



U.S. Department of Transportation
Pipeline and Hazardous Materials
Safety Administration

1200 New Jersey Ave., S.E.
Washington, D.C. 20590-0001

OCT 28 2010

Mr. J. A. Drake, P.E.
Vice President, Transmission Services
Spectra Energy Transmission, LLC
5400 Westheimer Court
Houston, TX 77056

Docket No. PHMSA-2008-0257

Dear Mr. Drake:

On September 11, 2008, and modified on December 22, 2008, and July 26, 2010, Texas Eastern Transmission, L.P. (TETLP), wrote to the Pipeline and Hazardous Materials Safety Administration (PHMSA) requesting a special permit to waive compliance from sections of 49 CFR §§ 192.112(a)(1), 192.112(c)(1), 192.112(c)(2), 192.112(c)(2)(i), 192.112(c)(2)(ii), 192.112(c)(2)(iii), 192.112(d)(2)(i), 192.112(f)(1), and 192.620(d)(5)(iii) in the Federal Pipeline Safety Regulations. This special permit will allow TETLP to increase the maximum allowable operating pressure (MAOP) of the special permit segments to the alternative MAOP design factors specified in 49 CFR § 192.620 of up to 80 percent (%) of the Specified Minimum Yield Strength (SMYS) in Class 1, 67% of SMYS in Class 2, and 56% of SMYS in Class 3 locations provided that certain alternative measures are implemented and numerous conditions and safety requirements are met as described in the Special Permit conditions.

This special permit is for a total of 267.48 miles of 36-inch pipeline, which consists of 97.94 miles of 36-inch Line 1 and 169.54 miles of 36-inch Line 2. These pipeline segments are located in Fayette, Somerset, Bedford, Fulton, Franklin, Adams, York, and Lancaster Counties, Pennsylvania.

PHMSA grants this special permit based on the findings set forth in the "Special Permit Analysis and Findings" document, which can be read in its entirety in Docket No. PHMSA-2008-0257 in the Federal Docket Management System (FDMS) located on the internet at www.Regulations.gov.

My staff would be pleased to discuss this special permit or any other regulatory matter with you. John Gale, Director of Regulations (202-366-4046), may be contacted on regulatory matters and Jeffery Gilliam, Director of Engineering, Research, and Development (202-603-1550), may be contacted on technical matters specific to this special permit.

Sincerely,

Jeffrey D. Wiese
Associate Administrator for Pipeline Safety

Enclosure: Special Permit

U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION (PHMSA)
Special Permit Analysis and Findings

Special Permit Information:

Docket Number: PHMSA-2008-0257
Requested By: Texas Eastern Transmission, L.P. [subsidiary of Spectra Energy]
Date Requested: September 11, 2008, and as modified on December 22, 2008, and July 26, 2010
Code Sections: 49 CFR §§ 192.112(a)(1), 192.112(c)(1), 192.112(c)(2), 192.112(c)(2)(i), 192.112(c)(2)(ii), 192.112(c)(2)(iii), 192.112(d)(2)(i), 192.112(f)(1), and 192.620(d)(5)(iii)

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides this information to describe the facts of the subject special permit application submitted by Texas Eastern Transmission, L.P., to discuss any relevant public comments received with respect to the application, to present the engineering/safety analysis of the special permit application, and to make findings regarding whether the requested special permit should be granted and if so under what conditions.

Pipeline System Affected:

This special permit request pertains to the Texas Eastern Transmission, L.P. (TETLP) 36-inch Line 1 and 36-inch Line 2 pipeline systems originating at the TETLP Uniontown, PA compressor station and ending as shown in Table 1 below. The TETLP 36-inch Line 1 and 36-inch Line 2 pipelines subject to this special permit are located in Fayette, Somerset, Bedford, Fulton, Franklin, Adams, York, and Lancaster Counties, PA. TETLP is a subsidiary of Spectra Energy. The *special permit segments* consist of 97.94 miles of 36-inch Line 1 and 169.54 miles of 36-inch Line 2 pipelines for a total mileage of 267.48 as outlined below in Table 1.

Pipeline Name and Location	Diameter	Begin MP	End MP	Total Miles
36-inch Line 1, Beginning at Uniontown, PA Compressor Station (CS) to MP 1090.32	36-inch	1035.12	1090.32	55.20
36-inch Line 1, Beginning at Bedford, PA CS and ending at MP 1136.65	36-inch	1093.91	1136.65	42.74
36-inch Line 2, Beginning at Uniontown, PA CS and ending at Marietta, PA CS	36-inch	1171.88	1341.42	169.54
			TOTAL	267.48

The pipeline *special permit segments* are comprised of 36-inch diameter pipelines with an existing maximum operating pressure (MAOP) of 1000 pounds per square inch gauge (psig) at 72% specified minimum yield strength (SMYS). The alternative MAOP will allow TETLP to operate at an 1112 psig MAOP, 80% SMYS, in the TETLP *special permit segments*.

Special Permit Request

TETLP petitioned PHMSA on behalf of its subsidiaries on September 11 and December 22, 2008, for a special permit seeking relief from the Federal pipeline safety regulations in 49 CFR §§ 192.112(a)(1), 192.112(c)(1), 192.112(c)(2), 192.112(c)(2)(i), 192.112(c)(2)(ii), 192.112(c)(2)(iii), 192.112(d)(2)(i), 192.112(f)(1), and 192.620(d)(5)(iii) to be able to operate at the alternative MAOP. There are no Class 4 locations along the pipelines. Section 192.111 contains the design factors an operator must use in the steel pipe design formula in § 192.105. The design factors limit the calculated design pressure of a steel pipeline segment such that the resulting hoop stress will not exceed a pre-determined fraction of the specified minimum yield strength (SMYS) of the pipe. The design factors are primarily based upon the population density along the pipeline segment and upon the location/facilities in which the pipeline segment is installed. The existing regulations for alternative MAOP Rule limits the design factor for Class 1 locations to 0.80, Class 2 locations to 0.67 and Class 3 locations to 0.56 for alternative MAOP, which would result in a design hoop stresses not to exceed 80% SMYS, 67% SMYS and 56% SMYS, respectively.

TETLP requested that the design factor for Class 1 locations along the existing TETLP pipelines be increased from 0.72 to 0.80, the design factor for Class 2 locations be increased from 0.60 to 0.67 and the design factor for Class 3 locations be increased from 0.50 to 0.56. This would allow TETLP to establish the maximum allowable operating pressure (MAOP) of the 1112 pounds per square inch gauge (psig), which is allowed when an operator meets the conditions of the alternative MAOP Rule.

Public Notice:

On January 23, 2009, PHMSA posted a notice of this special permit request in the Federal Register (74 FR 4298). On September 17, 2010, PHMSA posted a notice of the special permit request and draft environmental assessment in the Federal Register (75 FR 57104). PHMSA received four (4) comments on this special permit request. The request letter, Federal Register notice, and all other pertinent documents are available for review in Docket No. PHMSA-2008-0257 in the Federal Docket Management System (FDMS) located on the Internet at www.Regulations.gov.

Public Comments:

Four (4) comments were posted to Federal Register, Docket No. PHMSA-2008-0257. Two of the commenters were concerned with the safety margin of the pipeline if operated at the alternative MAOP, as related to public and environmental safety. One commenter was concerned with TETLP's notification of emergency plans and procedures to emergency responders and public officials. In grant of the Special Permit, PHMSA has required that 15 conditions be followed by the operator, in addition to 49 CFR Part 192 regulations, in order to operate at the alternative MAOP. Among these conditions, pipeline integrity and coating integrity requirements are made more stringent in order to meet or exceed the level of public and environmental safety. Assessment and mitigation requirements have more conservative thresholds and are run more frequently than for a pipeline operated at the standard MAOP. TETLP is required in § 192.615 – Emergency Plans - to maintain written and up-dated emergency procedures, and must establish, coordinate, and maintain communications with appropriate fire, police, and other public officials during gas pipeline emergencies.

Two commenters were concerned with mining subsidence, and the protection of these pipelines, however, one of the commenters notes that mining activities would not occur directly beneath the portion of the pipe being considered within this Special Permit. Also, one commenter was concerned with 1950's vintage pipe in mining areas. The pipelines subject to this special permit were constructed between 1989 and 2007 of more modern steel with good steel toughness properties. Further, the operator is required by 49 CFR Part 192 to consider and mitigate threats that would include potential ground instability, whether due to mining operations or other causes.

Analysis:

Special Permit Evaluation Criteria: On January 6, 2006, PHMSA published a notice in the Federal Register (71 FR 977) which announced a public meeting and issued a call for papers to seek public comment on raising the MAOP of certain natural gas transmission pipelines. On March 21, 2006, PHMSA conducted a public meeting where subject matter experts from across the U.S. and other countries presented papers describing technical issues and experiences with operating pipelines above 72% SMYS. As a result of these presentations, PHMSA developed criteria to evaluate the design, construction, pressure testing, operation and maintenance, and the integrity management (IM) of pipelines to be operated above 72% SMYS in Class 1 locations, 60% SMYS in Class 2 locations, and 50% SMYS in Class 3 locations. On December 22, 2008, PHMSA approved the alternative MAOP Rule and is now a part of 49 CFR Part 192. This special permit includes additional conditions intended to add safety related criteria to ensure the existing pipe is operated at an equivalent safety standard as a new pipeline designed, constructed, and operated in accordance with the alternative MAOP Rule.

PHMSA evaluated TETLP's alternative MAOP special permit request based upon the pipeline *special permit segment's* design, construction, hydrostatic pressure test data, operating and maintenance history, the operator's integrity management program, and alternative MAOP Rule requirements. Also, PHMSA looked at the special permit applications submitted prior to when the alternative MAOP Rule was placed into the 49 CFR Part 192 Regulations. PHMSA will only grant special permits when pipe conditions and active integrity management provide a level of safety equal to or greater than that required by the existing Federal pipeline safety regulations.

Any new pipeline segment that an operator seeks to operate above the existing limits for MAOP (and SMYS) must be designed, constructed, operated, and maintained according to specifications that include all the existing Federal pipeline safety regulations, plus additional specifications based on the MAOP special permit evaluation criteria. PHMSA reviewed the TETLP special permit application and pipeline history, and developed special permit conditions equivalent to the existing pipeline safety regulations for new pipelines. This helps to ensure the pipeline will be operated with equivalent safety.

TETLP Evaluation: The TETLP special permit application was reviewed by PHMSA and was found to address many of the general and significant criteria for an alternative MAOP special permit. However, to ensure the pipelines are designed and constructed to meet all of the criteria for an alternative MAOP special permit and to assure TETLP will operate the pipelines with equivalent or greater safety when compared to the existing Federal pipeline safety regulations, PHMSA will add numerous conditions to the special permit, if granted. That is, if granted, the TETLP special permit will contain numerous special permit conditions that TETLP must meet before PHMSA will allow operation above 72% SMYS in Class 1 locations, 60% in Class 2 locations, or 50% in Class 3 locations. Additionally, TETLP must meet the existing Federal pipeline safety regulations as well as the plans and specifications TETLP submitted to PHMSA in its original petition and in supplemental information, if any. [Note: In some cases, the special permit conditions may contradict the plans and specifications TETLP submitted. In case of a conflict, TETLP must follow the special permit conditions.]

Should PHMSA grant a special permit, it does so because this analysis shows that the *special permit segments* will meet the following:

- 1) TETLP's special permit application describes actions for the existing and future pipe replacements and operations and maintenance (O&M) plan to maintain the life cycle of the proposed pipelines addressing pipe and material quality, construction quality control, pipe coatings, girth weld coatings, strength testing, operations, maintenance, and integrity management. The aggregate affect of these actions provide for quality inspections, testing, and oversight of the pipelines to ensure the same level of operational safety as on a new alternative MAOP pipeline.

- 2) The additional conditions PHMSA will include in the special permit, if granted, require TETLP to inspect and monitor the pipelines over their operational life, similar to a new pipeline installed in accordance with the alternative MAOP Rule provisions; and
- 3) The additional conditions in a TETLP special permit will include:
 - a. All future pipe installations and all Operations and Maintenance (O&M) on the *special permit segments* must meet all sections of 49 CFR Part 192 for the alternative MAOP, except those sections waived by this special permit.
 - b. TETLP must re-inspect the pipeline to determine the in-service conditions of the *special permit segments* through assessment and remediation of the following: pipe coating damage through close interval surveys and DCVG or ACVG surveys over the *special permit segments*; depth of cover through surveys and remediation; girth weld coatings through direct assessments; cased crossings for shorts; monitoring of all pipe coating that operates above 120 degrees Fahrenheit; hydrostatically test the pipe where it does not meet § 192.611 requirements; implement an induced AC program to control induced AC from parallel electric transmission lines and other interference issues; run inline inspection (ILI) tools and where anomalies and dents are found, repaired the pipe based upon severity of the ILI results.
- 4) Special permit conditions will require a senior executive of TETLP to certify in writing that TETLP *special permit segments* meet the special permit conditions prior to operating at the alternative MAOP.
- 5) Lastly, to ensure TETLP meets all of these requirements, PHMSA will inspect and evaluate the TETLP special permit conditions. Should TETLP fail to comply with any of these requirements, PHMSA may revoke, suspend, or modify the special permit and require TETLP to meet the regulatory requirements in §§ 192.112(a)(1), 192.112(c)(1), 192.112(c)(2)(i), 192.112(c)(2)(ii), 192.112(c)(2)(iii), 192.112(d)(1), 192.112(f)(1), 192.620(d)(2)(i), and 192.620(d)(5)(iii).

Compliance History – 2000 through 2010: A review of PHMSA enforcement actions issued to TETLP (Operator Identification Number 19235) from January 1, 2000, through October 14, 2010, shows the following closed enforcement actions against TETLP with no open cases.

- Letters - of Concern or Warning - 9 matters

- Notices – of Amendment or of Probable Violation – 2 matters
- Collected Civil Penalties - \$24,542

TETLP's enforcement history indicates a few compliance concerns found during PHMSA inspections in the past 10-year interval, these compliance concerns have been properly closed to ensure safety.

Findings:

Based on the information submitted by TETLP, and PHMSA's analysis of the technical, operational, and safety issues, and given the additional measures required and conditions that will be imposed, PHMSA finds that granting a special permit with conditions to allow TETLP to design, construct, operate, and maintain the TETLP *special permit segment* pipelines, respectively, at a pressure corresponding to a hoop stress of up to 80% SMYS in Class 1 locations, 67% in Class 2 locations, and 56% in Class 3 locations is not inconsistent with pipeline safety.

OCT 28 2010

Completed in Washington DC on: _____

Prepared by: PHMSA Engineering, Research, and Development



OCT 28 2010

SPECIAL PERMIT

Docket Number: PHMSA-2008-0257
Requested By: Texas Eastern Transmission, L.P.
Date Requested: September 11, 2008, and modified on December 22, 2008,
and July 26, 2010
Code Sections: 49 CFR §§ 192.112(a)(1), 192.112(c)(1), 192.112(c)(2),
192.112(c)(2)(i), 192.112(c)(2)(ii), 192.112(c)(2)(iii),
192.112(d)(2)(i), 192.112(f)(1), and 192.620(d)(5)(iii)

Grant of Special Permit:

By this order, subject to the terms and conditions set forth below, the Pipeline and Hazardous Materials Safety Administration (PHMSA) grants this special permit to Texas Eastern Transmission, L.P.¹ (TETLP), waiving compliance from the sections of 49 CFR Part 192 listed above to operate natural gas transmission pipeline segments located in Fayette, Somerset, Bedford, Fulton, Franklin, Adams, York, Lancaster, Chester, Montgomery, and Bucks Counties, Pennsylvania in accordance with the alternative maximum allowable operating pressure (alternative MAOP) as described below.

Special Permit Segments:

PHMSA waives compliance from the sections of 49 CFR Part 192 listed above for TETLP's 36-inch Line 1 and 36-inch Line 2 pipeline systems originating at the TETLP Uniontown, PA compressor station and ending as shown in Table 1 below. The *special permit segments* are defined as TETLP 36-inch Line 1 and 36-inch Line 2 pipelines located in Fayette, Somerset, Bedford, Fulton, Franklin, Adams, York, Lancaster,

¹ TETLP is a subsidiary of Spectra Energy.

Chester, Montgomery and Bucks Counties, PA. The *special permit segments* consist of 97.94 miles of 36-inch Line 1 and 169.54 miles of 36-inch Line 2 pipelines for a total mileage of 267.48 as outlined below in Table 1.

Table 1 – TETLP TEMAX Project - Special Permit Segments - Mile Posts (MP)				
Pipeline Name and Location	Diameter	Begin MP	End MP	Total Miles
36-inch Line 1, Beginning at Uniontown, PA Compressor Station (CS) to MP 1090.32	36-inch	1035.12	1090.32	55.20
36-inch Line 1, Beginning at Bedford, PA CS and ending at MP 1136.65	36-inch	1093.91	1136.65	42.74
36-inch Line 2, Beginning at Uniontown, PA CS and ending at Marietta, PA CS	36-inch	1171.88	1341.42	169.54
			TOTAL	267.48

This special permit allows TETLP to operate the *special permit segments* at the alternative maximum allowable operating pressure (alternative MAOP) of 1112 pounds per square inch gauge (psig) for the TETLP. Presently, the *special permit segments* have a maximum allowable operating pressure (MAOP) of 1000 psig.

PHMSA grants this special permit based on the findings set forth in the “*Special Permit Analysis and Findings*” document, which can be read in its entirety in Docket No. PHMSA-2008-0257 in the Federal Docket Management System (FDMS) located on the internet at www.Regulations.gov.

Conditions:

PHMSA grants this special permit subject to the following conditions:

1. Design, Construction and Operations in accordance with 49 CFR Part 192:

All new pipe installed, relocated pipe, new pipe installed for class location changes and all Operations and Maintenance (O&M) on the TETLP pipeline *special permit segments* after issuance of this special permit must meet all requirements of 49 CFR Part 192. All existing pipeline *special permit segments* must meet the requirements of 49 CFR Part 192 with the exception of 49 CFR §§ 192.112(a)(1), 192.112(c)(1), 192.112(c)(2), 192.112(c)(2)(i), 192.112(c)(2)(ii), 192.112(c)(2)(iii), 192.112(d)(2)(i), 192.112(f)(1), and 192.620(d)(5)(iii) which are waived on the existing pipe in the *special permit segments* providing **Conditions 2 through 15** referenced below have been implemented prior to operating at the alternative MAOP pressure of 1112 psig.

2. Design Factor – Existing Pipelines: Existing pipe installed in the *special permit segments* in Class 1 locations may use a maximum design factor of 0.80, in Class 2 locations may use a maximum design factor of 0.67, and in Class 3 locations may use a maximum design factor of 0.56, except as stated in Condition 7 for high consequence areas (HCAs).

- a. Existing road and railroad crossing pipe in Class 1 and 2 locations may use a maximum design factor of 0.67 and 0.56, respectively, and Class 3 location road and railroad crossing pipe may use a maximum design factor of 0.56.
- b. New road crossings, railroad crossings, fabricated assemblies, meter stations and compressor stations must be designed using the existing design factors in 49 CFR §§ 192.111(b), (c) and (d).
- c. New pipe used for all pipeline relocations, repairs, and replacements must meet 49 CFR Part 192 for alternative MAOP including § 192.620(c)(6).

3. Depth of Cover: Existing TETLP pipeline *special permit segments* must have

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depth of cover surveys conducted and remediation measures completed prior to operating at the alternative MAOP to ensure that pipeline cover meets the requirements of 49 CFR § 192.328(c).

- a. Remediation measures to meet 49 CFR § 192.328(c)(1) must include: engineered solutions (rip-rap, matting, and concrete barriers), adding soil and regrading; adding markers; adding warning mesh or marker tape above the buried pipeline; increased communication with landowners and residents; and increased surveillance. Short distances, less than 200 continuous feet, where soil cover is over 30-inches deep, but less than 36-inches in soil cover, will not require remediation in accordance with this paragraph.
- b. Remediation measures to meet 49 CFR § 192.328(c)(2) in areas where deep tilling or other activities could threaten the pipeline, the top of the pipeline must be installed at least one (1) foot below the deepest expected penetration of the soil. TETLP may modify right-of-way agreements in these areas to restrict tilling or plowing, so there will not be tilling or plowing within one (1) foot of the pipeline.
- c. If future routine patrols (ground and aerial), observe conditions during maintenance, where farming, excavation, or construction activities are ongoing, or weather events indicate the possible loss of cover over the pipeline, TETLP shall perform a depth of cover study and remediate any shallow cover in accordance with **Condition 3(a)** within 60 days of each occurrence.
- d. Remediation measures must be submitted to the Director, PHMSA Eastern Region and the Director, PHMSA Engineering, Research, and Development for approval 21 days prior to implementation.

4. **Field Coating:** The coatings used on the existing pipeline in special permit segments and girth weld joints in the special permit segments must be non-shielding to cathodic protection (CP). In the event that the coating type is unknown or is known to shield CP for girth weld joints TETLP must conduct

evaluations in accordance with **Condition 4 (a), (b), (c), (d) and (e) below:**

- a. Complete a technical assessment of the existing shrink sleeves located in the special permit segments. The purposes of this assessment are to characterize the condition of shrink sleeves on the pipeline and to demonstrate the absence of any stress corrosion cracking (SCC) activity under the shrink sleeves. TETLP must implement a shrink sleeve management program that consists, at a minimum, of the following elements:
 - i. A minimum of 100 shrink sleeves must be excavated, examined, removed, and replaced with a non-shielding coating prior to operating at the alternative MAOP and/or December 31, 2010, whichever is first for indications of SCC. No shrink sleeves in the 2009 and 2010 excavations may have any indication of SCC² (SCC greater than a maximum of 15 percent wall loss and 2 inches critical length), if so then all remaining shrink sleeves in the *special permit segments* must be removed prior to operating at the alternative MAOP.
 - ii. After 2010, TETLP must remove a minimum of 50 shrink sleeves per year until all known shrink sleeves have been removed. All shrink sleeves must be removed within five (5) years from the issue date of the special permit³ and prior to the special permit being renewed for an additional five (5) year period in accordance with **Limitation 7**.
 - iii. In the event any SCC⁴ activity is found in any of the pipe girth

² SCC activity in shrink sleeve evaluations shall be defined as a maximum of 15 percent depth and 2-inches in length.

³ Shrink sleeves under large water crossings, wetlands, or directional bores with heavy wall pipe may be exempted provided a detailed engineering study can provide a technical justification that these remaining shrink sleeves will not pose an increased risk to the integrity of the pipeline and consequence to the surrounding environment and public safety. The five (5) year time period does not apply to shrink sleeves located in HCAs, Class 2 locations, and Class 3 locations as noted in Condition 4 (d) and (e).

⁴ For compliance with this special permit, TETLP must remove all shielding coatings for the particular and similar vintage pipe that shows SCC from the special permit segments and repair or replace the pipe that does not meet "footnote 2" criteria within 90 days of discovery of the non-compliant SCC.

welds with shrink sleeve excavations during assessments after operating at alternative MAOP, TETLP must remove all known shrink sleeves within one (1) year following the significant SCC finding⁵, and repair all or run an in-line inspection (ILI) tool capable of detecting and sizing SCC, and remove all significant SCC indentified by the ILI tool.

- iv. If a SCC ILI tool is utilized, TETLP must develop a remediation plan to respond to SCC indications. This plan must be submitted to the Director, PHMSA Eastern Region with a copy to the Director, PHMSA Engineering, Research, and Development, for approval prior to running the tool and raising the MAOP. Any shrink sleeve SCC finding that is: greater than 15 percent depth and 2-inches in length; or with 30 percent wall loss that is located in large water crossings, wetlands, or directional bores with heavy wall pipe must be removed within one (1) year or the pressure must be reduced below the alternative MAOP pressure for that section of pipe.
- v. In the event any SCC activity is found in one (1) or more excavations with SCC indications (15 percent depth and 2-inches in length) during the **Condition 4 (a)(i) excavations** (Total of 100: 50 in 2009 and 50 in 2010), TETLP must perform the following:
 1. Notify the Director, PHMSA Eastern Region and Director, PHMSA Engineering, Research, and Development of the finding within three (3) days.
 2. All identified shrink sleeves or other shielding coatings must be removed prior to operating at the alternative MAOP.

⁵ Shrink sleeves under large water crossings, wetlands, or directional bores with heavy wall pipe may be exempted provided a detailed engineering study can provide a technical justification that these remaining shrink sleeves will not pose an increased risk to the integrity of the pipeline and consequence to the surrounding environment and public safety. This footnote does not apply to shrink sleeves located in HCAs, Class 2 locations, and Class 3 locations as noted in Condition 4 (d) and (e).

- b. When high resolution MFL in-line inspections on the special permit segments are conducted in accordance with **Condition 11**, particular attention must be paid to all girth weld locations with unknown coating types or coatings known to shield CP. Any measureable metal loss indications (wall loss of 30 percent wall thickness) associated with girth weld locations with unknown coating types or coatings known to shield CP must be excavated and, if a shrink sleeve or any shielding coating is present, a SCC assessment must be performed within 90 days. If the resulting assessment identifies SCC, then TETLP must remove all known shrink sleeves within one (1) year following the finding, or run an in-line inspection tool capable of detecting and sizing SCC and repair all SCC findings above a maximum of 15 percent depth and 2-inches in length within one (1) year of the SCC finding.
- c. Corrosion growth rates beneath shielded coatings must be determined using vendor software designed to evaluate matching corrosion anomaly features. Subsequent in-line inspection reassessment intervals must be determined using this analysis method, but not less than four (4) calendar years (for the initial reassessment), not exceeding 54 months, or every five (5) calendar years (for subsequent reassessments), not exceeding 66 months. Until all shrink sleeves or other shielding coatings are removed, compressor station discharge sections with shrink sleeves must be ILI inspected and anomalies repaired on an interval of no less than four (4) calendar years (for the initial reassessment), not exceeding 54 months, or every five (5) calendar years (for subsequent reassessments), not to exceeding 66 months.
- d. All shielded coatings including shrink sleeves identified within *special permit segments* that are non-piggable must be removed prior to operating at the alternative MAOP.
- e. All shielded coatings including shrink sleeves identified within *special permit segments* that are within a HCA, Class 2 location, or Class 3 location must be removed within one (1) year of grant of this special

permit.

- f. TETLP must develop a technical report that will define the results from the in-line inspections, the excavation inspections, the corrosion growth model and the technical basis for determining the re-inspection frequency to monitor corrosion associated with shrink sleeves proactively. Results of this technical report must be submitted with the Annual Report in accordance with Condition 14.
- g. The results of the work conducted to comply with **Conditions 4 (a), (b), (c), (d) and (e)** must be submitted annually as required in **Condition 14** to the Director, PHMSA Eastern Region with a copy sent to the Director, PHMSA Engineering, Research, and Development.

5. **Cased Crossings:** TETLP must identify all casings within the *special permit segments* and identify any casings which are “metallically shorted” (the carrier pipe and the casing are in metallic contact) or “electrolytically coupled” (the casing is filled with an electrolyte) using a commonly accepted method such as the Panhandle Eastern, Pearson, DCVG, ACVG, or AC Attenuation.
- a. **Metallic Shorts:** TETLP must clear any metallic short on a casing in the *special permit segments* after the short is identified and prior to operating at the alternative MAOP.
 - b. **Electrolytic Couple:** TETLP must remove the electrolyte from the casing/pipe annular space on any casing in the *special permit segments* that has an electrolytic couple after the couple is identified and prior to operating at the alternative MAOP.
 - c. **All Shorted or Coupled Casings:** TETLP must install external corrosion control test leads as required to facilitate the future monitoring for shorted or coupled conditions (when access to a feature such as a casing vent pipe is available at the surface, test leads may not be necessary) and may then choose to fill the casing/pipe annular space with a high dielectric casing filler or other material which provides a corrosion inhibiting environment provided an assessment and all associated repairs were completed. This

work must be completed prior to operating at the alternative MAOP.

If TETLP identifies any electrolytically coupled casings within the *special permit segments*, they must monitor all casings within the *special permit segments* for couples at least once each calendar quarter, but at intervals not to exceed 100 days, for four (4) consecutive calendar quarters after the grant of this special permit. The intent is to identify through monitoring the calendar quarter(s) when electrolytically coupled casings are most likely to be identified. TETLP must then monitor all casings within the *special permit segments* at least once each calendar year during the calendar quarter(s) when electrolytic casing couples are most likely to be identified. Any casing shorts or couples found in the *special permit segments* at any time must be classified and cleared as explained above, within six (6) months of finding the casing short or couple.

6. **Temperature Control:** The compressor station discharge temperature must be limited to 120° Fahrenheit. A temperature above this maximum temperature of 120° Fahrenheit may be approved up to 150° Fahrenheit if TETLP's technical coating long-term operating tests show that the pipe coating will properly withstand the higher operating temperature for long-term operations. TETLP does not have a history of routine operation at temperatures exceeding 120° Fahrenheit. If the temperature exceeds 120° Fahrenheit, TETLP must also institute a coating monitoring program in these areas, using ongoing Direct Current Voltage Gradient (DCVG) surveys or Alternating Current Voltage Gradient (ACVG) surveys or other testing to demonstrate the integrity of the coating. This monitoring program and results must be provided to the Director, PHMSA Eastern Region, Director, PHMSA Regulations and the Director, PHMSA Engineering, Research, and Development at least 60 days prior to implementation of the increased temperature or special permit operations.

Compressor Discharge Temperature – operating above 120° F and up to 150° F maximum, FBE coating:

- a. TETLP must monitor coating and corrosion protection systems performance in areas where operating temperatures have exceeded or will exceed 120° F to provide additional data on the long-term durability and integrity of FBE coatings at these temperatures. CP current requirements and coating surveys with DCVG or ACVG will indicate if there is deterioration in the coating at the higher temperatures. TETLP may be approved by Director, PHMSA Eastern Region and Director, PHMSA Engineering, Research, and Development to run other technically equivalent surveys.
- b. DCVG or ACVG coating evaluation survey results must be addressed as specified in Condition 10.
- c. Holiday voltage tests (jeep) and coating adhesion tests must be performed at excavations.
- d. Disbonded or blistered coating (with cracking and other damage that will compromise cathodic protection) found during excavations must be removed, and new coating applied to restore the coating to at least its original dielectric and adhesion properties.
- e. Schedule – baseline coating assessment, and DCVG or ACVG must be completed within the two (2) year period prior to the increase in operating pressure, and after one (1) year, three (3) years, and in concert with ILI survey, both initial and second ILI Tool run (future ILI runs).
- f. Surface temperatures of the pipe must be monitored during winter and summer operating conditions at '0' miles and at a downstream mileage to assure that the surface temperatures do not exceed 120° F. If it is determined that the temperature at this point exceeds 120° F, the survey distance will be increased to the point where the temperature is below 120° F.
- g. TETLP must submit to Director, PHMSA Eastern Region with a copy sent to the Director, PHMSA Engineering, Research, and Development a summary report of any coating evaluation surveys and

excavation/remediation results with the Annual Report required under **Condition 14.**

- h. Repairs to fusion bond epoxy coatings must be with a compatible coating system that will bond together, be resistant to soil stresses, and not shield cathodic protection.
- i. If the results of the coating monitoring program show operating temperatures that are in excess of 120° F are causing coating degradation in excess of the coating degradation for pipe operating below 120° F, TETLP will install facilities or change operating conditions as needed to lower operating temperature below 120° F, within one (1) year of the findings.

7. Upgrading Existing Pipeline Segments: TETLP must meet the following criteria, prior to upgrading any existing pipeline *special permit segment* to an alternative MAOP above 72% SMYS in Class 1 locations, 60% SMYS in Class 2 locations, or 50% SMYS in Class 3 locations. Class 1, 2, and 3 locations, and HCAs in the *special permit segments* must meet the following conditions prior to operating at the alternative MAOP as follows:

- a. All existing pipeline *special permit segments* in Class 1, 2, and 3 locations must be hydrostatically tested to meet the requirements of 49 CFR § 192.620(a)(2)(ii).
- b. All pipeline *special permit segments* that have a change in class location from a Class 1 to Class 2 location or Class 2 to Class 3 location must meet the operating hoop stress and hydrostatic test requirements of 49 CFR § 192.611(a) for the alternative MAOP. All anomalies in Class location upgrades must be repaired to meet Condition 12 (includes excavating, evaluating, and repairing all “Repair Immediately” and “Repair within One Year” anomalies) prior to operating at the alternative MAOP.
- c. All pipeline *special permit segments* located in HCAs must not be operated above 72% specified minimum yield strength (SMYS). When future Class location and integrity management (IM) surveys, as required

in 49 CFR § 192.609 and 49 CFR Part 192, Subpart O, identify new HCAs in *special permit segments* that operate above 72% SMYS, the pipe must be replaced to ensure the design factor remains at 72% SMYS (0.72 design factor) or below. These pipe replacements must be completed within two (2) years of survey identification of new HCAs located in *special permit segments* operating above 72% SMYS.

8. **Interference Currents Control:** Control of induced Alternating Current (AC) from parallel electric transmission lines and other interference issues in the *special permit segments*, that may affect the pipeline must be incorporated into the operations of the pipeline and must be addressed. An induced AC and/or Direct Current (DC) program to protect the pipeline *special permit segments* from corrosion caused by stray currents must be in place prior to operating at the alternative MAOP.

9. **Initial Close Interval Survey (CIS):** TETLP must have performed a CIS on the pipeline in the *special permit segments* within the two (2) years immediately prior to the increase in operating pressure above the existing MAOP to the alternative MAOP. For all CIS readings that no longer meet 49 CFR Part 192, Subpart I, TETLP must remediate low cathodic protection (CP) in the *special permit segments* within six (6) months of the grant of this special permit and prior to operating at the alternative MAOP pressure. TETLP must integrate the CIS results with the In-Line Inspection (ILI) Tool results to determine whether any further action is needed.

10. **Coating Assessment:** To verify the pipeline coating conditions and to remediate any integrity issues, TETLP must comply with the following requirements:

- a. Prior to operating at the alternative MAOP, TETLP must verify pipeline coating conditions by performing either a DCVG⁶ or ACVG survey in all Class 2, Class 3 locations, and HCAs in the *special permit segments*.
 - i. Prior to operating at the alternative MAOP, TETLP must excavate, evaluate and repair/remediate:
 1. All Severe⁷ coating indications that are located in Class 2, Class 3, or HCAs, and that are aligned with any of the following conditions.
 - a. ILI indications of external corrosion greater than 10% through wall.
 - b. CIS areas that do not meet a CP criterion per Part 192, Subpart I.
 - c. ILI indications of dents greater than 4% but less than 5%, or with a strain 5% or greater.
 2. Some⁸ moderate coating indications that are located in Class 2, Class 3, or HCA areas, and that are aligned with any of the following conditions.
 - a. ILI indications of external corrosion greater than 10% through wall.
 - b. CIS areas that do not meet a CP criterion per 49 CFR Part 192, Subpart I.
 - c. ILI indications of dents greater than 4% but less than 5% with a strain 5% or greater
 3. Some of the remaining⁹ severe coating indications that are located in Class 2, Class 3, or HCAs but are not aligned with ILI, CIS or dent indications.

⁶ Where TETLP has performed both DCVG and/or ACVG surveys and a discrepancy exists regarding the severity, TETLP must provide a technical basis for using the lesser of the two readings.

⁷ A Severe coating indication is defined as having a DCVG value equal to or greater than 55% IR or an ACVG value of equal to or greater than 75 dB μ V. All other coating indications are defined as moderate.

⁸ "Some" in Condition 10 (a)(i)(2) means a statistically valid sample of not less than 20% of the aligned moderate coating indications.

- ii. After operating at the alternative MAOP, TETLP must excavate, evaluate and repair/remediate 25% of the remaining Severe coating indications in each year so that all Severe coating indications have excavated, evaluated and repaired/remediated within four (4) years from the issue date of this special permit and prior to any renewal of this special permit.

As noted above in **Condition 10 (a)**, TETLP must remediate and repair any damaged coating indications found during these assessments that are classified as severe (equal to or above 55% IR for DCVG surveys and equal to or above 75 dB μ V for ACVG surveys) as found in surveys between Uniontown and Marietta compressor stations. If during any of these coating surveys or excavations TETLP finds coating indications that threaten the integrity of the pipeline, TETLP must provide a technical justification to the Director, PHMSA Eastern Region (and appropriate local authorities) with a copy sent to the Director, PHMSA Engineering, Research, and Development for continuing to operate at the alternative MAOP. Such technical justification could be (but not limited to) a root cause analysis showing that the threat identified is unique and localized and not systemic.

- b. Within one (1) year of the special permit grant date, TETLP must perform in-line inspection (ILI) assessment of any portions of the *special permit segments* that have not been inspected with ILI in the preceding two (2) years prior to the granting of this special permit. For any such ILI assessment and any future ILI assessment, TETLP shall use ILI tools (both high resolution magnetic flux leakage (MFL), and either geometry or deformation tools). TETLP must remediate any conditions discovered from any ILI assessment in accordance with Condition 12 of the special permit. TETLP must reassess its pipelines with such ILI tools along the

⁹ “Some of the remaining” in Condition 10 (a)(i)(3) means a statistically valid sample of not less than 20% of the non-aligned severe coating indications.

entire length of the *special permit segments* in four (4) calendar years¹⁰ not exceeding 54 months, and thereafter every five (5) calendar years, not exceeding 66 months provided that the coating surveys performed show no further deterioration in coating condition. If there continues to be coating degradation, then the ILI and CIS interval shall remain at four (4) calendar years not to exceed 54 months.

- c. TETLP must perform close interval surveys (CIS) of the *special permit segments* in accordance with 49 CFR 192.620(d)(7)(iv)(A) in concert and integrated with future ILI assessments, within six (6) months of completion of such ILI assessments, and no less than initially in four (4) calendar years not exceeding 54 months, and thereafter every five (5) calendar years, not exceeding 66 months. For all CIS readings or areas that no longer meet 49 CFR Part 192, Subpart I, TETLP must remediate low cathodic protection (CP) in the *special permit segments* within six (6) months. Remediation shall include repair in accordance with Condition 12 of any conditions discovered, repair of any damaged pipe coating and/or CP system modifications necessary to ensure corrosion control in accordance with 49 CFR Part 192, Subpart I. Remediation of these areas shall be achieved such that the synchronously interrupted 'off' potentials are not below -900 mV and are not more negative than -1200 mV; or the 'on' potentials are not more negative than -3 volts with the protective current applied.
- d. TETLP must provide data integration from all surveys to the Director, PHMSA Eastern Region within 120 days of the completion of the ILI and CIS surveys. Data integration must include ILI surveys, CIS surveys, depth of cover surveys, rectifier readings, test point survey readings, AC/DC interference surveys, and pipe coating and anomaly evaluations from pipe excavations and pipe exposures from encroachments.

¹⁰ The 4-year anomaly reassessment period must be completed prior to submitting for a new special permit re-authorization in accordance with **Limitation 7** for this special permit.

- e. In the Annual Reports required under **Condition 14**, TETLP must provide to the Director, PHMSA Eastern Region, the Director, PHMSA Engineering, Research, and Development, and the Director, PHMSA Regulations, written documentation of:
 - i. All anomalies repaired or scheduled for repair in the preceding calendar year.
 - ii. Status of the cathodic protection (CP) system on the entire TETLP pipeline *special permit segments* and any changes, proposed changes, or actual changes to the CP system for the preceding two (2) calendar years.
- f. If any annual cathodic protection (CP) test station readings on the TETLP pipeline *special permit segments* fall below 49 CFR Part 192, Subpart I requirements, TETLP must take the following actions:
 - i. Within three (3) months of a low CP test station reading, perform CIS on each side of the affected test station to the next test station in either direction from the test site.
 - ii. Within 30 days of CIS readings that indicate low CP, perform a DCVG or ACVG survey in accordance with NACE RP 0502-2002, Appendix A, of all pipe locations where CIS results reveal CP levels below the requirements of 49 CFR Part 192, Subpart I.
 - iii. Within six (6) months of such low CP test station reading, remediate any low CP discovered from the CIS. Remediation shall include repair in accordance with **Condition 12** of any conditions discovered, repair of any damaged pipe coating, and modifications to corrosion protection system necessary to ensure corrosion control in accordance with 49 CFR Part 192, Subpart I, including repair of damaged pipe coating and/or CP system modifications.
 - 1. Conduct CIS, remediate, and repair any coating indication greater than 35 % IR found as a result of the DCVG (or 50 dB μ V on ACVG) surveys within six (6) months of discovery.

- iv. TETLP may not use high CP impressed currents, outside of -900 mVDC to -1200 mVDC with the protective current synchronously interrupted or more negative than -3.0 volts with the protective current applied to supplement damaged pipe coating.
- v. If factors beyond TETLP's control prevent the completion of any remediation within six (6) months, remediation must be completed as soon as practicable or a letter justifying the delay and providing the anticipated date of completion must be submitted to the Director, PHMSA Eastern Region, no later than the end of the six (6) months completion date.
- g. Within six (6) months of each CIS required by Condition 10 (c), TETLP must perform a depth of cover survey as described in Condition 3 for the *special permit area*. Within six (6) months of completion of each ILI required in Condition 10 (b), TETLP shall integrate the data from the depth of cover survey, CIS, and ILI assessments. If TETLP does not replace any loss of cover identified from the depth of cover surveys, within three (3) months of such survey, TETLP must provide an engineering assessment with alternative integrity solutions to the Director, PHMSA Eastern Region, for approval. TETLP shall implement any such alternative integrity solutions upon approval by the Director, or, if the Director disapproves of such solutions, proceed to replace any loss of cover.
- h. For all ILI runs, TETLP must perform a run-by-run analysis of the latest vs. the prior ILI runs highlighting any anomalies that have grown by a 10% increase in wall loss, 10% in length or width or a reduction in the safe pressure by 10%. In addition, TETLP must recalculate the corrosion growth rate and apply that rate along with tool tolerances to all safe pressure calculations and scheduled repair dates. Within four (4) months of running any ILI, TETLP must perform and submit such run-by-run analysis to the Director, PHMSA Eastern Region.

- i. For all ILI runs, TETLP must account for ILI tool tolerance and corrosion growth rates when scheduling response times and repairs. TETLP must record, and provide upon request, documentation and technical justification of the values used. TETLP must demonstrate ILI tool tolerance accuracy for each ILI tool run by usage of calibration excavations (minimum of five (5) excavations or known mitigated defects from previous excavations¹¹ for each ILI Tool run) and unity plots that demonstrate ILI tool accuracy for depth within +10% accuracy for 80% of the time. The unity plots must show: (i) actual anomaly depth versus predicted depth: and (ii) actual failure pressure/alternative maximum allowable operating pressure (alternative MAOP) versus predicted failure pressure/MAOP. Discovery of a condition is deemed to have occurred within 60 days of any ILI tool run (geometry, deformation or high resolution MFL).
- j. TETLP must take readings at each alternating current (AC) mitigation test coupon location every three (3) months, not to exceed 100 days, for the first five (5) years of operating at alternative MAOP and subsequently take semi-annual readings, not to exceed seven (7) months, with one reading during the calendar quarter of the known or anticipated highest voltage reading. TETLP must also take 24 hour recordings of AC interference voltages at three different AC interference coupon test stations each quarter in each AC mitigation area in conjunction with the test coupon readings. When TETLP subsequently takes semi-annual test coupon readings, then the 24 hour test readings are to be taken in conjunction with those test coupon readings. If there are any changes to the amount of electricity/current flowing in any of the co-located high voltage alternating current (HVAC) power lines, such as from additional generation, a voltage up rating, additional lines, or new or enlarged substations, TETLP must

¹¹ This will be allowed only when the ILI tool used has similar settings and magnetic flux used along with the same or upgraded software. Any changes to the tools, magnetic flux, setup, software and algorithms will require at least five (5) additional excavations to develop a 'unity' plot or chart.

perform an AC mitigation survey along the entire co-located pipeline right of way within six (6) months of any such change. TETLP must evaluate any interference greater than 20 Amps per meter squared with the most recent ILI results to determine remediation measures and must remediate any interference greater than 50 Amps per meter squared within six (6) months of the AC mitigation survey. Failure to timely complete this survey and remediation will require TETLP to reduce the pipeline pressure to the pre-special permit MAOP level, 1000 psig, until the survey and remediation has been completed and approved by the Director, PHMSA Eastern Region.

- k. At least once every five (5) calendar years not exceeding 66 months, TETLP must perform an engineering analysis on the effectiveness of the alternating current (AC) and direct current (DC) mitigation measures and must evaluate any AC interference between 20 and 50 Amps per meter squared. In evaluating such interference, TETLP shall integrate AC interference data with the most recent ILI results to determine remediation measures. If TETLP does not remediate AC interference between 20 and 50 Amps per meter squared, TETLP shall provide an engineering justification for not remediating such interference to the Director, PHMSA Eastern Region, who may accept or reject the justification and require remediation. Within three (3) months of the engineering analysis, TETLP shall remediate any AC interference greater than 50 Amps per meter squared. Remediation means the implementation of performance measures including, but not limited to, additional grounding along the pipeline to reduce interference currents. Any DC interference that results in CP levels that do not meet the requirements of 49 CFR Part 192, Subpart I, must be remediated within three (3) months of this evaluation.
- l. TETLP must install and perform continuous remote monitoring of all rectifiers on the pipe in the *special permit segments* within six (6) months of the date of grant of this special permit. The remote monitoring units will be set to alarm for a power outage, 25% drop in DC output voltage

and 25% drop in DC output current. The alarms may be set for a 6-hour delay to accommodate maintenance and short duration power outages. TETLP must investigate alarms received within seven (7) calendar days. Remediation must take place as soon as practical depending on the type of problem encountered with the rectifier unit but in less than two (2) months as a maximum. TETLP must install and monitor a remote reference cell to ensure that there is proper cathodic protection on the line in the vicinity of the rectifier.

11. Initial In-Line Inspection: TETLP must have performed an initial In-Line Inspection (ILI) of the pipeline in the *special permit segments* within the two (2) years immediately prior to operating at the alternative MAOP using a high-resolution magnetic flux leakage (MFL) tool and a deformation and/or geometry tool(s) (with sensing multi-finger calipers which contact the pipe internally, with a tolerance of +/- 1% accuracy for deformation tools, to find expanded pipe and dents). The results of the initial ILI must be integrated with the initial CIS and DCVG/ACVG surveys required in accordance with 49 CFR § 192.620(d) and **Conditions 9 and 10** of this special permit. TETLP must evaluate and repair all “Repair Immediately” and “Repair within One Year” anomalies in accordance with **Condition 12 below** prior to increasing the pressure above the existing MAOP to the alternative MAOP.

- a. The results of all deformation and geometry tool run results for expanded pipe and dents must be analyzed and submitted to the PHMSA Director, Eastern Region. TETLP must review with PHMSA Director, Eastern Region, the deformation and/or geometry tool reports. This analysis will consider pipe properties and property distributions, hydrostatic test pressures and reported test behavior, and pipe end to center variations. TETLP must evaluate and remediate all pipe prior to implementing the alternative MAOP in accordance with the guidelines in PHMSA document titled “Interim Guidelines for Confirming Pipe Strength in Pipe Susceptible to Low Strength” dated September 10, 2009, (“interim

guidelines”) in conducting deformation tool runs, evaluation, excavation and remediation. All expanded pipe “interim guidelines” are subject to change as new integrity information is acquired through pipe properties testing and research from this and other projects.

- b. TETLP must remove, replace, and metallurgically test all low strength pipe in accordance with **Condition 11 (a)**. TETLP must report all removals, replacements, and metallurgical tests for low strength pipe to the Director, PHMSA Eastern Region with a copy sent to the Director, PHMSA Engineering, Research, and Development prior to increasing the MAOP up to the alternative MAOP.

12. Anomaly Evaluation and Repair: All anomaly evaluations and repairs in the *special permit segments* for the life of this special permit, regardless of HCA status, must be performed, based upon the following:

- a. Anomaly Response Time: **Repair Immediately**
 - i. Any anomaly within a *special permit segment* operating up to 80% SMYS with either: (1) a failure pressure ratio (FPR) equal to or less than 1.1; (2) an anomaly depth equal to or greater than 60% wall thickness loss.
 - ii. Any anomaly within a *special permit segment* operating up to 67% SMYS with either: (1) an FPR equal to or less than 1.25; (2) an anomaly depth equal to or greater than 60% wall thickness loss.
 - iii. Any anomaly within a *special permit segment* operating up to 56% SMYS with either: (1) an FPR equal to or less than 1.4; (2) an anomaly depth equal to or greater than 60% wall thickness loss.
- b. Anomaly Response Time: **Repair Within One Year**
 - i. Any anomaly within a *special permit segment* operating at up to 80% SMYS with either: (1) an FPR equal to or less than 1.25; (2) an anomaly depth equal to or greater than 40% wall thickness loss.
 - ii. Any anomaly within a *special permit segment* operating at up to 67% SMYS with either: (1) an FPR equal to or less than 1.5; (2) an

- anomaly depth equal to or greater than 40% wall thickness loss.
 - iii. Any anomaly within a *special permit segment* operating at up to 56% SMYS with either: (1) an FPR equal to or less than 1.8; (2) an anomaly depth equal to or greater than 40% wall thickness loss.
 - iv. Removal of all shrink sleeves over girth welds with pipe wall loss of 30% or greater under the shrink sleeve
 - c. Anomaly Response Time: **Monitored Conditions**
 - i. Anomalies not requiring immediate or one-year repairs **per Condition 12 (a) and (b) above** must be reassessed according to 49 CFR Part 192, Subpart O reassessment intervals.
 - ii. Each anomaly not repaired under the immediate or one (1) year repair requirements must have a corrosion growth rate and ILI tool tolerance assigned per TETLP's Gas Integrity Management Program (IMP) to determine the maximum re-inspection interval.
 - d. Anomaly Assessment Methods
 - i. TETLP must confirm the remaining strength (R-STRENG) effective area method, R-STRENG - 0.85dL, and ASME B31G assessment methods are valid for the pipe diameter, wall, thickness, grade, operating pressure, operating stress level, and operating temperature. TETLP must use the most conservative method until confirmation of the proper method is made to PHMSA Headquarters and the PHMSA Director, Eastern Region.
 - ii. Dents in the pipe in the *special permit segments* must be evaluated using high resolution MFL and high resolution caliper or deformation ILI methods and repaired in accordance with the following table. TETLP will also integrate the results of the DCVG surveys with MFL and caliper or deformation tool ILI data to identify areas of potential mechanical damage.
 - 1. TETLP must excavate, evaluate, and repair (if required) a minimum of two (2) plain dents $\leq 5\%$ or $> 2\%$ OD Deep for each ILI Tool run for coating repair and cracking.

TETLP may elect to perform a technical study to evaluate the coating condition and pipe integrity as determined from these excavations, after the ILI reassessment and prior to submitting special permit renewal, and submit this report to the Director, PHMSA Eastern Region and the Director, PHMSA Engineering, Research, and Development for review. If this technical report demonstrates dents do not cause coating or pipe integrity concerns, the Director, PHMSA Eastern Region may waive or modify future excavation requirements. If TETLP elects to conduct a technical study, it must be conducted after completion of the first ILI reassessment, completion of excavations, and prior to submitting special permit renewal as required in **Limitation 7**.

2. TETLP must conduct a fatigue analysis of all in-service dents above 4% or with total strain above 4% after each high resolution MFL and high resolution caliper or deformation ILI evaluations. Dent fatigue analysis must include as a minimum the following:
 - a. Gross geometry of dent,
 - b. Orientation of dent,
 - c. Soil cover and type
 - d. Pressure and temperature, including cycles
 - e. Stress and strains caused by terrain

The overall remaining fatigue life of the dents must be either twice the designated remaining life of the pipeline or at least 500 years. In the event the fatigue analysis indicates a remaining life less than 500 years and is less than twice the designated remaining life of the pipeline, TETLP shall excavate and investigate a statistically representative sample of the most significant dents (per the analysis) and define their fitness for

service. TETLP must provide a technical report to PHMSA defining the test results, the fatigue analysis of the dents and the re-inspection plan (including frequency) to ensure fitness for service of all dents above 4% or with total strain above 4%.

3. TETLP must conduct a DCVG or ACVG survey and excavate, evaluate, and repair all dents above 4% depth with coating damage found that does not meet Condition 10 (f)(iii)(1) criteria.

Defect Type	Orientation	Required Response	
Dent Associated with Metal Loss ¹² , Cracks or Stress Risers	Top or Bottom	Immediate	
Plain Dent (any depth)	Top	1 Year Scheduled	
Plain Dent > 5 % OD Deep or that exhibits total strain > 5 %	Bottom	1 Year Scheduled	
Plain Dent ≤ 5 % OD Deep or that exhibits total strain ≤ 5%	Bottom	Monitored	
Plain Dent > 2% OD Deep Associated with Girth or Seam Weld	Top or Bottom	1 Year Scheduled	
Definitions			
<ol style="list-style-type: none"> 1. <u>Plain Dent</u> – Dent without metal loss or stress riser. 2. <u>Immediate Response</u> – Reduce pressure to 80% of the maximum pressure observed between the time the ILI was performed and receipt of the final report. To the extent possible, reduce operating pressure within five (5) days of finding, then review and implement safe digging pressure, perform excavation, evaluate deformation, and perform mitigation and repair as necessary. 3. <u>Scheduled Response</u> – Schedule excavation within an appropriate time frame based on the opinion of the SME (not to exceed 365 days). 4. <u>Monitored</u> – Catalog data for future monitoring. 			

e. Change in Class: Anomaly Repair

¹² “Metal loss” is defined as any gouges or any identified corrosion metal loss or any wall thickness loss amount, from any process including but not limited to mechanical damage, external corrosion, etc.

- i. TETLP may upgrade pipe in *special permit segments* in accordance with §§ 192.609 and 192.611 from a Class 1 location to a Class 2 location, or from a Class 2 location to a Class 3 location. These upgraded class location *special permit segments* must have all anomalies evaluated and repaired prior to operating at the alternative MAOP based upon the “original pipeline class location” and Condition 12.
- ii. TETLP must evaluate and repair all future class location changes from Class 1 location to Class 2 location and Class 2 location to Class 3 location in accordance with § 192.611, based upon the “original pipeline class location” and Condition 12.

13. **Controlling Internal Corrosion:** For low volume, less than 1 MMCFD, natural gas receipt tie-ins to the *special permit segments*, TETLP may use a dual channel gas analyzer for moisture and carbon dioxide measurement instead of a chromatograph specified in 49 CFR § 192.620 (d)(5)(iii) for a maximum of five (5) receipt tie-ins.

- a. Gas and moisture analyzers must continuously monitor the gas stream and must be calibrated on a monthly basis using a certified sample.
- b. Hydrogen sulfide in these natural gas receipt tie-ins must be less than or equal to 8 ppm and sampled on a quarterly basis. If hydrogen sulfide concentrations exceed 8 ppm, TETLP must start continuous monitoring of hydrogen sulfide.

14. **Annual Reporting:** TETLP must report the following to the Director, PHMSA Eastern Region, the Director, PHMSA Engineering, Research, and Development and the Director, PHMSA Regulations annually¹³:

¹³ Annual reports must be received by PHMSA by the last day of the month in which the Special permit is dated. For example, the annual report for a Special Permit dated August 4, 2010, must be received by PHMSA no later than August 31st each year beginning in 2011.

- a. The results of ILI or direct assessment results performed within the *special permit segments* during the previous year;
- b. The results of shrink sleeve assessments performed within the *special permit segments* during the previous year;
- c. A list of all repairs on the pipeline in the *special permit segments* made during the previous year;
- d. The status of the CP system, any changes made to the CP system during the previous year and any proposed changes, as specified in Condition 10(d);
- e. Any new integrity threats identified within the *special permit segments* during the previous year;
- f. The number of new residences, other structures for human occupancy and public gathering areas built within the *special permit segments*;
- g. Any class or HCA changes in the *special permit segments* during the previous year;
- h. Any reportable incidents associated with the *special permit segments* that occurred during the previous year;
- i. Any leaks on the pipeline in the *special permit segments* that occurred during the previous year;
- j. On-going damage prevention initiatives on the pipeline in the *special permit segments* and a discussion of their success or failure; and
- k. Any company mergers, acquisitions, transfers of assets, or other events affecting the regulatory responsibility of the company operating the pipeline to which this special permit applies.

15. **Certification:** A senior executive officer of TETLP must certify in writing the following:

- a. That the TETLP pipeline meets the conditions described in this special permit and 49 CFR Part 192 for the *special permit segments*,
- b. TETLP has maintained the following records for each *special permit segment*:

- i. Documentation showing that each *special permit segment* has received a 49 CFR § 192.505, Subpart J, hydrostatic test for 8 continuous hours and at a minimum pressure as required by **Condition 7** of this special permit. If TETLP does not have hydrostatic test documentation, then the *special permit segment* must be hydrostatically tested to meet this requirement within one year of receipt of this special permit in accordance with 49 CFR Part 192 and prior to operating at the alternative MAOP.
 - ii. Documentation (mill test reports) certifying that the pipe in each *special permit segment* meets the requirements for wall thickness, yield strength, ultimate tensile strength and chemical composition of either the American Petroleum Institute Standard 5L, 5LX or 5LS, “Specification for Line Pipe” (API 5L) approved by the 49 CFR Part 192 code at the time of manufacturing or if pipe was manufactured and placed in-service prior to the inception of 49 CFR Part 192, that the pipe meets the API 5L standard in use at that time. Any *special permit segment* that does not have mill test reports for the pipe cannot be authorized per this special permit.
 - iii. Documentation of compliance with all conditions of this special permit must be retained for the applicable life of this special permit for the referenced *special permit segments*.
- c. TETLP must notify the PHMSA Director, Eastern Region, at least 14 days prior to conducting all field activities for **Conditions 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12** of this special permit in the *special permit segments*.
 - d. That the written manual of O&M procedures for the TETLP pipeline has been updated to include all additional operating and maintenance requirements of this special permit and 49 CFR Part 192 applicable sections; and
 - e. That TETLP has reviewed and modified its damage prevention program relative to the TETLP pipeline to include any additional elements required by special permit.

TETLP must send a copy of the certification, with the required senior executive signature, and date of signature to the PHMSA Director, Eastern Region at least 60 days prior to operating the TETLP pipeline *special permit segments* at the alternative MAOP.

Limitations:

PHMSA grants this special permit subject to the following limitations:

- 1) PHMSA has the sole authority to make all determinations on whether TETLP has complied with the specified conditions of this special permit.
- 2) Failure to submit the certifications required by **Condition 15** within the time frames specified therein will result in automatic revocation of this special permit.
- 3) Should TETLP fail to comply with any of the specified conditions of this special permit, PHMSA may revoke this special permit and require TETLP to comply with the regulatory requirements in 49 CFR §§ 192.112 and 192.620.
- 4) PHMSA may revoke, suspend or modify a special permit based on any finding listed in 49 CFR § 190.341(h)(1) and require TETLP to comply with the regulatory requirements in 49 CFR §§ 192.112 and 192.620.
- 5) Should PHMSA revoke, suspend or modify a special permit based on any finding listed in 49 CFR § 190.341(h)(1), PHMSA will notify TETLP in writing of the proposed action and provide TETLP an opportunity to show cause why the action should not be taken unless PHMSA determines that taking such action is immediately necessary to avoid the risk of significant harm to persons, property or the environment (see 49 CFR § 190.341(h)(2)).
- 6) The terms and conditions of any corrective action order, compliance order or other order applicable to a pipeline facility covered by this special permit will take precedence over the terms of this special permit in accordance with 49 CFR § 190.341(h)(4).
- 7) PHMSA grants this special permit for a period of no more than five (5) years from the grant date. If TETLP elects to seek renewal of this special permit, TETLP must submit its renewal request at least 180 days prior to expiration of the five (5) year period to the PHMSA Associate Administrator for Pipeline Safety with copies to the

Director, PHMSA Eastern Region, Director, PHMSA Regulations and the Director, PHMSA Engineering, Research and Development. PHMSA will consider requests for a special permit renewal for up to an additional five (5) year period. All requests for a special permit renewal must include a summary report in accordance with the requirements in **Condition 14** above and must demonstrate that the special permit is still consistent with pipeline safety. PHMSA may seek additional information from TETLP prior to granting any request for special permit renewal.

AUTHORITY: 49 U.S.C. 60118 (c)(1) and 49 CFR § 1.53.

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