1950	9.0 / 0.0	32.5	(a)(1)	2012	Y / Y	Leak (4/30/2011)	NO	YES	N/A
18	87	1033	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1950	0.0 / 3.2	32.5	(a)(1)	2012	Y / Y	Leak (4/30/2011)	NO	YES	N/A
19	88	993	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1951	3.0 / 5.9	89.2	(a)(3)	2012	Y / Y	Leak (9/25/1995)	NO	YES	N/A
20	89	993	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1951	3.3 / 5.6	89.2	(a)(3)	2012	Y / Y	Leak (9/25/1995)	NO	YES	N/A
21	90	1284	936	0.39	760	60000	DSAW	HOT APPLIED WAX	1969	13.2 / 3.6	89.2	(a)(1)	2012	Y / Y		N/A	YES	N/A
22	100	1037	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	8.6 / 5.0	81.1	(a)(1)	2012	Y / Y	Leak (1/1/1986)	NO	YES	N/A
23	101	1037	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	9.0 / 4.7	81.1	(a)(1)	2012	Y / Y	Leak (1/1/1986)	NO	YES	N/A
24	102	1039	750	0.25	454	50000	FW	FUSION BONDED EPOXY	1944	10.9 / 1.3	81.1	(a)(1)	2012	Y / Y	Leak (3/1/1965) / SCC[4]	YES / NSLP	YES	N/A
25	103	MP5	1012.5	0.375	454	45000	SMLS	HOT APPLIED WAX	1944	4.6 / 0.7	78.7	(c)	2012	Y / MP5	Leak (3/1/1965) / SCC[1, 3]	NLP / NSLP	YES	YES
26	105	1037	858.62	0.344	567	52000	DSAW	COAL TAR ENAMEL	1949	8.6 / 4.9	81.1	(a)(1)	2012	Y / Y	Leak (12/15/1969)	NO	YES	N/A
27	106	1037	858.62	0.344	567	52000	DSAW	COAL TAR ENAMEL	1949	9.0 / 4.7	81.1	(a)(1)	2012	Y / Y	Leak (12/15/1969)	NO	YES	N/A
28	108	757	603.87	0.25	526	52000	DSAW	COAL TAR ENAMEL	1948	10.9 / 1.3	81.1	(a)(1)	2012	Y / Y	Leak (11/30/2010) / SCC[4]	NO / NSLP	YES	N/A
29	109	1114	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1947	1.7 / 5.0	87	(a)(1)	2012	Y / Y	Leak (6/24/1993) / SCC[1]	NLP / YES	YES	N/A
30	110	1072	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1951	8.6 / 4.9	81.1	(a)(1)	2012	Y / Y	Leak (5/15/1969)	NO	YES	N/A
31	111	1072	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1951	9.0 / 4.7	81.1	(a)(1)	2012	Y / Y	Leak (5/15/1969)	NO	YES	N/A
32	113	1067	778.75	0.312	567	52000	DSAW	FUSION BONDED EPOXY	1951	10.9 / 1.3	81.1	(a)(1)	2012	Y / Y	Leak (9/27/2007) / SCC[4]	NO / NSLP	YES	N/A
33	115	1149	858.62	0.344	567	52000	DSAW	COAL TAR ENAMEL	1949	1.6 / 5.0	87	(a)(3)	2012	Y / Y	Leak (6/15/1984) / SCC[1]	YES / YES	YES	N/A
34	116	1068	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1951	1.6 / 4.9	87	(a)(1)	2012	Y / Y	Leak (6/15/1959) / SCC[1]	YES / YES	YES	N/A
35	117	1407	973.44	0.312	517	52000	DSAW	COAL TAR ENAMEL	1956	1.6 / 8.9	186.1	(a)(3)	2012	Y / Y	Leak (4/15/1971)	YES	YES	N/A
36	118	1407	973.44	0.312	517	52000	DSAW	COAL TAR ENAMEL	1956	2.1 / 8.7	186.1	(a)(3)	2012	Y / Y	Leak (4/15/1971)	YES	YES	N/A
37	119	1407	973.44	0.312	517	52000	DSAW	COAL TAR ENAMEL	1956	3.0 / 7.4	186.1	(a)(3)	2012	Y / Y	Leak (4/15/1971)	YES	YES	N/A
38	120	1407	973.44	0.312	517	52000	DSAW	COAL TAR ENAMEL	1956	8.6 / 2.5	186.1	(a)(3)	2012	Y / Y		N/A	YES	N/A
39	121	1338	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1955	13.2 / 5.6	51.1	(a)(3)	2012	Y / Y	SCC[1]	YES	YES	N/A
40	122	1338	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1955	14.5 / 4.8	51.1	(a)(3)	2012	Y / Y	SCC[1]	YES	YES	N/A
41	124	1329	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1954	14.8 / 1.4	60.1	(a)(3)	2012	Y / Y	SCC[1]	YES	YES	N/A
42	125	1329	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1954	14.8 / 1.1	60.1	(a)(3)	2012	Y / Y	SCC[1]	NO	YES	N/A
43	126	1329	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1954	0.1 / 16.9	60.1	(a)(3)	2012	Y / Y	SCC[1]	NO	YES	N/A
44	131	1093	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	3.7 / 2.4	87	(a)(3)	2012	Y / Y	Leak (11/15/1953)	YES	YES	N/A
45	132	1093	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	4.8 / 1.2	87	(a)(3)	2012	Y / Y	Leak (11/15/1953)	YES	YES	N/A
46	134	1178	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1948	3.7 / 2.5	87	(a)(3)	2012	Y / Y	Leak (2/28/1991) / SCC[4]	NO / NSLP	YES	N/A
47	135	1178	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1948	3.7 / 2.1	87	(a)(3)	2012	Y / Y	Leak (2/28/1991) / SCC[4]	NO / NSLP	YES	N/A
48	136	1026	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1949	0.7 / 13.1	85.1	(a)(3)	2012	Y / Y	Leak (2/15/1977)	NO	YES	N/A
49	137	1027	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1952	0.7 / 13.1	85.1	(a)(3)	2012	Y / Y	Leak (1/30/1989)	NO	YES	N/A
50	139	1309	936	0.375	633	52000	FW	COAL TAR ENAMEL	1959	13.5 / 1.1	58.7	(a)(3)	2012	Y / Y	Leak (9/15/1975)	NO	YES	N/A
51	140	1324	936	0.375	633	52000	FW	HOT APPLIED WAX	1959	7.3 / 8.0	53.1	(a)(3)	2012	Y / Y		N/A	YES	N/A
52	141	1324	936	0.375	633	52000	FW	HOT APPLIED WAX	1959	7.4 / 7.8	53.1	(a)(3)	2012	Y / Y		N/A	YES	N/A
53	142	1262	936	0.375	633	52000	SAW	HOT APPLIED WAX	1959	14.7 / 1.4	60.2	(a)(3)	2012	Y / Y		N/A	YES	N/A
54	143	1262	936	0.375	633	52000	SAW	HOT APPLIED WAX	1959	15.7 / 0.0	60.2	(a)(3)	2012	Y / Y		N/A	YES	N/A
55	144	1232	936	0.375	633	52000	DSAW	HOT APPLIED WAX	1959	0.0 / 15.4	60.2	(a)(3)	2012	Y / Y		N/A	YES	N/A
56	146	1332	936	0.375	633	52000	SAW	HOT APPLIED WAX	1959	12.5 / 1.3	59.2	(a)(3)	2012	Y / Y	Leak (12/15/1976)	NLP	YES	N/A
57	147	1332	936	0.375	633	52000	SAW	HOT APPLIED WAX	1959	13.7 / 0.1	59.2	(a)(3)	2012	Y / Y	Leak (12/15/1976)	NLP	YES	N/A
58	148	1340	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	4.9 / 10.7	57.5	(a)(3)	2012	Y / Y	Leak (6/15/1984)	NLP	YES	N/A

PHMSA No.	KM No.	Test Pressure (psig)	Pipe Design Pressure @ 0.72 (psig)	Pipe Wall Thickness (in)	PIR (ft)	Pipe Grade (psig)	Pipe Seam Type	Pipe Coating	Pipe Installation Date	Distance to MLV Upstream/ Downstream (mi)	Compressor Station Spacing (mi)	MAOP Established per 192.619	Aerial Photography	Material/ Pressure Test Documents	Leak/SCC/SSWC (w/i 20 mi of segment)	Segment Pressure Tested after Leak/SCC/SSWC	In-Line Inspected	MPS only or MPS record (to back up 'test')
59	150	1340	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	6.6 / 8.9	57.5	(a)(3)	2012	Y / Y	Leak (6/15/1984)	NLP	YES	N/A
60	152	1360	936	0.39	760	60000	FW	LIQUID EPOXY	1965	13.5 / 1.1	58.7	(a)(1)	2012	Y / Y	Leak (3/15/1964)	YES	YES	N/A
61	153	1258	936	0.39	760	60000	ERW	TAPE- UNKNOWN BACKING	1966	7.3 / 7.8	53.1	(a)(1)	2012	Y / Y	Leak (7/15/1966)	YES	YES	N/A
62	154	1294	936	0.39	760	60000	DSAW	TAPE- UNKNOWN BACKING	1966	14.7 / 1.4	60.2	(a)(1)	2012	Y / Y		N/A	YES	N/A
63	155	1294	936	0.39	760	60000	ERW	TAPE- UNKNOWN BACKING	1966	15.7 / 0.0	60.2	(a)(1)	2012	Y / Y		N/A	YES	N/A
64	157	1390	974.88	0.4062	760	60000	DSAW	TAPE- UNKNOWN BACKING	1964	6.6 / 8.9	57.5	(a)(3)	2012	Y / Y		N/A	YES	N/A
65	158	1345	938.4	0.391	760	60000	DSAW	FUSION BONDED EPOXY	1972	13.4 / 1.1	58.7	(a)(1)	2012	Y / Y		N/A	YES	N/A
66	159	1471	1560	0.5	566	52000	SMLS	COAL TAR ENAMEL	1955	3.6 / 7.9	38	(a)(3)	2012	Y / Y		N/A	YES	N/A
67	160	1471	1170	0.375	566	52000	SMLS	COAL TAR ENAMEL	1955	5.2 / 6.8	38	(a)(3)	2012	Y / Y		N/A	YES	N/A
68	162	1467	1170	0.375	566	52000	SMLS	COAL TAR ENAMEL	1955	3.1 / 0.4	30.4	(a)(3)	2012	Y / Y		N/A	YES	N/A
69	163	1467	1170	0.375	566	52000	SMLS	COAL TAR ENAMEL	1955	3.2 / 0.2	30.4	(a)(3)	2012	Y / Y		N/A	YES	N/A
70	164	1468	1170	0.375	566	52000	SMLS	COAL TAR ENAMEL	1955	3.7 / 0.3	30.4	(a)(3)	2012	Y / Y	Leak (12/15/2008)	NO	YES	N/A
71	166	1478	1170	0.375	566	52000	SMLS	COAL TAR ENAMEL	1955	1.5 / 5.4	30.4	(a)(3)	2012	Y / Y	Leak (12/15/2008)	NO	YES	N/A
72	167	1478	1170	0.375	566	52000	SMLS	COAL TAR ENAMEL	1955	2.2 / 4.5	30.4	(a)(3)	2012	Y / Y	Leak (12/15/2008)	NO	YES	N/A
73	168	1479	1170	0.375	566	52000	DSAW	COAL TAR ENAMEL	1955	5.5 / 1.6	30.4	(a)(3)	2012	Y / Y	Leak (12/15/2008)	NO	YES	N/A
74	177	1174	876.72	0.281	457	52000	FW	COAL TAR ENAMEL	1951	1.0 / 7.6	53.6	(a)(3)	2012	Y / Y	Leak (7/11/2002)	NLP	YES	N/A
75	178	1174	876.72	0.281	457	52000	FW	COAL TAR ENAMEL	1951	2.5 / 6.3	53.6	(a)(3)	2012	Y / Y	Leak (7/11/2002)	NLP	YES	N/A
76	179	1096	876.72	0.281	457	52000	DSAW	COAL TAR ENAMEL	1951	2.2 / 9.7	68.8	(a)(3)	2012	Y / Y	Leak (8/15/1954)	YES	YES	N/A
77	180	1096	876.72	0.281	457	52000	DSAW	COAL TAR ENAMEL	1951	3.9 / 8.6	68.8	(a)(3)	2012	Y / Y	Leak (8/15/1954)	YES	YES	N/A
78	181	MP5	876.72	0.281	457	52000	DSAW	COAL TAR ENAMEL	1951	4.0 / 11.5	68.8	(c)	2012	Y / MP5	Leak (7/15/1954)	YES	YES	YES
79	182	1158	876.72	0.281	457	52000	DSAW	COAL TAR ENAMEL	1951	3.5 / 3.4	65.8	(a)(3)	2012	Y / Y	Leak (6/15/1972)	YES	YES	N/A
80	183	1158	876.72	0.281	457	52000	DSAW	COAL TAR ENAMEL	1951	6.5 / 0.5	65.8	(a)(3)	2012	Y / Y	Leak (6/15/1972)	YES	YES	N/A
81	186	1049	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1950	5.3 / 3.9	62.8	(a)(1)	2012	Y / Y	Leak (8/15/1974)	YES	YES	N/A
82	187	1049	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1950	6.7 / 2.8	62.8	(a)(1)	2012	Y / Y	Leak (8/15/1974)	YES	YES	N/A
83	188	1073	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1950	7.1 / 5.0	64.4	(a)(1)	2012	Y / Y	Leak (6/15/1977)	NO	YES	N/A
84	189	1073	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1950	8.4 / 3.9	64.4	(a)(1)	2012	Y / Y	Leak (6/15/1977)	NO	YES	N/A
85	190	1073	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1950	8.8 / 3.5	64.4	(a)(1)	2012	Y / Y	Leak (6/15/1977)	NO	YES	N/A
86	191	1073	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1952	1.7 / 14.3	64.1	(a)(3)	2012	Y / Y	Leak (5/19/2006)	NO	YES	N/A
87	192	1058	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1952	5.1 / 4.1	62.8	(a)(1)	2012	Y / Y		N/A	YES	N/A
88	193	1104	809.28	0.281	504	52000	FW	FUSION BONDED EPOXY	1952	6.8 / 2.8	62.8	(a)(1)	2012	Y / Y		N/A	YES	N/A
89	194	1077	809.28	0.281	504	52000	FW	COAL TAR ENAMEL	1954	3.0 / 12.1	64.4	(a)(1)	2012	Y / Y	Leak (8/15/1969)	NO	YES	N/A
90	195	1018	809.28	0.281	504	52000	DSAW	COAL TAR ENAMEL	1956	0.5 / 4.7	62.8	(a)(3)	2012	Y / Y	Leak (5/20/2002)	NO	YES	N/A
91	196	1018	809.28	0.281	504	52000	DSAW	COAL TAR ENAMEL	1956	0.8 / 4.1	62.8	(a)(3)	2012	Y / Y	Leak (5/20/2002)	NO	YES	N/A
92	197	1018	809.28	0.281	504	52000	DSAW	COAL TAR ENAMEL	1956	2.1 / 3.1	62.8	(a)(3)	2012	Y / Y	Leak (5/20/2002)	NO	YES	N/A
93	198	1086	825.6	0.344	698	60000	DSAW	COAL TAR ENAMEL	1963	5.3 / 3.9	62.8	(a)(1)	2012	Y / Y	Leak (2/10/2011)	NO	YES	N/A
94	200	1123	825.6	0.344	698	60000	DSAW	COAL TAR ENAMEL	1963	6.7 / 2.8	62.8	(a)(1)	2012	Y / Y	Leak (2/10/2011)	NO	YES	N/A
95	201	1058	825.6	0.344	698	60000	DSAW	COAL TAR ENAMEL	1963	7.1 / 5.0	64.4	(a)(3)	2012	Y / Y	Leak (2/10/2011)	NO	YES	N/A
96	202	1058	825.6	0.344	698	60000	DSAW	COAL TAR ENAMEL	1963	8.4 / 3.9	64.4	(a)(3)	2012	Y / Y	Leak (2/10/2011)	NO	YES	N/A
97	203	1058	825.6	0.344	698	60000	DSAW	COAL TAR ENAMEL	1963	8.8 / 3.5	64.4	(a)(3)	2012	Y / Y	Leak (2/10/2011)	NO	YES	N/A
98	205	1064	809.28	0.281	504	52000	DSAW	COAL TAR ENAMEL	1950	7.2 / 5.0	64.4	(a)(1)	2012	Y / Y	Leak (6/15/1977)	NO	YES	N/A
99	206	1144	876.72	0.281	490	52000	DSAW	COAL TAR ENAMEL	1953	4.3 / 6.3	70.2	(a)(1)	2012	Y / Y	Leak (2/15/1957) / SCC[1]	YES / NO	YES	N/A
100	207	1144	876.72	0.281	490	52000	DSAW	COAL TAR ENAMEL	1953	5.4 / 5.3	70.2	(a)(1)	2012	Y / Y	Leak (2/15/1957) / SCC[1]	YES / NO	YES	N/A
101	208	1286	898.56	0.312	613	60000	DSAW	COAL TAR ENAMEL	1965	4.1 / 6.3	70.2	(a)(1)	2012	Y / Y		N/A	YES	N/A
102	209	1286	898.56	0.312	613	60000	DSAW	COAL TAR ENAMEL	1965	5.2 / 5.3	70.2	(a)(1)	2012	Y / Y		N/A	YES	N/A
103	213	1037	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	3.5 / 2.4	89.8	(a)(1)	2012	Y / Y	Leak (1/15/1982)	NO	YES	N/A
104	215	964	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	4.0 / 6.6	89.8	(a)(1)	2012	Y / Y	Leak (1/3/1988)	YES	YES	N/A
105	216	964	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	7.6 / 3.3	89.8	(a)(1)	2012	Y / Y	Leak (1/3/1988)	YES	YES	N/A
106	217	964	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	9.0 / 2.1	89.8	(a)(1)	2012	Y / Y	Leak (1/3/1988)	YES	YES	N/A
107	220	964	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	9.3 / 0.0	89.8	(a)(1)	2012	Y / Y	Leak (1/3/1988)	NO	YES	N/A
108	221	956	758.7	0.281	454	45000	SMLS	COAL TAR ENAMEL	1944	0.0 / 9.2	89.8	(a)(3)	2012	Y / Y	Leak (1/3/1988)	YES	YES	N/A
109	223	1036	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1948	3.5 / 2.4	89.8	(a)(3)	2012	Y / Y	Leak (10/16/1996)	NO	YES	N/A
110	224	1036	809.28	0.281	491	52000	FW	COAL TAR ENAMEL	1948	5.3 / 0.6	89.8	(a)(3)	2012	Y / Y	Leak (10/16/1996)	NO	YES	N/A
111	226	1224	936	0.375	633	52000	SAW	COAL TAR ENAMEL	1959	5.1 / 8.9	61.2	(a)(3)	2012	Y / Y	Leak (6/20/2012)	NLP	YES	N/A
112	227	1224	936	0.375	633	52000	SAW	COAL TAR ENAMEL	1959	6.1 / 7.9	61.2	(a)(3)	2012	Y / Y	Leak (6/20/2012)	NLP	YES	N/A
113	228	1224	936	0.375	633	52000	SAW	COAL TAR ENAMEL	1959	6.3 / 7.5	61.2	(a)(3)	2012	Y / Y	Leak (6/20/2012)	NLP	YES	N/A
114	232	1182	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	7.0 / 11.8	75.9	(a)(3)	2012	Y / Y	Leak (8/15/1966)	YES	YES	N/A
115	233	1182	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	8.0 / 10.8	75.9	(a)(3)	2012	Y / Y	Leak (8/15/1966)	YES	YES	N/A
116	234	1182	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	8.2 / 10.6	75.9	(a)(3)	2012	Y / Y	Leak (8/15/1966)	YES	YES	N/A

Attachment A: Listing of Tennessee Gas Pipeline (TGP) special permit segments

OPID 19160

PHMSA No.	KM No.	Test Pressure (psig)	Pipe Design Pressure @ 0.72 (psig)	Pipe Wall Thickness (in)	PIR (ft)	Pipe Grade (psig)	Pipe Seam Type	Pipe Coating	Pipe Installation Date	Distance to MLV Upstream/ Downstream (mi)	Compressor Station Spacing (mi)	MAOP Established per 192.619	Aerial Photography	Material/ Pressure Test Documents	Leak/SCC/SSWC (w/i 20 mi of segment)	Segment Pressure Tested after Leak/SCC/SSWC	In-Line Inspected	MP5 only or MP5 record (to back up 'test')
117	235	1182	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	18.5 / 0.2	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
118	236	1182	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	18.8 / 0.0	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
119	237	1179	936	0.375	633	52000	SAW	COAL TAR ENAMEL	1959	0.0 / 11.9	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
120	238	1179	1248	0.5	633	52000	FW	HOT APPLIED WAX	1959	0.2 / 11.8	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
121	239	1179	936	0.375	633	52000	SAW	COAL TAR ENAMEL	1959	1.0 / 10.6	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
122	240	1237	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	5.6 / 6.9	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
123	241	1237	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	7.9 / 4.3	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
124	242	1252	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	2.7 / 10.1	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
125	243	1252	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1959	3.9 / 8.8	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
126	244	1280	974.4	0.406	760	60000	DSAW	COAL TAR ENAMEL	1964	5.1 / 8.9	61.2	(a)(3)	2012	Y / Y	Leak (11/15/1972)	YES	YES	N/A
127	245	1280	974.4	0.406	760	60000	DSAW	COAL TAR ENAMEL	1964	6.1 / 7.9	61.2	(a)(3)	2012	Y / Y	Leak (11/15/1972)	YES	YES	N/A
128	250	1284	936	0.39	760	60000	ERW	COAL TAR ENAMEL	1968	7.0 / 11.6	75.9	(a)(1)	2012	Y / Y		N/A	YES	N/A
129	251	1284	936	0.39	760	60000	ERW	COAL TAR ENAMEL	1968	8.3 / 10.5	75.9	(a)(1)	2012	Y / Y		N/A	YES	N/A
130	252	1303	936	0.39	760	60000	ERW	COAL TAR ENAMEL	1968	18.7 / 0.0	75.9	(a)(1)	2012	Y / Y		N/A	YES	N/A
131	253	1224	974.4	0.406	760	60000	DSAW	COAL TAR ENAMEL	1963	0.1 / 11.9	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
132	254	1224	1125.6	0.469	760	60000	DSAW	HOT APPLIED WAX	1963	0.2 / 11.8	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
133	255	1224	974.4	0.406	760	60000	DSAW	190 COAL TAR ENAMEL	1963	1.1 / 10.6	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
134	256	1401	974.4	0.406	760	60000	DSAW	COAL TAR ENAMEL	1965	5.6 / 7.2	75.9	(a)(1)	2012	Y / Y	Leak (2/15/1986)	NO	YES	N/A
135	257	1401	974.4	0.406	760	60000	DSAW	COAL TAR ENAMEL	1965	5.8 / 6.9	75.9	(a)(1)	2012	Y / Y	Leak (2/15/1986)	NO	YES	N/A
136	258	1401	974.4	0.406	760	60000	DSAW	COAL TAR ENAMEL	1965	7.9 / 4.9	75.9	(a)(1)	2012	Y / Y	Leak (2/15/1986)	NO	YES	N/A
137	259	1401	974.4	0.406	760	60000	DSAW	COAL TAR ENAMEL	1965	8.0 / 4.3	75.9	(a)(1)	2012	Y / Y	Leak (2/15/1986)	NO	YES	N/A
138	260	1321	936	0.39	760	60000	DSAW	COAL TAR ENAMEL	1965	2.7 / 10.1	75.9	(a)(1)	2012	Y / Y	Leak (2/15/1986)	NO	YES	N/A
139	261	1321	936	0.39	760	60000	DSAW	COAL TAR ENAMEL	1965	3.9 / 9.2	75.9	(a)(1)	2012	Y / Y	Leak (2/15/1986)	NO	YES	N/A
140	262	1321	936	0.39	760	60000	DSAW	COAL TAR ENAMEL	1965	4.0 / 8.8	75.9	(a)(1)	2012	Y / Y	Leak (2/15/1986)	NO	YES	N/A
141	271	1190	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	8.3 / 10.6	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
142	272	1190	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	18.8 / 0.0	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
143	273	1174	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	0.0 / 11.9	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
144	275	1174	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	1.1 / 10.7	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
145	276	1242	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	5.6 / 7.2	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
146	277	1242	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	5.8 / 6.9	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
147	278	1296	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	7.9 / 4.2	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
148	279	1282	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	2.7 / 10.1	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
149	280	1282	936	0.375	633	52000	EW	COAL TAR ENAMEL	1954	3.9 / 8.8	75.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
150	289	1091	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	6.1 / 4.0	86.2	(a)(1)	2012	Y / Y	Leak (12/5/1995) / SCC[1,2]	NLP / YES	YES	N/A
151	290	1051	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	4.4 / 0.1	80.5	(a)(3)	2012	Y / Y	Leak (4/5/2012) / SCC[1]	NO / YES	YES	N/A
152	291	1054	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	6.8 / 0.3	80.5	(a)(3)	2012	Y / Y	Leak (3/18/1988) / SCC[1]	YES / NSLP	YES	N/A
153	292	1028	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	2.5 / 11.2	81.1	(a)(1)	2012	Y / Y	Leak (12/15/1944)	YES	YES	N/A
154	293	1028	973.44	0.312	454	52000	DSAW	COAL TAR ENAMEL	1964	3.5 / 10.1	81.1	(a)(1)	2012	Y / Y	Leak (12/15/1944)	YES	YES	N/A
155	294	1028	973.44	0.312	454	52000	DSAW	COAL TAR ENAMEL	1964	3.8 / 9.9	81.1	(a)(1)	2012	Y / Y	Leak (12/15/1944)	YES	YES	N/A
156	295	1110	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1948	4.4 / 0.3	80.5	(a)(3)	2012	Y / Y	Leak (2/17/2007) / SCC[1]	NLP / YES	YES	N/A
157	297	1110	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1948	4.3 / 0.0	80.5	(a)(3)	2012	Y / Y	Leak (2/17/2007) / SCC[1]	NLP / YES	YES	N/A
158	298	1063	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1948	0.0 / 7.3	80.5	(a)(3)	2012	Y / Y	Leak (2/17/2007) / SCC[1]	NLP / NSLP	YES	N/A
159	299	1035	858.62	0.344	567	52000	SAW	COAL TAR ENAMEL	1949	3.2 / 10.1	81.1	(a)(1)	2012	Y / Y	Leak (6/15/1969)	NLP	YES	N/A
160	300	1041	778.75	0.312	567	52000	EFW	COAL TAR ENAMEL	1952	4.4 / 0.2	80.5	(a)(3)	2012	Y / Y	SCC[1]	YES	YES	N/A
161	301	1041	778.75	0.312	567	52000	EFW	COAL TAR ENAMEL	1952	3.1 / 1.2	80.5	(a)(3)	2012	Y / Y	SCC[1]	YES	YES	N/A
162	302	1041	778.75	0.312	567	52000	EFW	COAL TAR ENAMEL	1952	4.4 / 0.0	80.5	(a)(3)	2012	Y / Y	SCC[1]	YES	YES	N/A
163	303	1082	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1952	0.0 / 7.3	80.5	(a)(1)	2012	Y / Y	SCC[1]	NSLP	YES	N/A
164	304	1082	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1952	0.1 / 7.3	80.5	(a)(1)	2012	Y / Y	SCC[1]	NSLP	YES	N/A
165	306	1082	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1952	6.9 / 0.3	80.5	(a)(1)	2012	Y / Y	SCC[1]	NSLP	YES	N/A
166	307	1071	936	0.375	567	52000	DSAW	COAL TAR ENAMEL	1964	3.4 / 10.1	81.1	(a)(1)	2012	Y / Y	Leak (5/15/1969)	NLP	YES	N/A
167	310	MP5	898.56	0.312	526	52000	DSAW	COAL TAR ENAMEL	1953	4.5 / 5.2	98.8	(c)	2012	Y / MP5	Leak (9/15/1962) / SCC[1]	YES / NSLP	YES	YES
168	311	MP5	898.56	0.312	526	52000	DSAW	COAL TAR ENAMEL	1953	6.3 / 3.4	98.8	(c)	2012	Y / MP5	Leak (9/15/1962) / SCC[1]	YES / NSLP	YES	YES
169	312	1414	973.44	0.312	506	52000	FW	COAL TAR ENAMEL	1950	1.0 / 6.1	20	(a)(3)	2012	Y / Y	Leak (10/15/1951)	YES	YES	N/A
170	313	1414	973.44	0.312	506	52000	FW	COAL TAR ENAMEL	1950	2.5 / 4.4	20	(a)(3)	2012	Y / Y	Leak (10/15/1951)	YES	YES	N/A
171	316	1406	973.44	0.312	506	52000	FW	COAL TAR ENAMEL	1950	1.9 / 6.9	20	(a)(3)	2012	Y / Y	Leak (3/15/1958)	YES	YES	N/A
172	317	1406	973.44	0.312	506	52000	FW	COAL TAR ENAMEL	1950	6.7 / 2.1	20	(a)(3)	2012	Y / Y	Leak (3/15/1958)	YES	YES	N/A
173	318	1180	936	0.25	416	52000	DSAW	FUSION BONDED EPOXY	1984	9.5 / 1.0	87.8	(a)(1)	2012	Y / Y	Leak (11/1/1983)	YES	YES	N/A
174	319	1180	936	0.25	416	52000	DSAW	FUSION BONDED EPOXY	1984	10.1 / 0.3	87.8	(a)(1)	2012	Y / Y	Leak (11/1/1983)	YES	YES	N/A

PHMSA No.	KM No.	Test Pressure (psig)	Pipe Design Pressure @ 0.72 (psig)	Pipe Wall Thickness (in)	PIR (ft)	Pipe Grade (psig)	Pipe Seam Type	Pipe Coating	Pipe Installation Date	Distance to MLV Upstream/ Downstream (mi)	Compressor Station Spacing (mi)	MAOP Established per 192.619	Aerial Photography	Material/ Pressure Test Documents	Leak/SCC/SSWC (w/i 20 mi of segment)	Segment Pressure Tested after Leak/SCC/SSWC	In-Line Inspected	MP5 only or MP5 record (to back up 'test')
175	320	1320	936	0.25	416	52000	DSAW	FUSION BONDED EPOXY	1984	2.4 / 7.1	87.8	(a)(1)	2012	Y / Y	Leak (11/1/1983)	YES	YES	N/A
176	322	1209	936	0.25	422	52000	DSAW	FUSION BONDED EPOXY	1984	3.8 / 1.1	87.8	(a)(1)	2012	Y / Y	Leak (11/1/1983)	YES	YES	N/A
177	323	1222	973.44	0.312	517	52000	FW	COAL TAR ENAMEL	1948	3.5 / 8.2	87.7	(a)(3)	2012	Y / Y	Leak (5/15/1978)	YES	YES	N/A
178	326	1222	973.44	0.312	507	52000	FW	COAL TAR ENAMEL	1948	0.8 / 9.2	87.7	(a)(3)	2012	Y / Y	Leak (5/15/1958)	YES	YES	N/A
179	327	1222	973.44	0.312	507	52000	FW	COAL TAR ENAMEL	1948	2.5 / 7.3	87.7	(a)(3)	2012	Y / Y	Leak (5/15/1958)	YES	YES	N/A
180	328	1244	990.72	0.344	565	52000	FW	TAPE- UNKNOWN BACKING	1959	10.0 / 7.5	89.1	(a)(3)	2012	Y / Y	Leak (12/15/1966)	YES	YES	N/A
181	329	1269	1246.15	0.375	541	60000	FW	COAL TAR ENAMEL	1966	7.0 / 3.5	89.1	(a)(2)	2012	Y / Y	Leak (12/15/1966)	YES	YES	N/A
182	330	1151	910.08	0.316	624	60000	DSAW	FUSION BONDED EPOXY	1972	4.8 / 7.5	89.1	(a)(1)	2012	Y / Y		N/A	YES	N/A
183	331	1151	910.08	0.316	624	60000	DSAW	FUSION BONDED EPOXY	1972	6.0 / 6.5	89.1	(a)(1)	2012	Y / Y		N/A	YES	N/A
184	334	1054	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	2.6 / 1.1	80.8	(a)(3)	2012	Y / Y	Leak (4/5/2012) / SCC[1]	NO / YES	YES	N/A
185	335	1054	750	0.25	454	50000	FW	COAL TAR ENAMEL	1944	4.3 / 0.0	80.8	(a)(3)	2012	Y / Y	Leak (4/5/2012) / SCC[1]	NO / YES	YES	N/A
186	336	1044	750	0.25	454	50000	FW	COAL TAR ENAMEL	1966	0.0 / 7.3	80.8	(a)(3)	2012	Y / Y	Leak (4/5/2012) / SCC[1]	NLP / NSLP	YES	N/A
187	340	1228	973.44	0.312	500	52000	FW	COAL TAR ENAMEL	1948	10.2 / 1.0	87.7	(a)(3)	2012	Y / Y	Leak (2/15/1969)	YES	YES	N/A
188	341	1024	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1952	8.8 / 0.5	91.7	(a)(1)	2012	Y / Y	Leak (7/15/1981)	NO	YES	N/A
189	342	993	778.75	0.312	567	52000	DSAW	FUSION BONDED EPOXY	1951	1.4 / 7.5	88.7	(a)(3)	2012	Y / Y	Leak (9/25/1995)	NO	YES	N/A
190	343	993	778.75	0.312	567	52000	DSAW	COAL TAR ENAMEL	1951	1.8 / 7.2	88.7	(a)(3)	2012	Y / Y	Leak (9/25/1995)	NO	YES	N/A
191	348	1302	974.88	0.4062	760	60000	FW	TAPE- UNKNOWN BACKING	1963	0.0 / 15.3	59.9	(a)(3)	2012	Y / Y		N/A	YES	N/A
192	360	1338	936	0.375	633	52000	DSAW	COAL TAR ENAMEL	1955	15.0 / 4.6	51.1	(a)(3)	2012	Y / Y	SCC[1]	YES	YES	N/A