U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
Special Permit Analysis and Findings
Class 1 to 3 Location

Special Permit Information:

Docket Number:	PHMSA-2008-0331
Requested By:	Columbia Gas Transmission, LLC
Operator ID#:	2616
Original Issuance Date:	March 2, 2010
1st Renewal Issuance Date:	October 9, 2015
2nd Renewal Issuance Date:	March 31, 2022
Renewal Effective Dates:	March 31, 2022 to March 31, 2032
Code Section(s):	49 CFR 192.611(a)

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS),[1] provides this information to describe the facts of the subject special permit application submitted by Columbia Gulf Transmission, LLC (TCO),[2] to discuss any relevant public comments received with respect to the application, to present the engineering and 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. TCO requested that PHMSA waive compliance from the 49 Code of Federal Regulations (CFR) 192.611 for natural gas transmission pipeline segments, where the class location has changed from a Class 1 to a Class 3 location.

[1] Throughout this special permit the usage of "PHMSA" or "PHMSA OPS" means the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration Office of Pipeline Safety.

[2] TCO is a wholly-owned subsidiary of TC Energy.

Pipeline System Affected:

This special permit application applies to the TCO request for a waiver of the Class location change requirements in 49 CFR 192.611 for 21,022 feet (approximately 3.981 miles) of the 30-inch diameter gas transmission SM80 and SM80 Loop Pipelines located in Putnam and Kanawha Counties, West Virginia. This special permit will allow TCO to continue operating the ***special permit segments*** as defined below at a maximum allowable operating pressure (MAOP) of 920 pounds per square inch gage (psig) and 935 psig on the 30-inch diameter SM80 and SM80 Loop Pipelines.[3]

Special Permit Request:

On October 15, 2019, TCO applied to PHMSA for a renewal of an existing special permit seeking relief from 49 CFR 192.611 for the below-listed ***special permit segments***, where a class location change occurred from the original Class 1 to Class 3 location in Putnam and Kanawha Counties, West Virginia.

This special permit includes the renewal of a previous special permit granted to TCO that covered many of the same ***special permit segments*** with updated conditions, extensions of ***special permit segments*** that were included in the previous special permit and includes new ***special permit segments*** added to the renewed special permit.

This special permit applies to the ***special permit segments*** and ***special permit inspection areas*** described and defined as follows, using the TCO survey station references:

Special Permit Segments:

This proposed special permit applies to the ***special permit segments*** in **Table 1 – Special Permit Segments** and are identified using the TCO survey station (SS) references.

[3] ***Special permit segments 3 and 10*** have MAOPs of 935 psig. ***Special permit segments 4, 5, 6, 7, 8, and 9*** have MAOPs of 920 psig.

Table 1 – Special Permit Segments											
Special Permit Segment Number[4]	Segment Type[5, 6]	Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (SS)	End Survey Station (SS)	County, State	Year Installed	Seam Type	MAOP (psig)[7]	Material - Condition 13(d) Required (Yes)
3	Active	30	SM80	4,577	1957+32	2003+09	Putnam, WV	1955	DSAW	935	
4	Active	30	SM80	722	2530+34	2537+56	Putnam, WV	1955	DSAW	920	
5	Active	30	SM80	4,768	2687+17	2734+85	Putnam, WV	1955	DSAW	920	
6	Active	30	SM80 Loop	5,049	2762+58	2813+07	Putnam, WV	1968	DSAW	920	Yes[8]
7	New	30	SM80	891	2773+23	2782+14	Putnam, WV	1955	DSAW	920	
8	New	30	SM80	2,295	2813+61	2836+56	Putnam, WV	1955	DSAW	920	
9	New	30	SM80	1,652	3013+82	3030+34	Kanawha, WV	1955	DSAW	920	
10	New	30	SM80 Loop	1,068	2047+14	2057+82	Putnam, WV	1969	DSAW	935	Yes

Note: DSAW is double submerged arc welded longitudinal seam pipe.

Special Permit Inspection Areas:

The ***special permit inspection areas*** are defined as the areas that extends 220 yards on each side of the centerline as listed in **Table 2 – Special Permit Inspection Areas**.

Table 2 – Special Permit Inspection Areas						
Special Permit Inspection Area Number	Special Permit Segment(s) Included	Outside Diameter (inches)	Line Name	Start Survey Station (SS)	End Survey Station (SS)	Length[9] (miles)
1	3, 4, 5, 7, 8, 9	30	SM80	219+69	3030+88	53.4
2	6, 10	30	SM80 Loop	251+59	3094+43	53.8

[4] ***Special permit segments 1 and 2*** in the original PHMSA-2008-0331 Special Permit have been replaced with Class 3 compliant pipe and have been removed from this special permit renewal.

[5] "Active" ***special permit segments*** are "currently managed" by a special permit and are to be renewed with the issuance of this special permit.

[6] "New" ***special permit segments*** are pipeline segments that are being added to the special permit through the renewal process which includes a Federal Register notice and the issuance of a Final Environmental Assessment and Finding of No Significant Impact.

[7] Pressure tests were conducted after July 1, 1965, see 49 CFR 192.619(a)(3) for applicability.

[8] TVC material records for 4,980 feet of the original pipe installed in 1968 located at 2762+58 to 2764+86, 2765+11 to 2771+95, 2772+18 to 2800+57, and 2800+78 to 2813+07 were not provided.

[9] If the ***special permit inspection area*** footage does not extent from launcher to receiver then the ***special permit inspection area*** would need to be extended.

The ***special permit inspection areas*** are in Putnam, Kanawha, Cabell, and Wayne Counties, West Virginia.[10] **Figures 1 through 5** are maps showing the 30-inch diameter SM80 and SM80 Loop Pipelines ***special permit segments***, ***special permit inspection areas***, and class locations.

Public Notice:

On November 5, 2020, PHMSA posted a notice of this special permit request in the Federal Register (85 FR 70710) with a closing date of December 7, 2020. PHMSA received no public comments concerning this special permit request through December 7, 2020.

PHMSA has reviewed this special permit application to ensure the special permit conditions address pipeline safety and integrity threats to the pipeline in the ***special permit segments*** and ***special permit inspection areas***. The special permit will require TCO's Operations and Maintenance (O&M) Manual and Procedures to provide a systematic program to review and remediate the pipeline for safety concerns. Additional operational integrity reviews and remediation requirements will be required by this special permit for this ***special permit segments*** for Class 1 to 3 location changes or Class 2 to 3 location changes.

The TCO special permit application letter, Federal Register notice, Final Environmental Assessment (FEA) and Finding of No Significant Impact (FONSI), and all other pertinent documents are available for review in Docket No. PHMSA-2008-0331 in the Federal Docket Management System (FDMS) located on the internet at www.Regulations.gov.

Analysis:

Background: On June 29, 2004, PHMSA published in the Federal Register (69 FR 38948) the criteria it uses for the consideration of applications for class location change waivers, now being granted or denied through a special permit. First, certain threshold requirements should be met on a pipeline ***special permit segment*** for a class location change special permit to be granted. 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 No. PHMSA–RSPA-2004-17401. Third,

[10] The special permit inspection areas include the special permit segments.

special permits will only be granted when pipe conditions and active integrity management provides a level of safety greater than or equal to a pipe replacement or pressure reduction. The operator's Federal pipeline safety regulation compliance history is also evaluated as part of the criteria matrix for acceptability prior to issuance of a special permit.

Threshold Requirements: Each of the threshold requirements published by PHMSA in the June 29, 2004, Federal Register notice is discussed below regarding the TCO special permit request.

- No pipeline segments in a class location changing to Class 4 location will be considered.
    - This special permit request is for ***special permit segments*** on the TCO 30-inch diameter SM80 and SM80 Loop Pipelines, where a change has occurred from a Class 1 location to a Class 3 location.
    - TCO meets this requirement.
- No bare pipe will be considered.
    - The TCO ***special permit segments*** are externally coated with coal tar enamel. TCO has met this requirement of no bare pipe.
    - TCO has not reported any coating issues such as disbonded coating.
- No pipe containing wrinkle bends will be considered.
    - There are no wrinkle bends in the ***special permit segments***.
    - TCO has met this requirement.
- No pipe segments operating above 72% of the specified minimum yield strength (SMYS) will be considered for a Class 3 special permit.
    - The ***special permit segments*** operate at or below 72% SMYS.
    - The pipe for the ***special permit segments*** on the SM80 Pipeline is 30-inch diameter, 0.375-inch wall thickness, and pipe yield strength of 52,000 psig. The pipe seam is a double submerged arc-welded seam and was manufactured by National Tube in 1955.
    - The pipe for the ***special permit segments*** on the SM80 Loop Pipeline is primarily 30-inch diameter, 0.300-inch wall thickness, and pipe yield strength of 65,000 psig. The pipe seam is a double submerged arc-welded seam and was manufactured by Republic in 1968.
    - TCO has met this requirement.

- Records must be produced that show a hydrostatic test to at least 1.25 x MAOP and 90% of SMYS.
    - The ***special permit segments*** have been tested to at least 1.25 times the MAOP.
    - TCO has met this requirement.
- In-line inspection (ILI) must have been performed with no significant anomalies identified that indicate systemic problems such as stress corrosion cracking (SCC).
    - TCO ran ILI tools on the SM80 Pipeline in 2020 with a planned inspection in 2025 and conducted one (1) excavation and zero (0) repairs with four (4) digs planned in the ***special permit inspection area***.
    - TCO ran ILI tools on SM80 Loop Pipeline in 2020 with a planned inspection in 2025 and conducted one (1) excavation and zero (0) repairs with six (6) digs planned in the ***special permit inspection area***.
    - TCO has found a minor SCC indication on the SM80 Loop Pipeline during an external corrosion excavation. Due to the coating type, and operational and environmental conditions of the pipeline, TCO has evaluated the ***special permit segments*** and ***special permit inspection areas*** as being susceptible to near-neutral SCC.
    - SCC is a significant safety threat; therefore, TCO will need to conduct SCC assessments to meet this requirement.
- Criteria for consideration of a class location change waiver, being considered through the special permit, published by PHMSA in the Federal Register (69 FR 38948), define a *waiver inspection area (**special permit inspection area**)* as up to 25 miles of pipe on either side of the *waiver segment (**special permit segment**)*.
    - A special permit would be contingent upon TCO's incorporation of the ***special permit segments*** in its written integrity management program as covered segments in a high consequence area in accordance with 49 CFR 192.903 and to assess and remediate threats to the ***special permit inspection areas***.

Criteria Matrix: The data submitted by TCO for the ***special permit segments*** has been compared to the class location change special permit criteria matrix. The data fall within the

probable acceptance or the possible acceptance column of the criteria matrix, except for PHMSA enforcement findings which fall under the *requires substantial justification*.

- The ***special permit segments*** fall in the *probable acceptanc*e column of the criteria matrix for:
    - Design stress, pipe material, depth of pipe cover, test pressure, test failures, type service, pressure fluctuations, safety related conditions, direct assessment, ILI type, ILI program, and damage prevention program.
- The ***special permit segments*** fall in the *possible acceptanc*e column of the criteria matrix for:
    - Class 1 to 3 location, pipe manufacturer, pipe coating type (may shield cathodic protection (CP), local geology, leaks and failures, CP, and HCA program.
- The ***special permit segments*** fall in the *requires substantial justification* column of the criteria matrix for:
    - Pipe girth welds records are not available;
    - The coating type may shield CP when disbonded causing SCC;[11] and
    - Inspection findings (Enforcement History) – PHMSA enforcements are in the "Past Enforcement History – January 1, 2011 through June 21, 2021" section below.

Operational Integrity Compliance:

To inform PHMSA's decision about whether a special permit could provide a level of safety greater than or equal to a pipe replacement or pressure reduction and is consistent with pipeline safety, PHMSA reviewed this special permit request to understand the known type of integrity threats that are in the ***special permit segments*** and ***special permit inspection areas***. This integrity information was used to design special permit conditions to provide a systematic program to review and remediate the pipeline for safety concerns. Additional operational integrity review and remediation requirements are required by this special permit to ensure that the operator has an ongoing program to locate and remediate safety threats. These threats to integrity and safety include any issues with the pipe coating quality, cathodic protection

[11] Two (2) types of SCC are found on pipelines: High pH (9 to 11) SCC and near-neutral pH (6 to 8) SCC. Coal tar and asphalt coatings that are disbonded are more prone to having SCC.

effectiveness, operations damage prevention program, pipe depth of soil cover, weld seam and girth weld integrity, anomalies in the pipe steel and welds, and material and structures either along or near the pipeline that could cause the cathodic protection system to be ineffective. PHMSA has carefully designed a comprehensive set of conditions that TCO must implement to comply with this special permit.

Past Enforcement History – January 1, 2011 through June 21, 2021:

From January 1, 2011, through June 21, 2021, TCO was cited in forty (40) enforcement actions with a total of $752,400 in assessed civil penalties. PHMSA initiated one (1) Corrective Action Order, eleven (11) Notices of Amendment, thirteen (13) Notices of Probable Violation, three (3) Safety Orders, and twelve (12) Warnings Letter against TCO. TC Energy acquired TCO in 2016. Since TC Energy became owner of TCO, PHMSA has issued five (5) Notice of Amendments, one (1) Notice of Probable Violations, one (1) Safety Order, and eight (8) Warning Letters with a total of $47,500 in collected penalties to TC Energy on the TCO pipeline system.

Tables 3 and 4 below show PHMSA enforcement actions and civil penalties for TCO:

Table 3: TCO Enforcement Matters from January 1, 2011, through June 21, 2021

Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	1	11	12	3	12	39
OPEN	0	0	1	0	0	1
Total	1	11	13	3	12	**40**

Table 4: TCO Enforcement Civil Penalty Status January 1, 2011 through June 21, 2021

Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected
$879,200	$0	$752,400	$126,800	$752,400

From January 1, 2011, through June 21, 2021, PHMSA initiated the enforcement cases outlined in **Tables 5 and 6** against the four (4) pipeline companies owned by TC Energy, the operator of TCO. TC Energy owns the ANR Pipeline Company (ANR), Columbia Gas Transmission, LLC

(TCO), Columbia Gulf Transmission, LLC (CGT), and Great Lakes Gas Transmission Company (GLGT) pipeline systems (Operator identification #s (OPID#) 405, 2616, 2620, and 6660). TC Energy acquired the TCO and CGT pipeline systems in 2016.

Table 5: Enforcement Matters from January 1, 2011 through June 21, 2021 For ANR, TCO, CGT, and GLGT						
Status	**Corrective Action Order**	**Notice of Amendment**	**Notice of Probable Violation**	**Safety Order**	**Warning Letter**	**Total**
CLOSED	3	17	23	3	21	67
OPEN	0	0	3	0	0	3
Total	3	17	26	3	21	**70**

Table 6: Enforcement Civil Penalty Status for ANR, TCO, CGT, and GLGT January 1, 2011 through June 21, 2021				
Proposed	**Awaiting Order**	**Assessed**	**Withdrawn/Reduced**	**Collected**
$1,881,600	$0	$1,678,000	$203,600	$1,678,000

The type of 49 CFR Part 192 enforcement violations against TC Energy on these four (4) pipeline systems from 2011 through 2021 were as follows: 49 CFR, 190.203, 191.15, 191.17, 191.22, 191.23, 191.25, 191.5, 192.107, 192.12, 192.161, 192.163, 192.167, 192.171, 192.201, 192.225, 192.227, 192.241, 192.303, 192.305, 192.309, 192.319, 192.455, 192.463, 192.465, 192.467, 192.471, 192.473, 192.475, 192.477, 192.479, 192.481, 192.491, 192.503, 192.505, 192.603, 192.605, 192.609, 192.612, 192.615, 192.616, 192.619, 192.620, 192.625, 192.631, 192.703, 192.705, 192.707, 192.709, 192.711, 192.727, 192.731, 192.735, 192.736, 192.739, 192.743, 192.745, 192.751, 192.805, 192.905, 192.907, 192.909, 192.911, 192.929, 192.933, 192.935, 192.949, 193.2011, 193.2017, 193.2503, 193.2509, 193.2513, 193.2605, 193.2609, 193.2637, 193.2801, 193.2903, 199.105, and 199.225.

Findings:

Based on the information submitted by TCO and PHMSA's analysis of the technical, operational, and safety issues, PHMSA finds that granting this special permit to TCO to operate ***special permit segments*** on the 30-inch diameter SM80 and SM80 Loop Pipelines located in Putnam and Kanawha Counties, West Virginia, is consistent with pipeline safety.

TCO's enforcement record since 2016 does not reflect sustained and substantial noncompliance with 49 CFR Part 192. PHMSA has designed special permit conditions to effectively assess and remediate threats to the ***special permit segments*** and ***special permit inspection areas***, including assessments to evaluate pipe girth welds that have not been non-destructive tested, and SCC. To ensure TCO properly implements the special permit conditions, TCO will be required to give PHMSA an annual review of their compliance with the special permit.

PHMSA finds that no significant negative impact to human safety and the environment will result from the issuance and full implementation of a special permit that waives the requirements of 49 CFR 192.611 for class location changes to a Class 3 location. This permit requires TCO to implement the special permit conditions that include safety requirements on the operations, maintenance, and integrity management of the ***special permit segments*** and the ***special permit inspection areas***.

Completed in Washington DC on: **March 31, 2022**
Prepared by: PHMSA - Engineering and Research Division

Figure 1 – TCO 30-inch diameter SM80 and SM80 Loop Pipelines - Route Map
Special Permit Segments and Inspection Areas

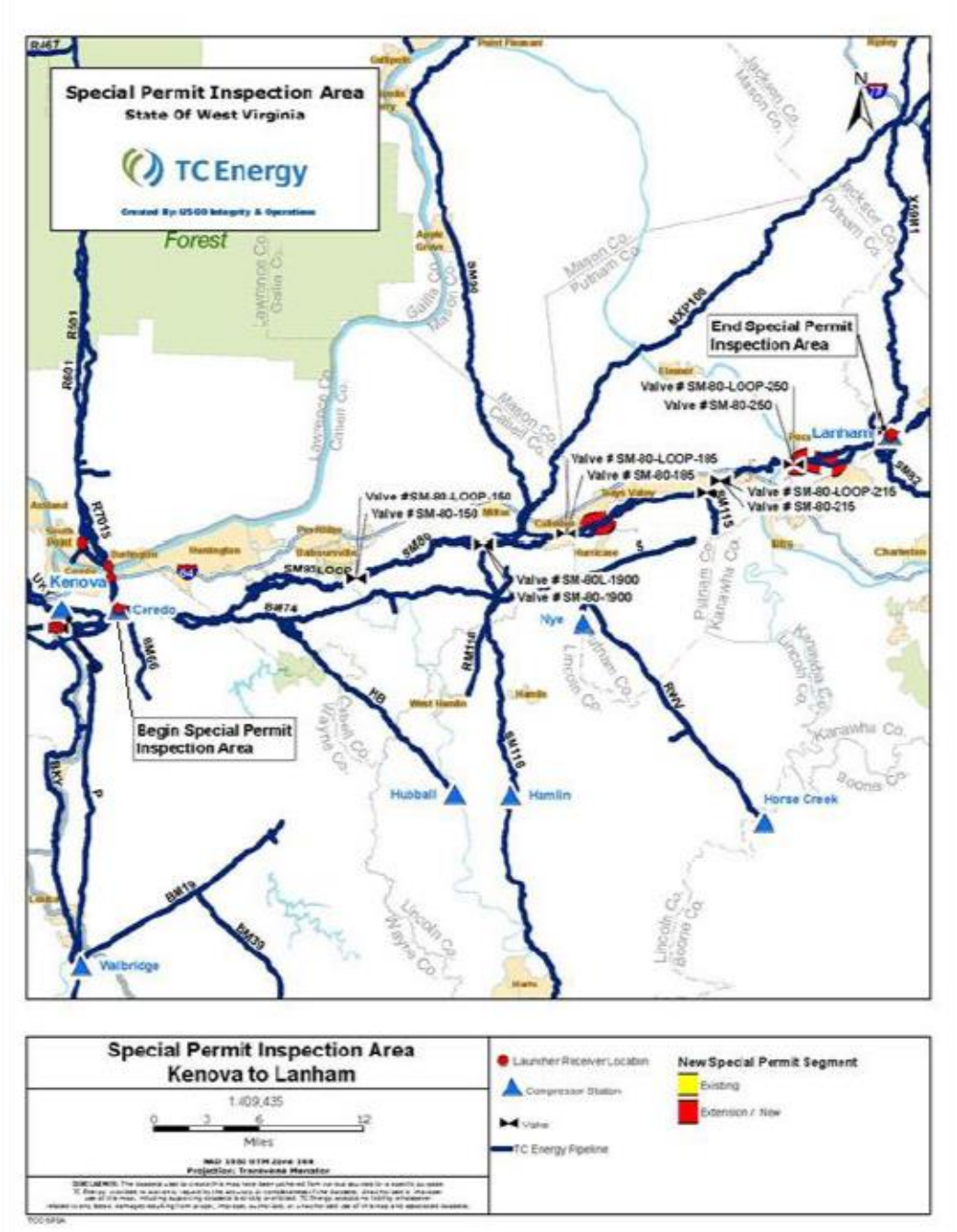

Figure 2 – TCO 30-inch diameter SM80 and SM80 Loop Pipelines - Route Map
Special Permit Segments

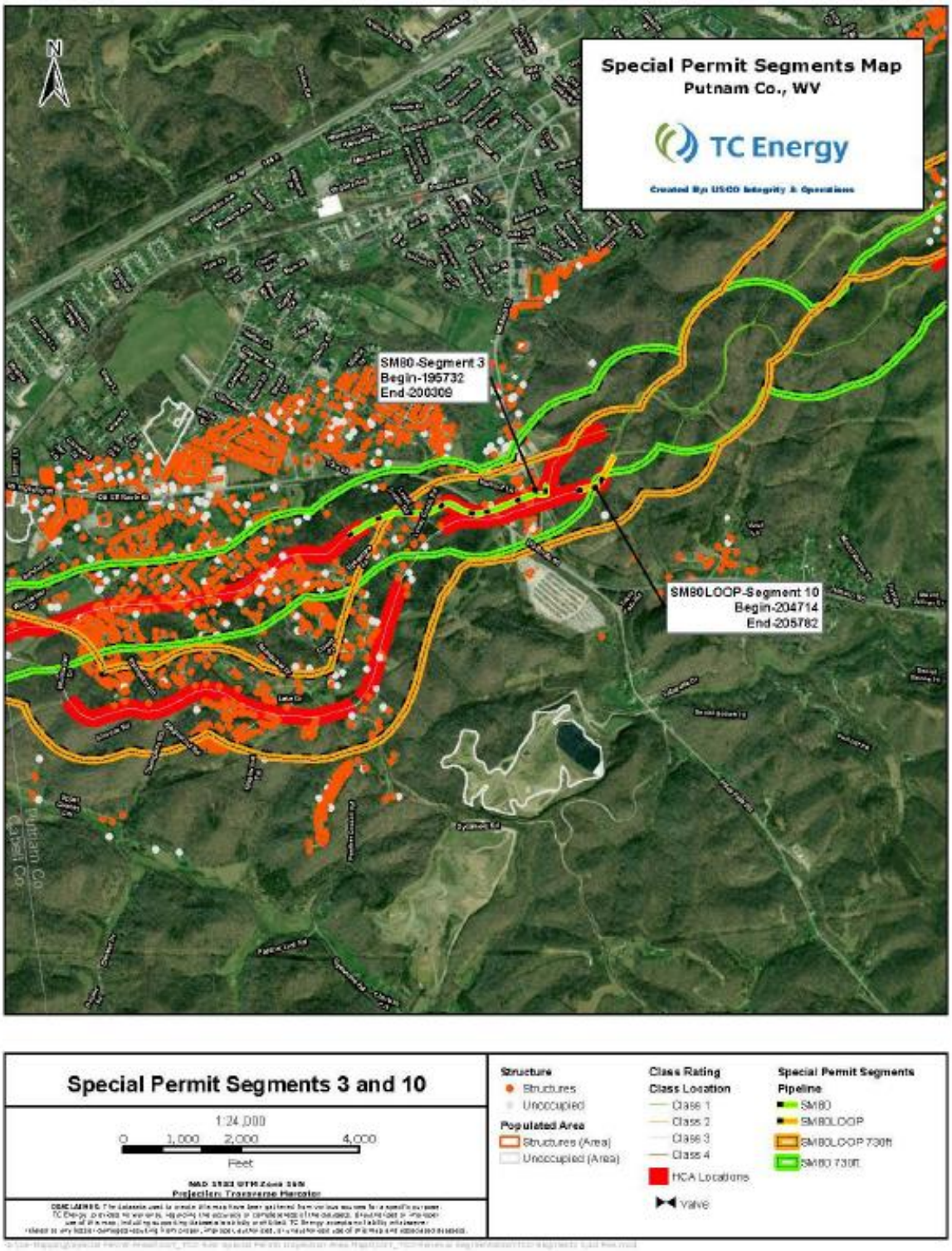

Figure 3 – TCO 30-inch diameter SM80 and SM80 Loop Pipelines - Route Map
Special Permit Segments

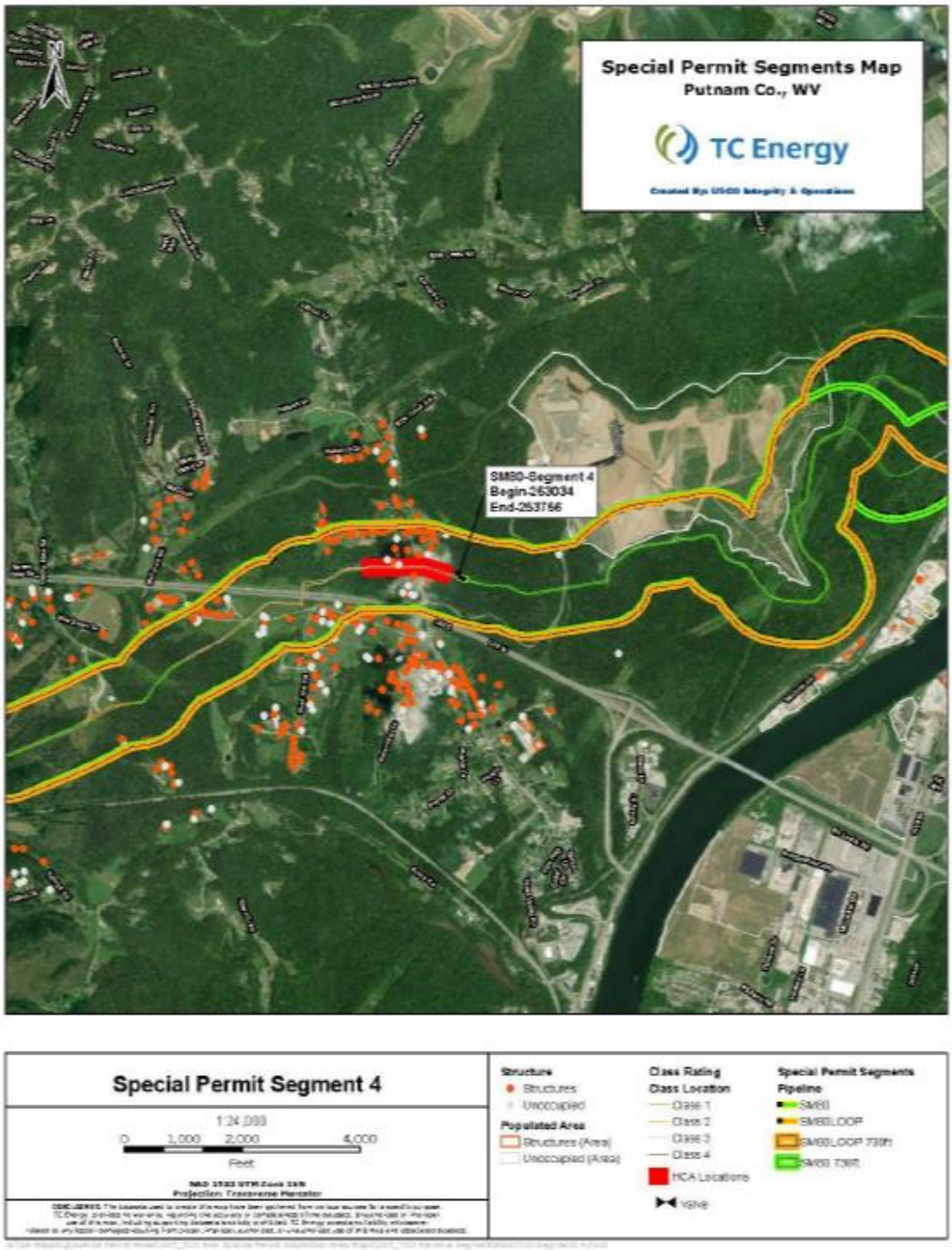

Figure 4 – TCO 30-inch diameter SM80 and SM80 Loop Pipelines - Route Map
Special Permit Segments

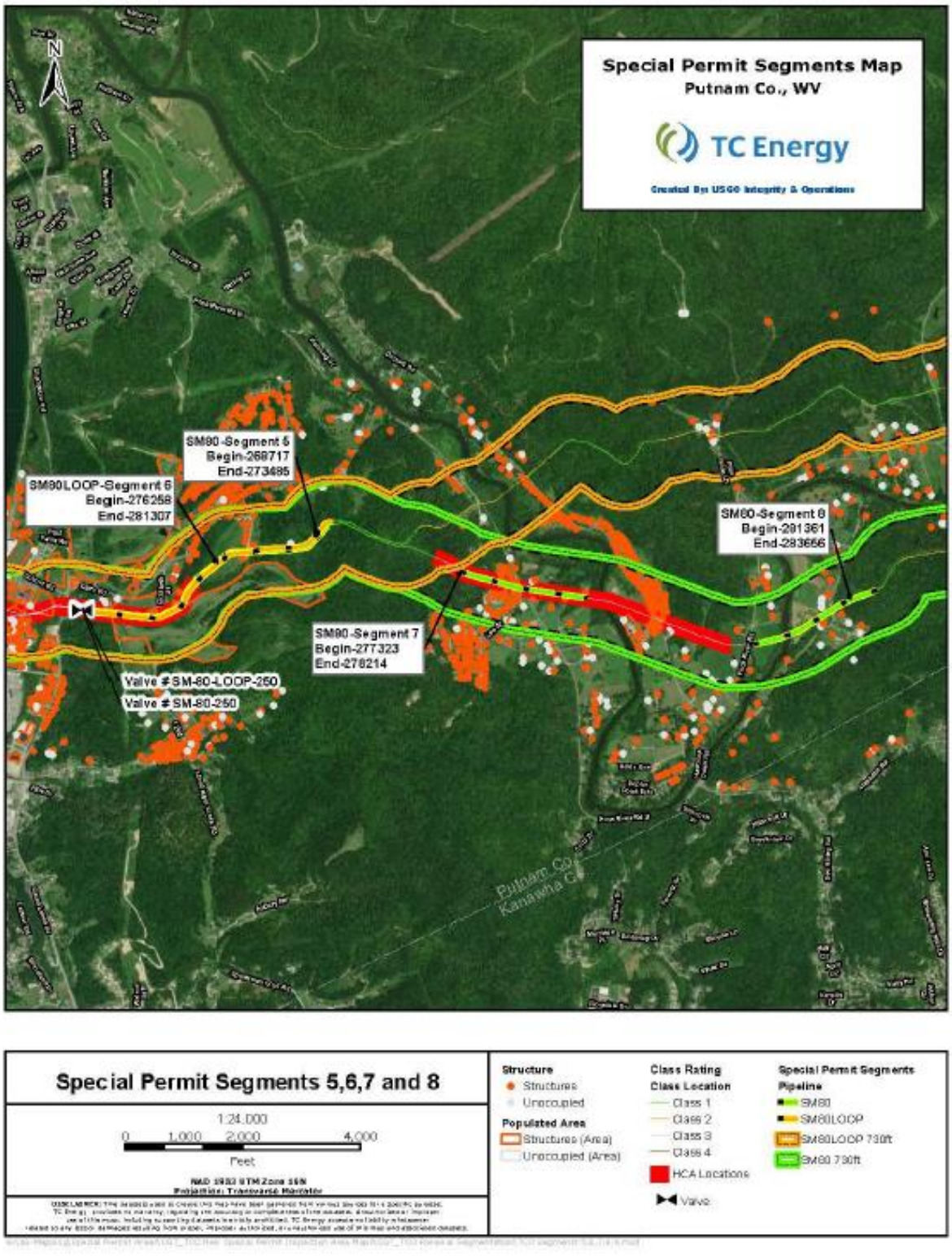

Figure 5 – TCO 30-inch diameter SM80 and SM80 Loop Pipelines - Route Map
Special Permit Segments