

**U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
FINAL ENVIRONMENTAL ASSESSMENT
and
FINDING OF NO SIGNIFICANT IMPACT**

Special Permit Information:

Docket Number: PHMSA-2019-0201
Requested By: Columbia Gulf Transmission, LLC
Operator ID#: 2620
Original Date Requested: October 15, 2019
Issuance Date: March 31, 2022
Code Section(s): 49 CFR 192.611, 192.505(c), and 192.619(a)(2)

I. Background

The National Environmental Policy Act (NEPA), 42 U.S.C. 4321 – 4375 et seq., Council on Environmental Quality Regulations, 40 CFR 1500-1508, and U.S. Department of Transportation (DOT) Order No. 5610.1C, requires the Pipeline and Hazardous Materials Safety Administration (PHMSA) Office of Pipeline Safety (OPS)¹ to analyze a proposed action to determine whether the action will have a significant impact on the human environment. PHMSA analyzes special permit requests for potential risks to public safety and the environment that could result from PHMSA’s decision to grant, grant with additional conditions, or deny the request. As part of this analysis, PHMSA evaluates whether a special permit would impact the likelihood or consequence of a pipeline failure as compared to the operation of the pipeline in full compliance with the pipeline safety regulations. PHMSA’s environmental review associated with the special permit application is limited to impacts that would result from granting or denying the special

¹ References to PHMSA in this document means PHMSA OPS.

permit. PHMSA developed this assessment to determine what effects, if any, our decision would have on the environment.

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

The purpose of this final environmental assessment (FEA) is to comply with NEPA for the Columbia Gulf Transmission, LLC (CGT)² application for a special permit request to waive compliance from 49 CFR 192.611(a) “Change in class location: Confirmation or revision of maximum allowable operating pressure” for approximately 16.812 miles (88,768 feet) of 24-inch, 30-inch, and 36-inch diameter gas transmission pipelines located in the Columbia Gulf Mainline (ML) and Columbia Gulf East Lateral (EL) in the CGT system in Lafayette Parish, Louisiana; Alcorn and Union Counties, Mississippi; Macon County, Tennessee; and Carter, Menifee, Montgomery, and Rowan Counties, Kentucky. This FEA and finding of no significant impact (FONSI) are prepared by PHMSA to assess the pipeline special permit request, in accordance with 49 CFR 190.341, and is intended to specifically analyze any environmental impact associated with the waiver of 49 CFR 192.611(a). This proposed special permit would waive 49 CFR 192.611(a) and requires CGT to implement additional requirements for the operations, maintenance, and integrity management of the approximately 16.812 miles (88,768 feet) of 24-inch, 30-inch, and 36-inch diameter pipelines located in Lafayette Parish, Louisiana; Union and Alcorn Counties, Mississippi; Macon County, Tennessee; and Montgomery, Rowan, Menifee, and Carter Counties, Kentucky (*special permit segments*) and 730.2 miles of 24-inch, 30-inch, and 36-inch diameter pipelines located in Lafayette Parish, Louisiana; Alcorn and Union Counties, Mississippi; Macon County, Tennessee; and Carter, Menifee, Montgomery, and Rowan Counties, Kentucky (*special permit inspection areas*).

² CGT is a wholly owned subsidiary of TC Energy, Inc.

II. Introduction

Pursuant to 49 United States Code 60118(b) and 49 CFR 190.341, CGT submitted an application for a special permit to PHMSA on October 15, 2019, requesting that PHMSA waive the requirements of 49 CFR 192.611(a) to permit CGT to maintain the maximum allowable operating pressure (MAOP) of 41 pipe *special permit segments* located in Lafayette Parish, Louisiana; Alcorn and Union Counties, Mississippi; Macon County, Tennessee; and Carter, Menifee, Montgomery, and Rowan Counties, Kentucky, for which the class locations have changed from Class 1 to Class 2 and from Class 1 and 2 to Class 3. Without the special permit, 49 CFR 192.611(a) would require CGT to replace the pipe segment, re-pressure test the pipe segments that have not undergone pressure tests for sufficient pressure and duration, or reduce the pipeline MAOP. However, pressure reduction was not a viable option for CGT because reducing MAOP would prevent CGT from meeting its contractual gas delivery obligations to customers. Under the special permit, CGT would implement alternative risk control measures and integrity management procedures in the *special permit inspection areas* and the *special permit segments*.

PHMSA is granting a special permit to waive certain regulatory requirements where it is consistent with pipeline safety. A special permit is typically conditioned on the performance of additional measures beyond minimum pipeline safety regulations, in accordance with 49 CFR 190.341.

III. Regulatory Background

Federal regulations at 49 CFR 192.611(a) require that an operator confirm or revise the MAOP of a pipe segment that is in satisfactory condition when the hoop stress of the segment is no longer commensurate with class location. Under 49 CFR 192.611(a), an operator may be required to reduce the operating pressure of a pipe segment, or alternatively, may have to replace the pipe in order to maintain the MAOP. Below is the relevant text of 49 CFR 192.611(a):

49 CFR 192.611 Change in class location: Confirmation or revision of maximum allowable operating pressure.

(a) If the hoop stress corresponding to the established maximum allowable operating pressure of a segment of pipeline is not commensurate with the present class location, and the segment is in

satisfactory physical condition, the maximum allowable operating pressure of that segment of pipeline must be confirmed or revised according to one of the following requirements:

(1) If the segment involved has been previously tested in place for a period of not less than 8 hours:

(i) The maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations, 0.667 times the test pressure in Class 3 locations, or 0.555 times the test pressure in Class 4 locations. The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.

(ii) The alternative maximum allowable operating pressure is 0.8 times the test pressure in Class 2 locations and 0.667 times the test pressure in Class 3 locations. For pipelines operating at alternative maximum allowable pressure per §192.620, the corresponding hoop stress may not exceed 80 percent of the SMYS of the pipe in Class 2 locations and 67 percent of SMYS in Class 3 locations.

(2) The maximum allowable operating pressure of the segment involved must be reduced so that the corresponding hoop stress is not more than that allowed by this part for new segments of pipelines in the existing class location.

(3) The segment involved must be tested in accordance with the applicable requirements of subpart J of this part, and its maximum allowable operating pressure must then be established according to the following criteria:

(i) The maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations, 0.667 times the test pressure for Class 3 locations, and 0.555 times the test pressure for Class 4 locations.

(ii) The corresponding hoop stress may not exceed 72 percent of the SMYS of the pipe in Class 2 locations, 60 percent of SMYS in Class 3 locations, or 50 percent of SMYS in Class 4 locations.

(iii) For pipeline operating at an alternative maximum allowable operating pressure per §192.620, the alternative maximum allowable operating pressure after the requalification test is 0.8 times the test pressure for Class 2 locations and 0.667 times the test pressure for Class 3 locations. The corresponding hoop stress may not exceed 80 percent of the SMYS of the pipe in Class 2 locations and 67 percent of SMYS in Class 3 locations.

The CGT pipelines have five (5) **special permit segments** that have not been tested for eight (8) hours or at or above 1.25 times the MAOP of the pipeline. Sections 192.611(a) and 192.505(c) require a pressure test for a minimum of eight (8) hours. Sections 192.611(a) and 192.619(a)(2) require a minimum pressure test factor of a minimum of 1.25 for a Class location change. The **special permit segments** that do not meet the 1.25 test factor or the eight (8) hour test duration are listed in **Section VI** below.

IV. Purpose and Need

CGT requested a special permit to avoid having to replace approximately 16.812 miles (88,768 feet) of pipe located on five (5) pipelines in the Columbia Gulf Mainline and Columbia Gulf East Lateral in the CGT system. The Columbia Gulf Mainline (ML) consists of three (3) parallel pipelines, 30-inch diameter ML 100 Pipeline, 30-inch diameter ML 200 Pipeline, and 36-inch diameter ML 300 Pipeline, where the class locations have changed from Class 1 to Class 2 and from Class 1 and 2 to Class 3. The *special permit segments* within the Columbia Gulf East Lateral consists of two (2) pipelines, 24-inch diameter EL 200 Pipeline and 30-inch diameter EL 400 Pipeline, where the class locations have changed from Class 1 and Class 2 to Class 3 locations. This special permit consists of 41 *special permit segments* and would waive the requirements of 49 CFR 192.611(a) with implementation of the special permit conditions. The class location change was identified by CGT as a result of the gathering of information regarding activities on and near the pipeline right-of-way. The pipeline *special permit segments* and *special permit inspection areas* have maximum allowable operating pressures (MAOP) of 935 pounds per square inch gauge (psig) (ML 100 Pipeline), 973 psig (EL 200 and EL 400 Pipelines), and 1007 psig (ML 200 and ML 300 Pipelines). The *special permit inspection areas* are comprised of 24-inch, 30-inch, and 36-inch diameter pipelines constructed between 1953 and 1971. **Attachments A (A-1 through A-5) and B (B-1 through B-12)** are pipeline route maps showing the proposed *special permit segments* and *special permit inspection areas*.

V. Site Description

The CGT system is a major interstate natural gas transmission system that supplies natural gas to Louisiana, Mississippi, Tennessee, and Kentucky. Stretching about 3,368 miles in length, the CGT system connects to nearly every major pipeline in the Gulf Coast and to additional Midwestern pipelines. The *special permit segments* are located on five (5) pipelines in the CGT system in Columbia Gulf Mainline and Columbia Gulf East Lateral.

The Columbia Gulf Mainline in the CGT system runs from the Rayne Compressor Station, located approximately 15 miles west of Lafayette, Louisiana, to Kenova, West Virginia. The Columbia Gulf Mainline consists of three (3) parallel pipelines: (1) 30-inch diameter ML 100 Pipeline constructed in 1953 and 1954, (2) 30-inch diameter ML 200 Pipeline constructed

between 1958 and 1965, and (3) 36-inch diameter ML 300 Pipeline construction between 1968 and 1971.

The Columbia Gulf East Lateral runs from Rayne Compressor Station, located approximately 15 miles west of Lafayette, Louisiana, to various points east of Lafayette, Louisiana, along the Gulf Coast. The 24-inch diameter EL 200 Pipeline was constructed in 1954 and the 30-inch diameter EL 400 Pipeline was constructed in 1971.

The *special permit inspection area* contains 57 high consequences areas (HCAs), which are calculated by Method 2 (49 CFR 192.903). The *special permit segments* traverse agriculture fields and low to medium density residential development and are in the vicinity of several wetlands.

VI. Special Permit Segments and Special Permit Inspection Areas

On the condition that CGT complies with the terms and conditions set forth below, the special permit waives compliance from 49 CFR 192.611(a) for approximately 16.812 miles (88,768 feet) of natural gas transmission pipeline on the 24-inch, 30-inch, and 36-inch diameter pipelines, where the class locations of the pipelines changed from Class 1 to Class 2 locations³ and Class 1 to Class 3 locations in Lafayette Parish, Louisiana; Union and Alcorn Counties, Mississippi; Macon County, Tennessee; and Montgomery, Rowan, Menifee, and Carter Counties, Kentucky.

This proposed special permit would allow CGT to maintain the current 935 psig (ML 100 Pipeline), 973 psig (EL 200 and EL 400 Pipelines), and 1,007 psig (ML 200 and ML 300 Pipelines) MAOP in the *special permit segments*.

Special permit segments:

This special permit applies to the *special permit segments* in **Table 1 – Special Permit Segments** and are identified using the CGT survey station (SS) references.⁴

³ Class 2 locations are required to have a pressure test at 1.25 or greater times MAOP and for eight (8) hours to meet 49 CFR 192.611(a).

⁴ The *special permit segments 6, 9, 11, 12, 25, 26, 27, 29, 33, 34, 35, 36, 37, 38, 39, 40, 48, 56, 58, and 59* were removed from the special permit at the request of CGT and these *special permit segments* will be replaced with stronger pipe or re-pressure tested for the Class location change to meet 49 CFR 192.611.

Table 1 – Special Permit Segments

Special Permit Segment Number	Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (SS)	End Survey Station (SS)	County or Parish, State	Year Installed	Seam Type	MAOP (psig)	Pressure Test - Condition 1(b) Required (Yes)	Material - Condition 13(d) Required (Yes)
1	24	EL 200	1,453	479+60	494+13	Lafayette, LA	1954	DSAW	973	Yes	Yes
2	24	EL 200	5,226	502+25	554+51	Lafayette, LA	1954	DSAW	973	Yes	Yes
3	24	EL 200	73	559+86	560+59	Lafayette, LA	1954	DSAW	973	Yes	Yes
4	24	EL 200	659	638+76	645+35	Lafayette, LA	1954	DSAW	973	Yes	Yes
5	24	EL 200	2,204	716+07	738+11	Lafayette, LA	1954	DSAW	973	Yes	Yes
7	30	EL 400	1,455	470+13	484+68	Lafayette, LA	1971	EFW / DSAW	1007		Yes
8	30	EL 400	2,882	489+52	518+34	Lafayette, LA	1971	EFW / DSAW	1007		Yes
10	30	ML 100	4,928	2006+68	2055+96	Union, MS	1954	DSAW	935		Yes
13	30	ML 100	70	4170+48	4171+18	Alcorn, MS	1954	DSAW	935		Yes
14	30	ML 100	3,119	4223+87	4255+06	Alcorn, MS	1954	DSAW	935		Yes
15	30	ML 100	1,873	4382+15	4400+88	Alcorn, MS	1954	DSAW	935		Yes
16	30	ML 100	1,259	338+43	351+02	Macon, TN	1954	DSAW	935		Yes
17	30	ML 100	2,637	395+56	421+93	Macon, TN	1954	DSAW	935		Yes
18	30	ML 100	1,008	335+67	345+75	Montgomery, KY	1954	DSAW	935		Yes
19	30	ML 100	62	397+23	397+85	Menifee, KY	1954	DSAW	935		Yes
20	30	ML 100	5,080	2737+94	2788+74	Carter, KY	1954	DSAW	935	Yes	Yes
21	30	ML 100	2,363	3434+23	3457+86	Carter, KY	1954	DSAW	935	Yes	Yes
22	30	ML 100	418	3467+65	3471+83	Carter, KY	1954	DSAW	935	Yes	Yes
23	30	ML 100	535	3504+57	3509+92	Carter, KY	1954	DSAW	935	Yes	Yes
24	30	ML 100	1,501	3515+84	3530+85	Carter, KY	1954	DSAW	935	Yes	Yes
28	30	ML 200	4,638	2010+42	2056+80	Union, MS	1962	DSAW	1007		Yes
30	30	ML 200	80	4172+12	4172+92	Alcorn, MS	1965	EFW	1007		Yes
31	30	ML 200	3,179	4225+85	4257+64	Alcorn, MS	1965	EFW / DSAW	1007		Yes
32	30	ML 200	2,072	4384+22	4404+94	Alcorn, MS	1965	EFW	1007		Yes
41	30	ML 200	2,780	323+05	350+85	Macon, TN	1958	DSAW	1007		Yes
42	30	ML 200	2,609	396+05	422+14	Macon, TN	1958	DSAW	1007		Yes
43	30	ML 200	185	1682+05	1683+90	Rowan, KY	1958	DSAW	1007		Yes
44	30	ML 200	803	352+15	360+18	Montgomery, KY	1958	DSAW	1007		Yes
45	30	ML 200	199	410+91	412+90	Menifee, KY	1958	DSAW	1007		Yes
46	30	ML 200	2,771	2631+97	2659+68	Carter, KY	1963	DSAW	1007	Yes	Yes
47	30	ML 200	4,104	2669+90	2710+94	Carter, KY	1963	DSAW	1007	Yes	Yes
49	30	ML 200	6,564	2745+20	2810+84	Carter, KY	1963	DSAW	1007	Yes	Yes
50	30	ML 200	3,269	2937+69	2970+38	Carter, KY	1963	DSAW	1007	Yes	Yes
51	30	ML 200	2,440	3441+88	3466+28	Carter, KY	1964	DSAW	1007		Yes

Table 1 – Special Permit Segments

Special Permit Segment Number	Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (SS)	End Survey Station (SS)	County or Parish, State	Year Installed	Seam Type	MAOP (psig)	Pressure Test - Condition 1(b) Required (Yes)	Material - Condition 13(d) Required (Yes)
52	30	ML 200	439	3475+58	3479+97	Carter, KY	1964	DSAW	1007		Yes
53	30	ML 200	450	3512+64	3517+14	Carter, KY	1964	DSAW	1007		Yes
54	30	ML 200	1,439	3523+50	3537+89	Carter, KY	1964	DSAW	1007		Yes
55	36	ML 300	4,595	2006+61	2052+56	Union, MS	1969	EFW	1007		Yes
57	36	ML 300	1,940	4379+19	4398+59	Alcorn, MS	1970	EFW	1007		Yes
60	36	ML 300	2,801	319+80	347+81	Macon, TN	1968	DSAW	1007	Yes	Yes
61	36	ML 300	2,606	393+46	419+52	Macon, TN	1968	DSAW	1007	Yes	Yes

This special permit applies to the *special permit segments* located in Lafayette Parish, Louisiana; Union and Alcorn Counties, Mississippi, Macon County, Tennessee; and Montgomery, Rowan, Menifee, and Carter Counties, Kentucky as detailed in **Table 2 – Special Permit Segment Mileage by County.**

Table 2 – Special Permit Segment Mileage by County

State	County or Parish	Outside Diameter (inches)	Line Name	Length (feet)	Total (Miles)
Louisiana	Lafayette Parish	24	EL 200	9,615	2.64
		30	EL 400	4,337	
Mississippi	Alcorn County	30	ML 100	5,062	2.34
		30	ML 200	5,331	
		36	ML 300	1,940	
	Union County	30	ML 100	4,928	2.68
		30	ML 200	4,638	
36		ML 300	4,595		
Tennessee	Macon County	30	ML 100	3,896	2.77
		30	ML 200	5,389	
		36	ML 300	5,407	
Kentucky	Carter County	30	ML 100	9,897	5.94
		30	ML 200	21,476	
	Menifee County	30	ML 100	62	0.049
		30	ML 200	199	
	Montgomery County	30	ML 100	1,008	0.378
		30	ML 200	803	
	Rowan County	30	ML 200	185	0.035

Special Permit Inspection Areas:

The *special permit inspection areas* are defined as areas that extend 220 yards on each side of the centerline as listed in **Table 3 – Special Permit Inspection Areas**.

Table 3 – Special Permit Inspection Areas							
Special Permit Inspection Area Number	Special Permit Segment(s) Included	Outside Diameter (inches)	Line Name	Description	Start Survey Station (SS)	End Survey Station (SS)	Length ⁵ (miles)
1	1, 2, 3, 4, 5	24	EL 200	Rayne CS to Valve 1204	9+06	1339+26	25.2
2	7, 8	30	EL 400	Rayne CS to Valve 1203	0+00	751+22	14.2
4	10, 13, 14, 15	30	ML 100	Banner to Corinth	0+14	4506+36	85.3
5	16, 17	30	ML 100	Hartsville to Clementsville	0+02	4595+65	87.0
6	18, 19, 20, 21, 22, 23, 24	30	ML 100	Stanton to Leach	0+00	4547+33	86.1
8	28, 30, 31, 32	30	ML 200	Banner to Corinth	3+60	4510+80	85.4
9	41, 42	30	ML 200	Hartsville to Clementsville	0+00	4625+30	87.6
11	43, 44, 45, 46, 47, 49, 50, 51, 52, 53, 54	30	ML 200	Stanton to Leach	0+00	4565+02	86.5
12	55, 57	36	ML 300	Banner to Corinth	0+00	4505+01	85.3
13	60, 61	36	ML 300	Hartsville to Clementsville	0+13	4622+50	87.5

High Consequence Areas:

HCA's located in the *special permit inspection area* are detailed in **Table 4 – High Consequence Areas**.

Table 4 – High Consequence Areas				
Special Permit Inspection Area Number	Line Name	Start Survey Station (SS)	End Survey Station (SS)	Length (miles)
1	EL 200	567+60	582+71	0.286
		587+08	612+50	0.481
		647+89	690+75	0.812
		694+86	713+01	0.344
		757+35	773+23	0.301
		796+61	823+08	0.501
		824+44	927+52	1.952
		966+81	989+55	0.431
		1295+04	1311+65	0.315
2	EL 400	496+83	526+52	0.562
		554+99	574+12	0.362

⁵ 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.

Table 4 – High Consequence Areas

Special Permit Inspection Area Number	Line Name	Start Survey Station (SS)	End Survey Station (SS)	Length (miles)
		577+16	606+14	0.549
		637+04	709+49	1.372
4	ML 100	1976+08	2020+83	0.848
		2031+90	2057+21	0.479
		4182+27	4233+80	0.976
		4274+23	4292+36	0.343
		4329+76	4363+93	0.647
5	ML 100	359+50	387+92	0.538
		3628+87	3658+04	0.552
		4450+94	4473+92	0.435
6	ML 100	361+37	395+23	0.641
		1171+00	1192+75	0.412
		1400+35	1419+89	0.370
		1660+44	1779+26	2.250
		1803+03	1830+01	0.511
		1837+78	1864+45	0.505
		2414+56	2441+06	0.502
		2725+79	2744+53	0.355
		3459+51	3540+28	1.530
8	ML 200	4253+77	4272+65	0.358
		1984+73	2021+96	0.705
		2030+54	2058+52	0.530
		4184+07	4236+01	0.984
		4274+89	4294+71	0.375
9	ML 200	4325+08	4371+15	0.873
		358+13	389+50	0.594
		3634+91	3664+16	0.554
11	ML 200	4481+64	4504+74	0.438
		374+95	411+40	0.690
		1181+35	1205+25	0.453
		1411+26	1429+11	0.338
		1668+83	1789+53	2.286
		1811+69	1839+27	0.522
		2421+81	2447+43	0.485
		2732+64	2752+70	0.380
12	ML 300	3466+74	3549+51	1.568
		4270+64	4286+98	0.309
		1968+51	2057+44	1.684
		3845+19	3864+49	0.366

Table 4 – High Consequence Areas				
Special Permit Inspection Area Number	Line Name	Start Survey Station (SS)	End Survey Station (SS)	Length (miles)
		4173+29	4233+78	1.146
		4265+26	4301+41	0.685
		4323+61	4374+08	0.956
13	ML 300	352+34	392+19	0.755
		501+11	523+73	0.428
		3630+58	3665+52	0.662
		4478+33	4508+82	0.577

The special permit waives the requirements of 49 CFR 192.611(a), allowing CGT to maintain the existing MAOP and implement special permit conditions for the approximately 16.251 miles (85,806 feet) of pipelines without having to replace existing pipe in the *special permit segments*.

PHMSA grants this special permit based on this document, which can be read in its entirety in Docket No. PHMSA-2019-0201 in the Federal Docket Management System (FDMS) located at www.regulations.gov.

VII. ALTERNATIVES

Alternative 1: “No Action” Alternative

If PHMSA were to select the “no action” alternative, PHMSA would deny CGT’s special permit request, and CGT would be required to fully comply with 49 CFR 192.611(a) and the pressure test requirements in 49 CFR 192.505(c) and 192.619(a)(2), as required. In order to maintain the existing MAOP, CGT would be required to replace or pressure test (as required) the approximately 16.812 miles (88,768 feet) of pipe in the *special permit segments*, or CGT would be required to reduce pressure on the segment. CGT states that it would choose to replace the segments to maintain MAOP because a pressure reduction would prevent it from meeting its contractual obligations to deliver natural gas to its customers. Nonetheless, CGT maintains that replacing the pipe would cause interruptions in customers’ services and cause construction-related environmental disruption, including the release of methane, a known greenhouse gas.

Alternative 2: Proposed Alternative

If PHMSA selects this alternative, PHMSA would issue the special permit, and CGT would be allowed to continue to operate at the current 935 psig (ML 100 Pipeline), 973 psig (EL 200 and EL 400 Pipelines), and 1007 psig (ML 200 and ML 300 Pipelines) MAOP in the Class 2 and Class 3 locations without replacing pipe while complying with the special permit conditions, as described below.

VIII. Overview of the Special Permit Conditions:

To provide an equivalent level of safety in the absence of either lowering the pipeline operating pressure or upgrading the pipe, this special permit has additional operations and maintenance requirements (conditions) which are intended to decrease the likelihood of a release of gas. PHMSA believes that these additional measures, designed to prevent leaks and ruptures, will ensure that the special permit is not inconsistent with pipeline safety. This section provides an overview of the special permit conditions. For CGT specific technical requirements and special permit conditions in detail, see **Attachment C – Special Permit Conditions**.

1) Current Status of Pipe in the Ground

To ensure that key characteristics of the pipe currently installed in each *special permit segment* is known, records that confirm pipe specifications, successful pressure tests, and girth weld non-destructive tests are required. Should records be unavailable or unacceptable, additional activities as detailed in the special permit must be completed. If these additional activities are not completed or should pipe be discovered that does not meet specific requirements of eligibility, the *special permit segment* must be replaced.

2) Operating Conditions

The *special permit inspection areas* must continue to be operated at or below the existing maximum allowable operating pressure (MAOP) until a restoration or upgrading plan has been approved, if allowed by the special permit. To ensure compliance with special permit conditions, the operator's Operations and Maintenance (O&M) manual, Integrity Management Program (IMP), and Damage Prevention (DP) program must be modified to implement the special permit conditions. In addition, PHMSA must approve any long-term flow reversals that would impact *special permit segment(s)*.

3) **Threat Management**

Threats are factors that can lead to the failure of a pipeline. Activities are required to identify, assess, remediate, and monitor threats to the pipeline.

- a) **General activities.** CGT must perform annual data integration and identification of threats to which the *special permit inspection area* is susceptible. These activities must include integrity assessments with specific inline inspection (ILI) tools, strict anomaly repair criteria, and appropriate environmental assessment and permitting. Additional integrity assessment methodologies may be used if allowed by the special permit. Integrity assessments must then be conducted periodically at an interval determined in the special permit for each threat identified.
- b) **External corrosion control requirements.** The special permit requires additional activities to monitor and mitigate external corrosion. These activities include installation and annual monitoring of cathodic protection (CP) test stations, periodic close interval surveys (CIS), and clearing or remediating shorted casings that may impede CP effectiveness. These activities ensure the appropriate level of CP is reaching the pipeline in areas where coating loss or damage has occurred in order to prevent or mitigate external corrosion. In addition, the permittee would be required to develop and implement a plan that identifies and remediates interference from alternating or direct current (AC/DC) sources (such as high-voltage powerlines) that could adversely impact the effectiveness of CP.
- c) **Internal corrosion control requirements.** The special permit includes gas quality specifications to mitigate internal corrosion because internal corrosion is highly dependent on the quality of the gas transported within the pipeline.
- d) **Stress corrosion cracking (SCC) requirements.** To ensure that stress corrosion cracking (SCC) is discovered and remediated, any time a pipe segment is exposed during an excavation CGT must examine coating to determine type and condition. If the coating is in poor condition, CGT must conduct additional SCC analysis. If SCC is confirmed, CGT must implement additional special permit defined remediation and mitigation.
- e) **Pipe seam requirements.** CGT must perform an engineering integrity analysis to determine susceptibility to seam threats. CGT must re-pressure test any *special permit segments* with an identified seam to ensure the issue is not systemic in nature.

- f) **External pipe stress requirements.** Upon identification of any source of external stress on the pipeline (such as soil movement), CGT must develop procedures to evaluate and periodically monitor these stresses.
- g) **Third-party specific requirements.** To assist in identifying the pipeline location and minimizing the chance of accidental pipeline strikes, CGT must install and maintain line-of-site markers for the pipeline. CGT must perform mitigation activities for any location where a depth-of-cover survey shows insufficient soil cover.

4) **Consequence Mitigation**

To ensure quick response and decreased adverse outcome in the event of a failure, each side (upstream and downstream) of the *special permit segment* must have and maintain operable automatic shutdown valves (ASV) or remote-controlled valves (RCV). CGT must monitor valves through a control room with a supervisory control and data acquisition (SCADA) system. In addition to the mainline valves, should a crossover or lateral connect between the valve locations, additional isolation valves may be required.

5) **Post Leak or Failure**

If the *special permit inspection area* experiences an in-service or pressure test leak/failure, CGT must conduct a root cause analysis to determine the cause. If the cause is determined to be systemic in nature, CGT must implement a remediation plan or the *special permit segment* must be replaced, as determined by the special permit specific conditions.

6) **Class Location Study and Potential Extension of Special Permit Segment**

CGT must conduct a class location study at an interval specified in the special permit. This allows CGT to quickly identify extended locations that must comply with the *special permit segment* requirements. CGT may extend the *special permit segments* with proper notification, update of the FEA, and implementation of all requirements in the special permit.

7) **PHMSA Oversight and Management**

PHMSA maintains oversight and management of each special permit. This includes annual meetings with executive level officers on special permit implementation status, written certification of the special permit, special permit required notification of planned activities, notification of root cause analysis results, and notification prior to certain excavation activities so that PHMSA may observe.

8) **Gas Leakage Surveys and Remediation**

The *special permit segment* and *special permit inspection area* have requirements in the special permit to conduct leakage surveys more frequently than is presently required in 49 CFR 192.706. Gas leakage surveys using instrumented gas leakage detection equipment must be conducted along each *special permit segment* and at all valves, flanges, pipeline tie-ins with valves and flanges, ILI launcher, and ILI receiver facilities in each *special permit inspection area* at least twice each calendar year, not to exceed 7½ months. The type of leak detection equipment used, survey findings, and remediation of all instrumented gas leakage surveys must be documented by operator. The special permit will require a three-step grading process with a time interval for remediation based upon the type of leak.

9) **Documentation**

CGT must maintain documentation that supports compliance with special permit conditions for the life of the pipeline.

IX. AFFECTED RESOURCES AND ENVIRONMENTAL CONSEQUENCES

A. Affected Resources and Environmental Consequences of the Proposed Action and the No Action Alternatives

Aesthetics: The only permanent visual impact of the Proposed Action would be the installation of line-of-sight markers that are placed to reduce the risk of third-party damage. Increased maintenance activities, including temporary excavations, could cause temporary visual impacts. These impacts are expected to be significantly shorter in duration than removal and replacement of the existing pipeline. Maintenance activities and line of sight markers have a minimal impact on the visual character of the *special permit segments* right-of-way. Pipe replacement under the No Action Alternative would require removal of the existing pipe and installation of a new pipe. This would result in the use of heavy equipment and ground disturbance. Therefore, the issuance of the special permit would result in less aesthetic impacts to the affected *special permit segments*.

Agricultural Resources: The right-of-way of the *special permit segments* is mainly in rural areas and dominated by agricultural fields with low intensity residential development, except in the vicinity of the *special permit inspection areas* in Union County, Mississippi, the areas are urbanized with residential development to the west of the *special permit segments*. PHMSA's

issuance of a special permit could result in increased maintenance activities due to more stringent maintenance requirements than would otherwise be required under Part 192. These maintenance activities could potentially interfere with some agricultural activities, but these activities would have a significantly smaller footprint than a pipe removal and replacement and would be temporary in duration. The *special permit segments* will not impact any agricultural resources. If the permit is not granted and pipe replacement is required, it would cause disturbance to farm operations adjacent to the segment.

Air Quality: The special permit could potentially have minimal impacts on air quality in the *special permit inspection areas* due to surveillance, assessment, and maintenance activities required by the permit. The special permit conditions require that approximately 3.164 miles of *special permit segments* (e.g., *special permit segments 46 through 50*) must have a pressure tests because those segments have not undergone a pressure test at the required pressure and/or duration. In order to conduct pressure tests, the above listed *special permit segments* would first need to be emptied of all gas, a process known as “blow down.” If the permit is not granted, pipe replacement would be required, which would necessitate blowing down all the pipeline between the isolation mainline valves that are located on the upstream and downstream endpoints of the *special permit segments*, which would release unburned natural gas, a pollutant and greenhouse gas. The No Action Alternative would have more substantial impacts on air quality because more length of pipeline would require blowdown and because of additional emissions that would be temporarily caused by equipment use during excavation, pipe removal, pipe replacement, and pipe installation.

Biological Resources: The primary wildlife habitat occurring within, and in the vicinity of, the *special permit segments* and *special permit inspection areas* is composed of various land cover types, including deciduous, mixed, and coniferous forests, residential areas, agricultural fields, and waterbody features. Several wetlands are present in the vicinity of the *special permit inspection areas* in Kentucky. Granting the special permit could result in increased surveillance, assessment, and maintenance activities but would not result in permanent modifications to any habitat, or impact wetlands or waterbodies, and would have no significant effect on fishery resources or essential fish habitats (EFH). The special permit would not trigger any notification or permitting requirements from Coastal Zone Management.

According to the Fish & Wildlife Service (FWS) Information for Planning and Conservation (IPaC) website,⁶ 11 types of federally listed threatened species are recognized as may be present in the area within the *special permit segments*, including Wood Stork, Snuffbox Mussel, Price's Potato-bean, Running Buffalo Clover, Short's Bladderpod, Whorled Sunflower, Mitchell's Satyr Butterfly, Gray Bat, Indiana Bat, Northern Long-eared bat and Virginia Big-eared Bat. No lands enrolled in the Conservation Reserve Program (CRP) or the Wetland Reserve Program (WRP), both administered by the Natural Resource Conservation Service (NRCS), would be affected by granting this special permit.

Any activities related to the *special permit segments* would be conducted within the boundaries of the previously disturbed pipeline right-of-way. CGT will request no effect concurrence from the United States Fish and Wildlife Service Twin Cities Ecological Services Field Office for any proposed future work by CGT to be undertaken within its existing, previously disturbed right-of-way to ensure compliance with Section 9 of the Endangered Species Act (ESA). Replacement of line pipe in the *special permit segments* would result in increased disturbance to wildlife habitat, though that disturbance would also be temporary and limited in nature.

Climate Change: The activities associated with the *special permit segments* could cause increased monitoring and repair activities, which would result in the release of greenhouse gases, especially through the emissions of excavation and other equipment needed to perform maintenance activities. The special permit conditions require that approximately 3.164 miles of *special permit segments* (e.g. *special permit segments 46 through 50*) must have a pressure test because those segments have not undergone a pressure test at the required pressure and/or duration. In order to conduct pressure tests, the above listed *special permit segments* would first need to undergo blow down. Blow downs result in the release of unburned methane, which is a potent greenhouse gas. Under the terms of the special permit, the remaining *special permit segments* would not require blow down. If the permit is not granted, however, pipe replacement would be required, which would necessitate blowing down all of the segments that have undergone class location change, also known as the *special permit segments*, resulting in a greater release of unburned natural gas, a known greenhouse gas. Pipeline replacement would also result in increased emissions from manufacture of new pipe, transportation of materials, and

⁶ Information for Planning and Conservation (IPaC). FWS website. Available at <https://ecos.fws.gov/ipac/>. Accessed September 2018.

construction activities related to pipeline replacement. Increased pipeline maintenance activities could result in increased emissions, but these emissions are likely substantially less than what would result from pipeline removal, manufacture, transportation, and replacement.

Cultural Resources: Any activities associated with the *special permit segments* would be conducted within the boundaries of the previously disturbed pipeline right-of-way. Publicly available information obtained from the Tennessee Historical Commission (THC) historic resource viewer was used to identify previously recorded cultural resources within one-mile of the *special permit segments* in Macon County, Tennessee. The THC documents 25 structures. All of the structures have been determined to be not eligible for inclusion in the National Register of Historic Places (NRHP) (THC 2019). According to the Kentucky Office of State Archaeology (KOSA) in 2019, there are 17 historic structures located within a one-mile radius of the *special permit segments* in Rowan County, Kentucky; however, none of the structures intersect the current alignment or are within 300 feet of the current alignment. Publicly available information obtained from the Mississippi Department of Archives and History (MDAH) was used to identify previously recorded cultural resources within one-mile of the *special permit segments* in Union County and Alcorn County, Mississippi. The MDAH documents seven (7) structures. All other Counties, where the *special permit segments* are located, have not identified historic structures resources within a one-mile radius of the associated *special permit segments*. No new ground disturbing activities would occur as part of the special permit request; therefore, this request will not impact cultural resources.

Environmental Justice: The special permit alternative associated with this special permit will not have an adverse impact on the local population. According to US Census data from 2019 for the census block groups⁷ where the *special permit inspection areas* are located, the minority population in the census block group(s) in Lafayette Parish, Louisiana, has 17 percent; Union County, Mississippi, has 16 percent; Alcorn County, Mississippi, has up to 5 percent; Macon County, Tennessee, has 2 percent; Menifee County, Kentucky, has up to 2 percent; Rowan County, Kentucky, has 2 percent; Carter County, Kentucky, has up to 10 percent; and

⁷ U.S. Census Bureau (USCB). 2019. American Fact Finder. Available at: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed August 2019.

Montgomery County, Kentucky, has up to 36 percent. None of the census block groups have a per capita income below the national poverty threshold.

The special permit is intended to maintain or increase safety overall with the implementation of safety conditions in the *special permit segments*. Many special permit conditions also apply to the *special permit inspections areas* and will not have a disparate impact on any minority, low income, or non-English language populations. This special permit will also reduce climate change impacts, and low-income and minority communities are understood to be more susceptible to the risks associated with climate change. Therefore, consistent with DOT Order 5610.2C (“Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”) and Executive Orders 12898 (“Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”), 13985 (“Advancing Racial Equity and Support for Underserved Communities Through the Federal Government”), 13990 (“Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis”), and 14008 (“Tackling the Climate Crisis at Home and Abroad”), 12898 and DOT Order 5610.2(a), Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, PHMSA does not anticipate that the special permit will result in disproportionately high and adverse effects on minority or low-income populations.

Geology, Soils, and Mineral Resources:

Lafayette Parish, Louisiana

The *special permit inspection areas* in Lafayette Parish, Louisiana have flat topography and predominant grassland vegetation. The region is predominantly used for agriculture and has been increasingly developed by urban and industrial industries due to oil and gas expansion. The soils are covered with loess veneer correlated with the Mississippi Valley floodplains. The *special permit inspection areas* are comprised of rock types primarily by prairie terraces with somewhat poorly drained, moderately slowly permeable soils that formed in loess, mainly on the terrace upland.

Earthquakes are identified as a seismic hazard within the *special permit inspection areas*.

According to the USGS Seismic Hazards maps, there is a 2 percent probability in 50 years that a seismic event with 4 to 8 percent ground acceleration would occur near the *special permit*

inspection areas (USGS 2014e).⁸ Earthquakes in this region project intensities that exceed I to VIII on the Modified Mercalli Intensity Scale.

If the special permit is granted, no construction-related activities would occur; therefore, the topography in the area will not be affected.

Union County, Mississippi

The *special permit inspection areas* in Union County, Mississippi, are predominantly forested and contain a mosaic of plains with cropland, pastures, and isolated woodland and forest areas. The soil types vary from poorly drained soils to well-drained soils. According to the USGS National Geologic Map Database (USGS 2019c),⁹ the geology of the *special permit inspection areas* is comprised of rock types primarily from the Ripley formation.

Earthquakes are identified as a seismic hazard within the *special permit inspection areas*. According to the USGS Seismic Hazards maps, there is a 2 percent probability in 50 years that a seismic event with 14 to 20 percent ground acceleration would occur near the *special permit inspection areas* (USGS 2014e). Earthquakes in this region project intensities that exceed VI on the Modified Mercalli Intensity Scale.

If the special permit is granted, no construction-related activities would occur; therefore, the topography in the area will not be affected.

Alcorn County, Mississippi

The *special permit inspection areas* in Alcorn County, Mississippi, are predominantly forested and traversed by low to moderate gradient streams with sandy substrates. The soil types within the region are considered somewhat poorly drained and strongly acidic. According to the USGS National Geologic Map Database (USGS 2019c), the geology of the *special permit inspection areas* is comprised of rock types primarily from Coffee Sand of the Selma Group.

⁸ U.S. Geological Survey (USGS). 2013. Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). Chapter 3 of Section A, Federal Standards. Book 11 Collection and Delineation of Spatial Data. Techniques and Methods 11-A3. 4th. ed. Available at: <https://pubs.usgs.gov/tm/11/a3/pdf/tm11-a3.pdf>. Accessed August 2019.

⁹ U.S. Geological Survey (USGS). 2013. Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). Chapter 3 of Section A, Federal Standards. Book 11 Collection and Delineation of Spatial Data. Techniques and Methods 11-A3. 4th. ed. Available at: <https://pubs.usgs.gov/tm/11/a3/pdf/tm11-a3.pdf>. Accessed August 2019.

Earthquakes are identified as a seismic hazard within the *special permit inspection areas*.

According to the USGS Seismic Hazards maps, there is a 2 percent probability in 50 years that a seismic event with 20 to 30 percent ground acceleration would occur near the *special permit inspection areas* (USGS 2014e). Earthquakes in this region project intensities that exceed VI on the Modified Mercalli Intensity Scale.

If the special permit is granted, no construction-related activities would occur; therefore, the topography in the area will not be affected.

Macon County, Tennessee

The *special permit inspection areas* in Macon County, Tennessee, are characterized as tablelands, with moderate relief and irregular plains. The region is a transitional zone for vegetation between the oak-hickory forests of the west with the mixed mesophytic forests of the Appalachian Mountains to the east. The soil types within the region are very deep, moderately well-drained soils that have a slowly permeable fragipan in the subsoil.

Earthquakes are identified as a seismic hazard within the *special permit inspection areas*.

According to the USGS Seismic Hazards maps, there is a 2 percent probability in 50 years that a seismic event with 10 to 14 percent ground acceleration would occur near the *special permit inspection areas* (USGS 2014e). Earthquakes in this region project intensities that exceed VI on the Modified Mercalli Intensity Scale.

If the special permit is granted, no construction-related activities would occur; therefore, the topography in the area will not be affected.

Menifee and Montgomery Counties, Kentucky

The *special permit inspection areas* in Menifee and Montgomery Counties, Kentucky, are primarily forested and predominantly underlain by unglaciated and carboniferous sedimentary rock. The topography is highly variable, containing hills and ridges, cliffs in the south, narrow valleys with high gradient streams, and swampy bottomlands. The soils in the region are deep and well-drained.

Earthquakes are identified as a seismic hazard within the *special permit inspection areas*.

According to the USGS Seismic Hazards maps, there is a 2 percent probability in 50 years that a seismic event with 10 to 14 percent ground acceleration would occur near the *special permit*

inspection areas (USGS 2014e). Earthquakes in this region project intensities that exceed VI on the Modified Mercalli Intensity Scale.

If the special permit is granted, no construction-related activities would occur; therefore, the topography in the area will not be affected.

Rowan County, Kentucky

The *special permit inspection areas* in Rowan County, Kentucky, are primarily forested and predominantly underlain by unglaciated and carboniferous sedimentary rock. The topography is highly variable, containing hills and ridges, cliffs in the south, narrow valleys with high gradient streams, and swampy bottomlands. The soils in the region are deep and well-drained.

Earthquakes are identified as a seismic hazard within the *special permit inspection areas*.

According to the USGS Seismic Hazards maps, there is a 2 percent probability in 50 years that a seismic event with 6 to 19 percent ground acceleration would occur near the *special permit inspection areas* (USGS 2014e). Earthquakes in this region project intensities that exceed IV to VI on the Modified Mercalli Intensity Scale.

If the special permit is granted, no construction-related activities would occur; therefore, the topography in the area will not be affected.

Carter County, Kentucky

The *special permit inspection areas* in Carter County, Kentucky, are primarily forested and exhibits a mosaic of woodland, pastureland, and cropland. The region is composed of hills, ridges, fewer cliffs, and narrow valleys. The streams are generally higher gradient and support a high diversity of fish, mussels, and diatom species. The soils in the region are well-drained.

Earthquakes are identified as a seismic hazard within the *special permit inspection areas*.

According to the USGS Seismic Hazards maps, there is a 2 percent probability in 50 years that a seismic event with 6 to 10 percent ground acceleration would occur near the *special permit inspection areas* (USGS 2014e). Earthquakes in this region project intensities that exceed IV to VI on the Modified Mercalli Intensity Scale.

If the special permit is granted, no construction-related activities would occur; therefore, the topography in the area will not be affected.

Indian Trust Assets: According to the U.S. Department of Interior, Bureau of Indian Affairs (2016),¹⁰ there are no federally recognized Indian tribes or tribal reservations in the counties with pipeline segments. Any work associated with the *special permit segments* and *special permit inspection areas* would have no impact to Indian Trust Assets or federally recognized Tribal Reservations. The scope and duration of any compliance work resulting from the special permit would have little to no effect or impact on the socioeconomics in the surrounding area.

Land Use: Minimal ground disturbance or modifications to CGT system along the *special permit segments* and *special permit inspection areas* would occur as part of the special permit from increased maintenance activities. The special permit will not impact land use or planning and does not require permits from local governments.

Noise: The scope and duration of any activities associated with the *special permit segments* and *special permit inspection areas* would have little to no impact on noise levels in the vicinity of the pipeline. A denial of the special permit or the “no action” alternative would result in temporary increases in noise during the replacement of the existing pipe.

Recreation: The scope and duration of any activities associated with the *special permit segments* and *special permit inspection areas* would have little to no impact on recreation in the vicinity of the pipeline. A denial of the special permit or the “no action” alternative would result in temporary increases in disturbances to recreational activities. during the replacement of the existing pipe.

Safety: The Federal Pipeline Safety Regulations require pressure reduction, re-pressure test, or replacement of Class 1 and Class 2 location pipe in the event of certain population growth in order to better protect higher populations located along the pipeline. Within the *special permit segments*, there are approximately 765 dwellings, located within a 660 feet class unit buffer around the *special permit segments* would benefit from increased safety associated with pipe replacement.

The special permit waives the requirement to reduce pressure, re-pressure test, or replace the existing pipe with a stronger pipe in the *special permit segments*. However, the special permit

¹⁰ U.S. Department of Interior, Bureau of Indian Affairs. 2016. Indian Lands of the Federally Recognized Tribes of the United States. Available at <https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/webteam/pdf/idc1-028635.pdf>. Accessed August 2019.

includes conditions to improve safety and environmental protection to equal or exceed that provided by the measures required under 49 CFR 192.611(a) in the *special permit segments* and the *special permit inspection areas*. The special permit conditions include: coating surveys and remediation, corrosion surveys and remediation, damage prevention activities, line of sight markers, inline-tool inspections for threats (corrosion, third party damage, and cracking – pipe body, seam and girth welds), remediation of pipe threats based upon design factor for class location, reassessments based upon integrity management program, procedures, and documentation.

Monthly patrols, weather permitting, are used to observe surface conditions on and adjacent to the pipeline right-of-way for indications of leaks, third party construction activity, exposed pipe, erosion or other factors that affect the safety and operation of the pipeline.

Close interval surveys must be performed on the pipe within the *special permit segments* to ensure cathodic protection (CP) is acceptable. Areas of low CP potentials have been or will be remediated according to the special permit conditions, if the special permit is granted.

CGT must perform Damage Prevention measures as described in the best practices of the Common Ground Alliance (CGA) within the *special permit inspection areas*.

ILI tool inspections must be performed using high-resolution inspection at intervals as specified by 49 CFR Part 192, Subpart O reassessment intervals or the special permit conditions.

Any anomalies detected during in-line inspections must be remediated in accordance with 49 CFR Part 192, Subpart O, and the conditions of the special permit. These activities provide safety and environmental protection in the area of the *special permit segments* and the *special permit inspection areas*.

- The special permit requires the pressure testing of each *special permit segment* that has not undergone a 1.25 or greater times MAOP pressure test for eight (8) hours, as required by 49 CFR 192.505(c), 192.611(a), and 192.619(a)(2) or that do not meet 49 CFR 192.517(a)(1) and the traceable, verifiable, and complete requirements of 49 CFR 192.624(a)(1). Successful completion of the pressure tests will ensure that an existing pipeline *special permit segment* has the required safety factor, strength, and injurious flaws. The pressure test will further ensure the safety of the increased population in the vicinity of a *special permit segment*.

The above-described integrity maintenance and monitoring conditions associated with the special permit would not be applicable if PHMSA denied the special permit request, because the safety requirements in 49 CFR Part 192, Subpart O only applies to 39.9 miles of HCAs within each *special permit inspection area*.

These monitoring conditions are intended to provide more information about the condition of the pipe so that any integrity issues can be remediated to avoid risk.

On the other hand, the “no action” alternative would require full compliance with 49 CFR 192.611(a). This provision would require the replacement of the existing pipeline with a thicker/stronger pipeline that meets the requirements of 49 CFR 192.611(a) or a new pressure test on some of the *special permit segments* to meet 49 CFR 192.611(a), 192.505(c), and 192.619(a)(2), as applicable. However, the monitoring conditions associated with the special permit would not be applicable if the special permit were denied because those conditions are not mandated by the current 49 CFR Part 192. Accordingly, both alternatives are expected to lead to a similar safety result.

(a) Would operation under a special permit change the risk of rupture or failure?

Since the safety risk with respect to the special permit focuses on the integrity of the pipeline and its effect on the increased population in the event of a catastrophic failure of this pipeline, the special permit contains conditions to ensure the safety level meets the requirement of 49 CFR Part 192 in the *special permit inspection areas*. The permit would allow operation at the current pressure (MAOP). Additional inspections would lower the risk of rupture or failure.

(b) If a failure occurred, would consequences and spill or release volumes be different if PHMSA granted the permit? Would granting this permit increase, decrease, or have no change on the risk of failure?

PHMSA believes that granting the special permit would not increase the risk of failure with implementation of the special permit conditions. The implementation of these practices, in conjunction with increased mitigative measures that are required as per the special permit would meet or exceed safety and reliability standards of 49 CFR 192.611(a) in the requested *special permit segments* and *special permit inspection areas*.

However, if PHMSA denies the special permit and CGT opted to reduce pressure instead of replacing the pipe, a failure on a reduced-pressure pipeline could result in a smaller volume of natural gas released and a smaller potential impact radius in the event of a rupture. CGT contends that it would not opt to reduce pressure due to ongoing contractual obligations.

(c) Would the Potential Impact Radius (PIR) of a rupture change under the Special Permit? Please calculate and provide the PIR data, if applicable. Would more people be affected by a failure if PHMSA granted the permit?

The PIR of a rupture would not change if a special permit was granted in comparison to current operating conditions. The PIR would only increase in comparison to a scenario wherein CGT opted to reduce pressure to avoid pipeline segment replacement in areas where class locations have increased. As described previously, CGT states it would not choose to reduce pressure. Consequently, no more people would be affected by a failure if PHMSA granted the permit. The calculated 607 feet, 755 feet, 730 feet, 755 feet, and 894 feet PIRs of the *special permit segments* are determined using the current MAOP.

(d) Would operation under the Special Permit have any effect on pipeline longevity or reliability? Would there be any life cycle or maintenance issues?

The implementation of increased pipeline assessment within the *special permit inspection area* required in the special permit would improve pipeline reliability and safety in comparison to CGT opting to reduce pressure without requirement to implement the special permit conditions. In addition, the pipelines in *special permit inspection areas* on the CGT system including EL 200, EL 400, ML 100, ML 200, and ML 300 Pipelines have the same characteristics and operate as one system. The MAOP and other factors would not change under the special permit; renewal of the special permit would not impact the overall pipeline longevity or reliability and would not cause any life cycle or maintenance issues. Under the No Action Alternative, replacement of the *special permit segments* with new, stronger pipe with modern coating and welds would also benefit pipeline longevity.

Socioeconomics: The scope and duration of any activities associated with the *special permit segments* will have no impact on the socioeconomics in the vicinity of the CGT system EL 200, EL 400, ML 100, ML 200, and ML 300 Pipelines. According to US Census data, the unemployment rates in the counties where the *special permit segments* are located are lower than

or equal to 10 percent. None of the census block groups have low-income population. The special permit will not disproportionately impact any predominantly low-income populations.

Topography: The topography of the *special permit segments* is primarily flat and gently rolling, and is dominated by agriculture fields. Several wetland and waterbody features are present in the vicinity of *special permit inspection areas* in Kentucky. No construction-related activities would occur if the special permit is granted; therefore, the topography in the area will not be affected.

Transportation: The *special permit segments* will be accessed by existing roads and right-of-way crossings. No construction-related activities would occur as part of the special permit request; therefore, traffic will not increase, and construction of additional roads will not be required.

Water Resources: Field surveys determined the *special permit inspection areas* in Lafayette Parish, Louisiana are located within the Chicot Aquifer System, which provides drinking water to the given service area. No water wells were observed within the right-of-way boundary of the *special permit inspection areas*. No exceptional waters, outstanding waters or federally-designated Wild Scenic Rivers were identified in the vicinities of the *special permit inspection areas*. Avoidance of pipeline segment replacement is intended to minimize siltation and runoff to waterbodies in the vicinity of the *special permit segments*.

As a result, CGT does not anticipate any impact to any surface water, wetlands or drinking water aquifers, since if the special permit is granted, no construction-related activities would occur.

A. Comparative Environmental Impacts of Alternatives

As PHMSA recognized in its June 29, 2004, Criteria for Class Location Change Waivers, implementing additional preventative and mitigative measures enables a pipeline to improve its knowledge and understanding of the pipeline's integrity, accelerate the identification and repair of actionable anomalies, and better manage and mitigate threats to the public and environment. Implementing enhanced inspection and assessment practices throughout the *special permit segments* and *special permit inspection area*, in lieu of replacing small segments of pipe experiencing the class location change, extends pipeline safety benefits to a much greater area along the pipeline. In addition, avoiding pipe excavation and replacement will minimize costs to the operator, will avoid delivery interruptions and supply shortages, and avert environmental

disturbance. All of these benefits will be realized under CGT's requested *special permit segments*.

If the special permit is not granted, 49 CFR 192.611(a) would require a reduced MAOP and CGT would have to replace the pipe in order to maintain reliable transportation service. However, the monitoring conditions associated with the special permit would not be applicable if the special permit were denied because those conditions are not mandated. Accordingly, both alternatives are expected to lead to a similar safety result.

Because CGT contractual obligations would not allow the operating pressure of the pipe to be lowered, the mode of pipeline failure would be the same whether the pipe operates under a special permit or is replaced. Likewise, human safety would not be affected.

The natural environment would be temporarily disturbed if the pipe is replaced; a special permit would have little to no impact on the environment in the *special permit segments*.

X. Consultation and Coordination

CGT and PHMSA personnel involved in preparation of this document include:

Personnel from parent owner and operator of CGT:

Scott Currier, Director Integrity, TC Energy

Lee Romack, Director Regulatory Compliance, TC Energy

PHMSA

Amelia Samaras, PHMSA, US DOT

Steve Nanney, PHMSA, US DOT

Joshua Johnson, PHMSA, US DOT

XI. Request for Public Comments Placed on Docket PHMSA-2019-0201

PHMSA published the special permit renewal request in the Federal Register (85 FR 62798) for a 30-day public comment period from October 5, 2020, to November 4, 2020. PHMSA sought comments on any potential environmental impacts that could result from the selection of either alternative, including the special permit conditions. PHMSA received no comments. The special permit application from CGT, and the draft special permit conditions were available in the FDMS Docket No. PHMSA-2019-0201 at: www.regulations.gov for public review.

XII. Finding of No Significant Impact

In consideration of the analysis and special permit conditions explained above, PHMSA finds that no significant negative impact will result from the issuance and full implementation of the above-described special permit to waive the requirements of 49 CFR 192.611(a) for *special permit segments*, which consists of approximately 16.812 miles (88,768 feet) of 24-inch, 30-inch and 36-inch diameter pipelines located in Lafayette Parish, Louisiana; Alcorn and Union Counties, Mississippi; Macon County, Tennessee; and Carter, Menifee, Montgomery, and Rowan Counties, Kentucky. This permit will require CGT to implement additional conditions on the operations, maintenance, and integrity management of the *special permit segments* and *special permit inspection areas*.

XIII. Bibliography

Information for Planning and Conservation (IPaC). FWS website. <https://ecos.fws.gov/ipac/>. Accessed September 2018.

U.S. Census Bureau (USCB). 2019. American Fact Finder. Available at: <https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>. Accessed August 2019.

U.S. Geological Survey (USGS). 2013. Federal Standards and Procedures for the National Watershed Boundary Dataset (WBD). Chapter 3 of Section A, Federal Standards. Book 11 Collection and Delineation of Spatial Data. Techniques and Methods 11-A3. 4th. ed. Available at: <https://pubs.usgs.gov/tm/11/a3/pdf/tm11-a3.pdf>. Accessed August 2019.

FERC Federal Energy Regulatory Commission. 2015. Natural Gas Pipelines. <https://www.ferc.gov/industries/gas/indus-act/pipelines.asp>. Accessed August 2019.

United States Environmental Protection Agency. Sole Source Aquifers for Drinking Water. <https://www.epa.gov/dwssa>. Accessed August 2019.

Environmental Systems Research Institute (ESRI). 2018. <https://www.esri.com/en-us/home>. Accessed August 2019.

U.S. Department of Interior, Bureau of Indian Affairs. 2016. Indian Lands of the Federally Recognized Tribes of the United States. Available at

<https://www.bia.gov/sites/bia.gov/files/assets/bia/ots/webteam/pdf/idc1-028635.pdf>. Accessed August 2019.

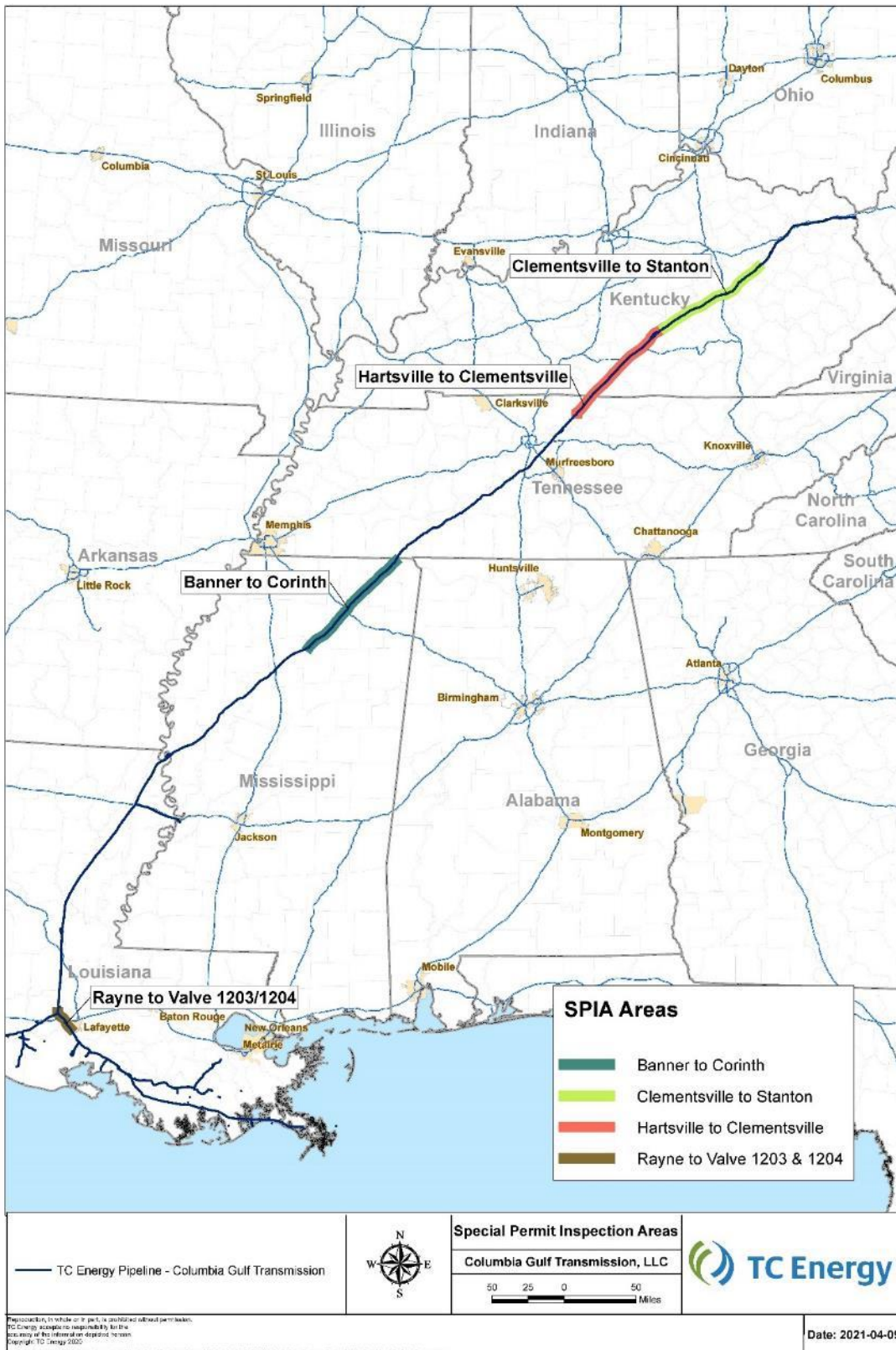
U.S. Department of Agricultural (USDA). 2019. USDA Plants Database. Natural Resources Conservation Service. Available at: <https://plants.sc.egov.usda.gov/java/>. Accessed August 2019.

U.S. Environmental Protection Agency (EPA). 2014. Kentucky Water Quality Assessment Data. Available at: https://ofmpub.epa.gov/waters10/attains_state.control?p_state=KY. Accessed August 2019.

U.S. Fish and Wildlife Service (USFWS). 2007. Running Buffalo Cover (*Trifolium stoloniferum*) Recovery Plan Revision; Notice. Federal Register, 72(123): 35253-35154.

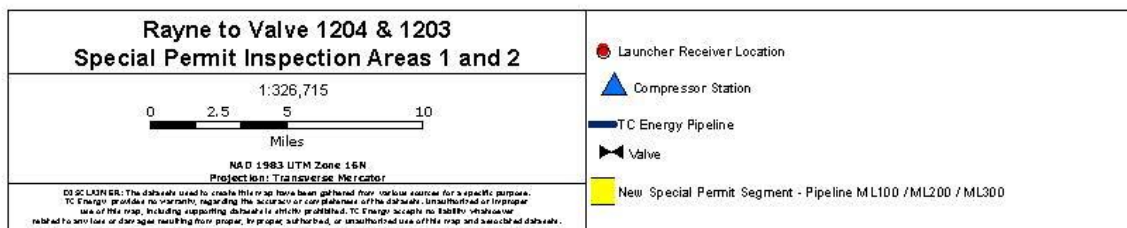
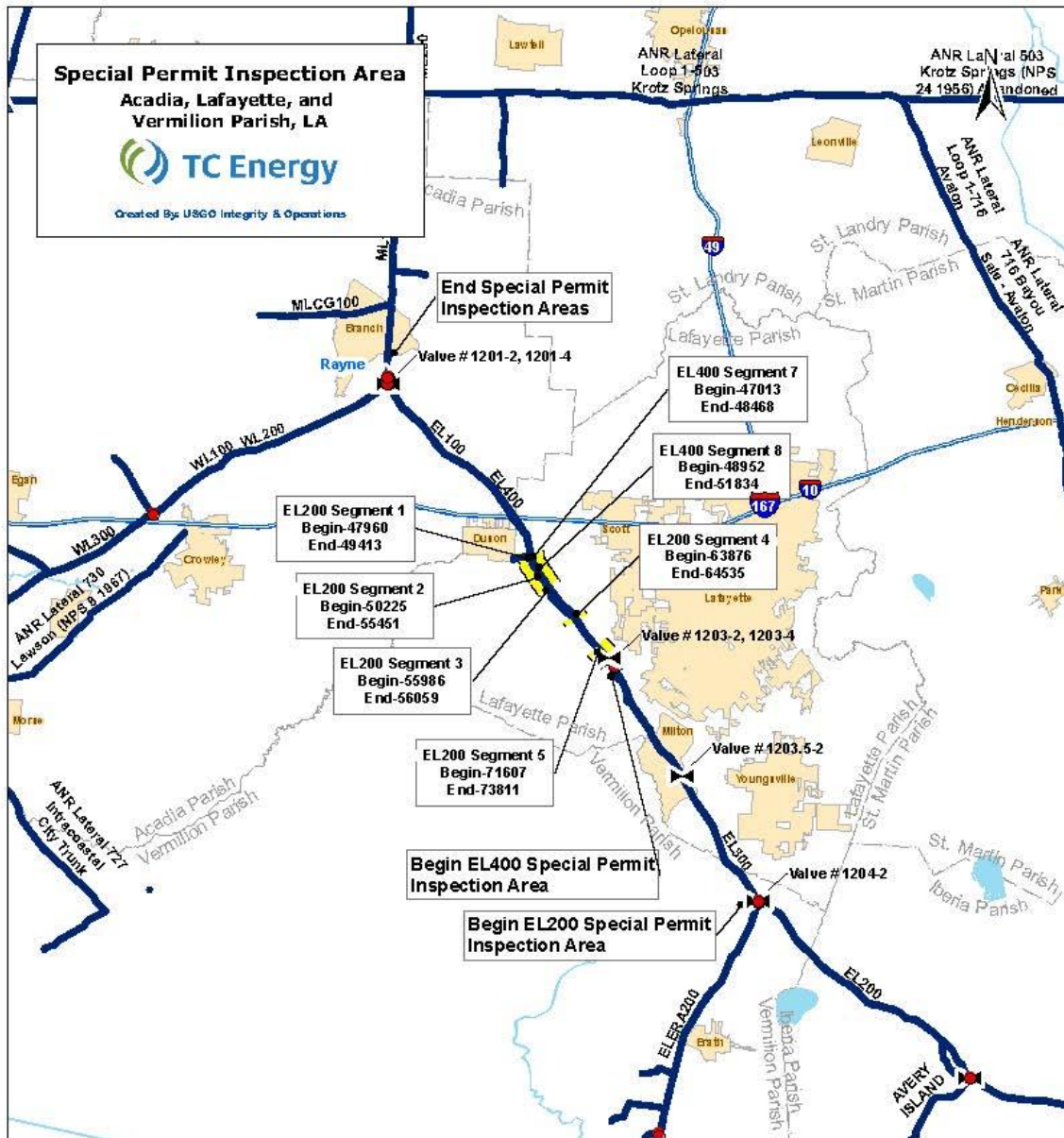
Completed by PHMSA in Washington, DC on: March 31, 2022

Attachment A-1 – Special Permit Segments and Inspection Area Route Maps



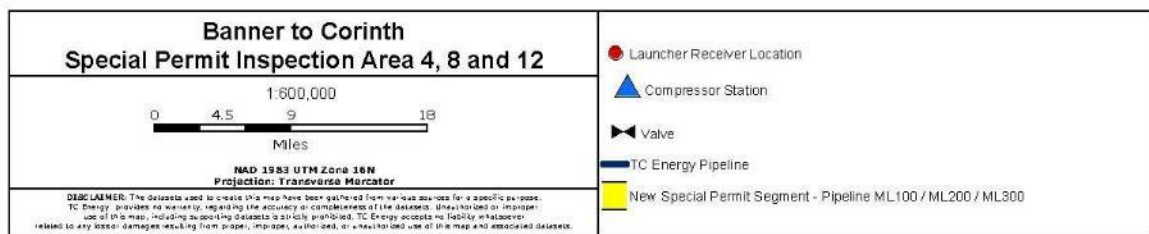
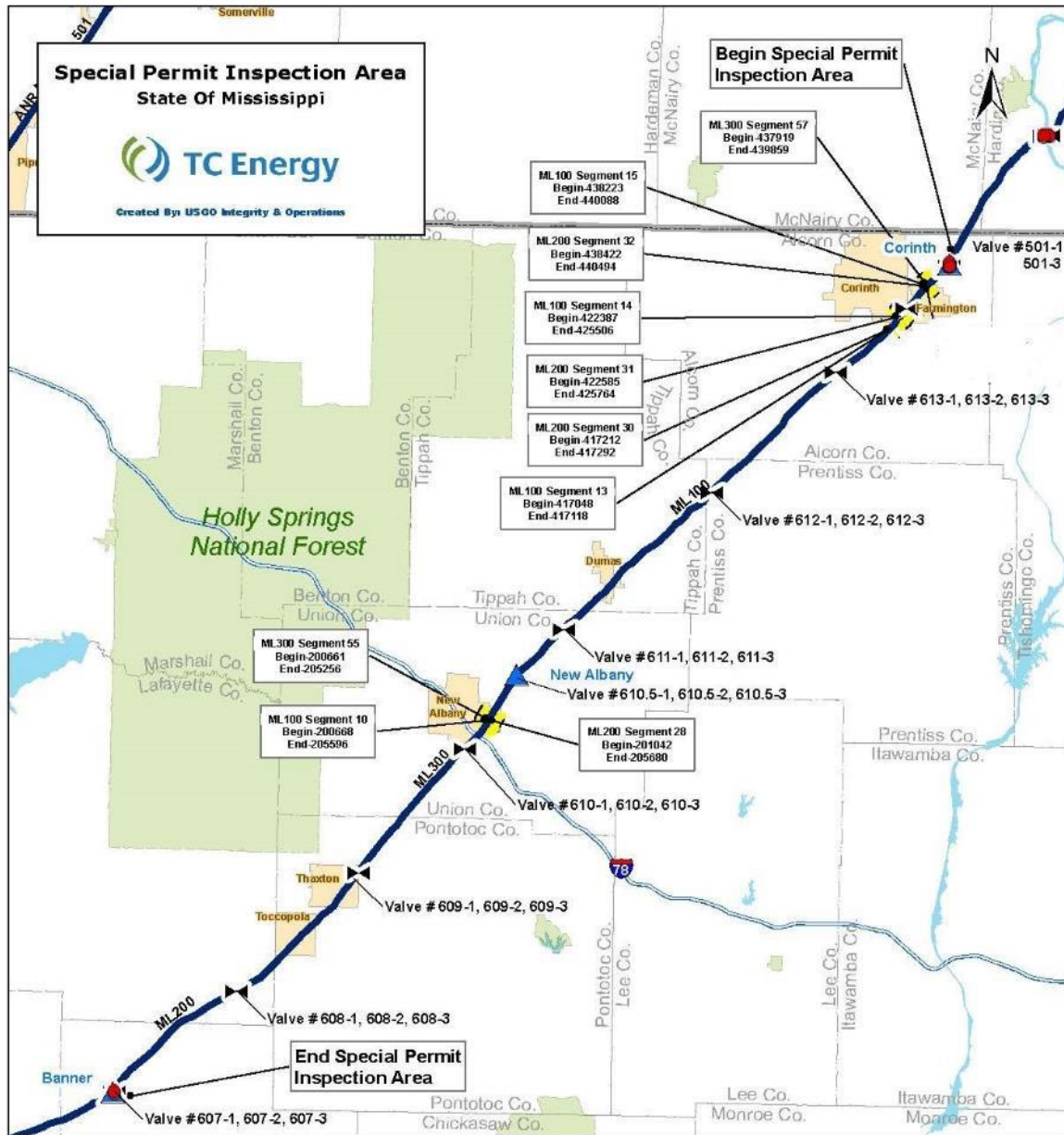
Attachment A-2 – Special Permit Segments and Inspection Areas Route Maps

24-inch East Lateral 200 and 30-inch East Lateral 400 Pipelines



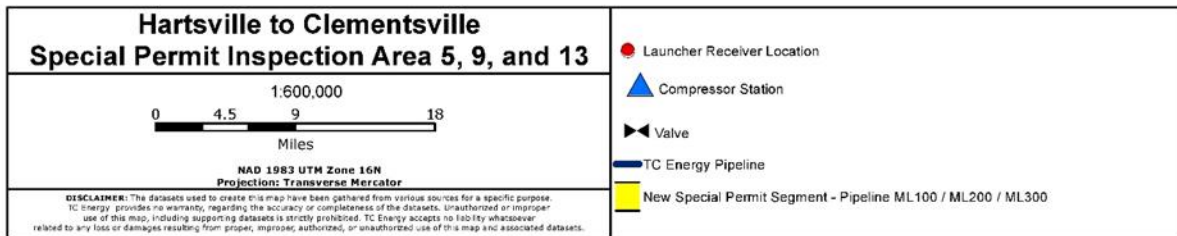
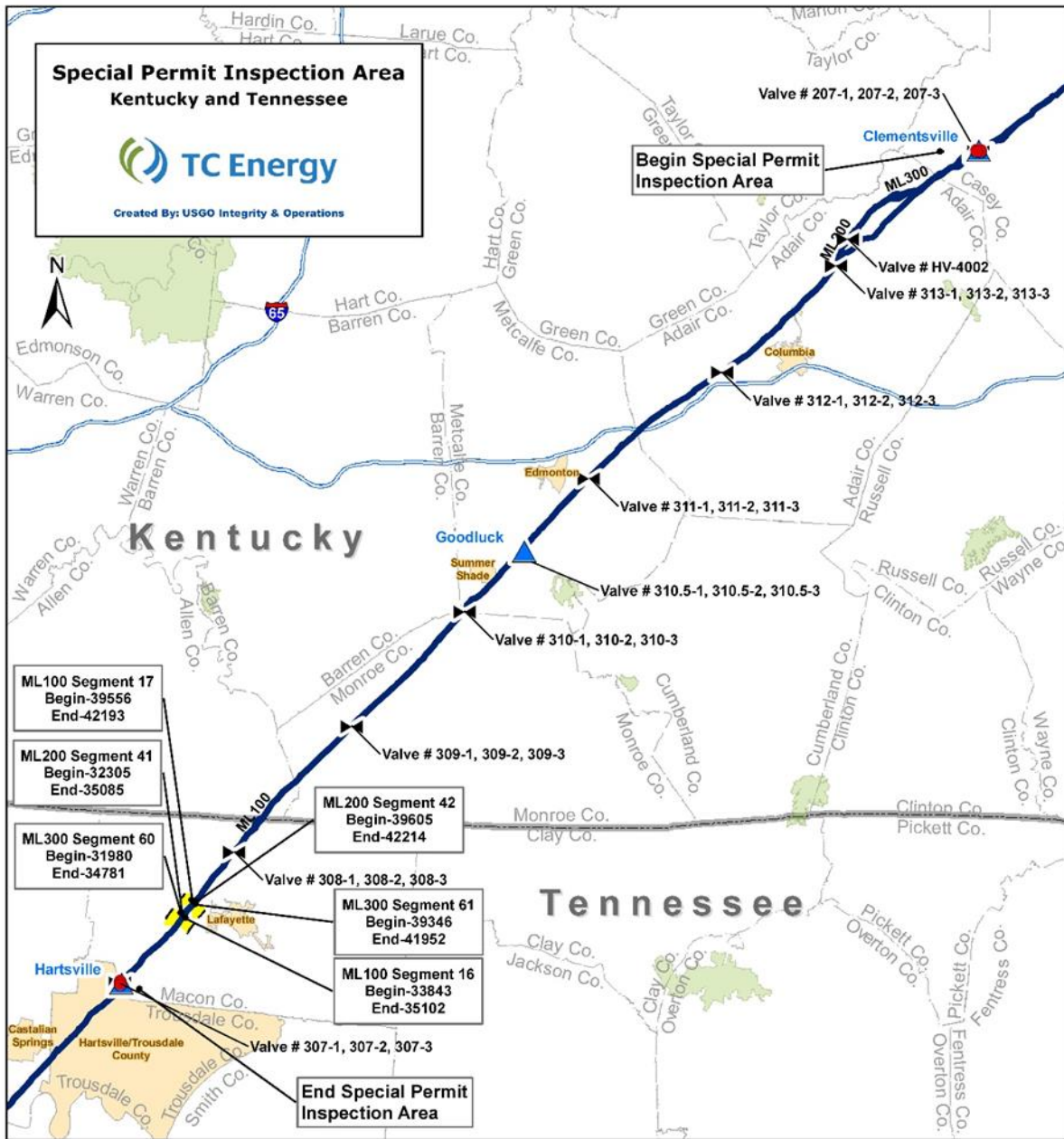
Revised: EL200_EL400 Special Permit Candidate Overview 0x11

Attachment A-3— Special Permit Segments and Inspection Area Route Maps 30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300



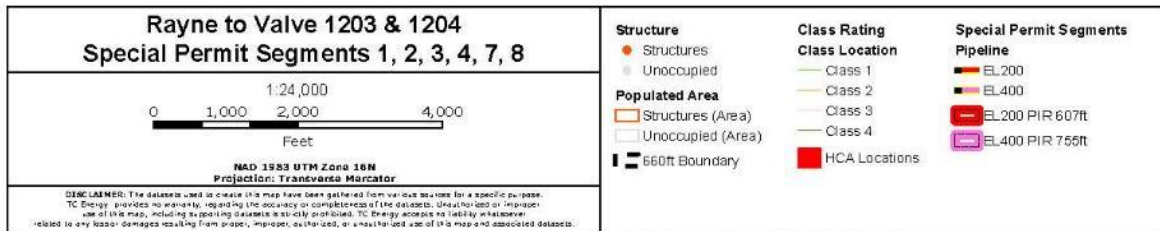
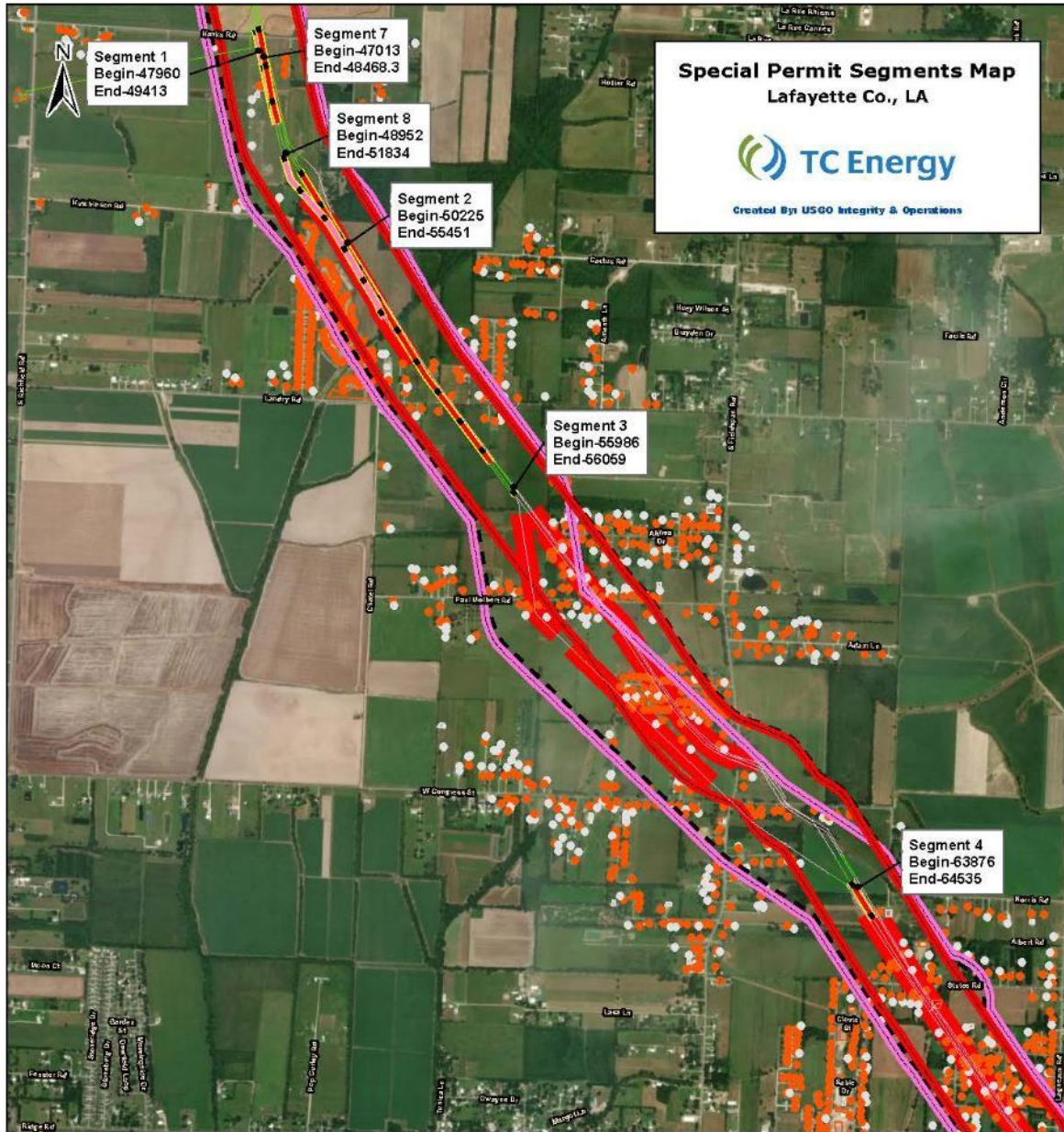
Attachment A-4— Special Permit Segments and Inspection Area Route Maps

30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300



Attachment A-5– Special Permit Segments and Inspection Area Route Maps

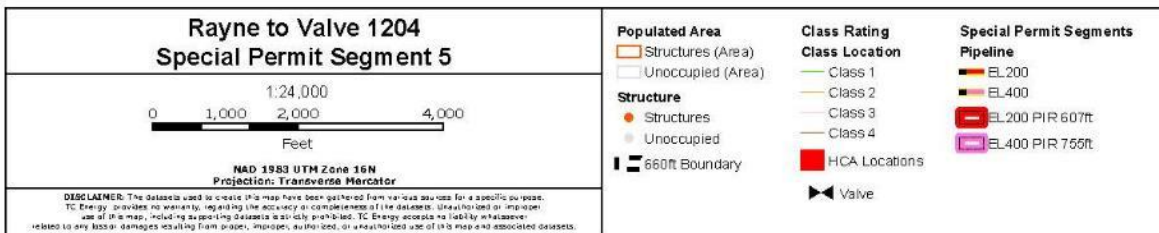
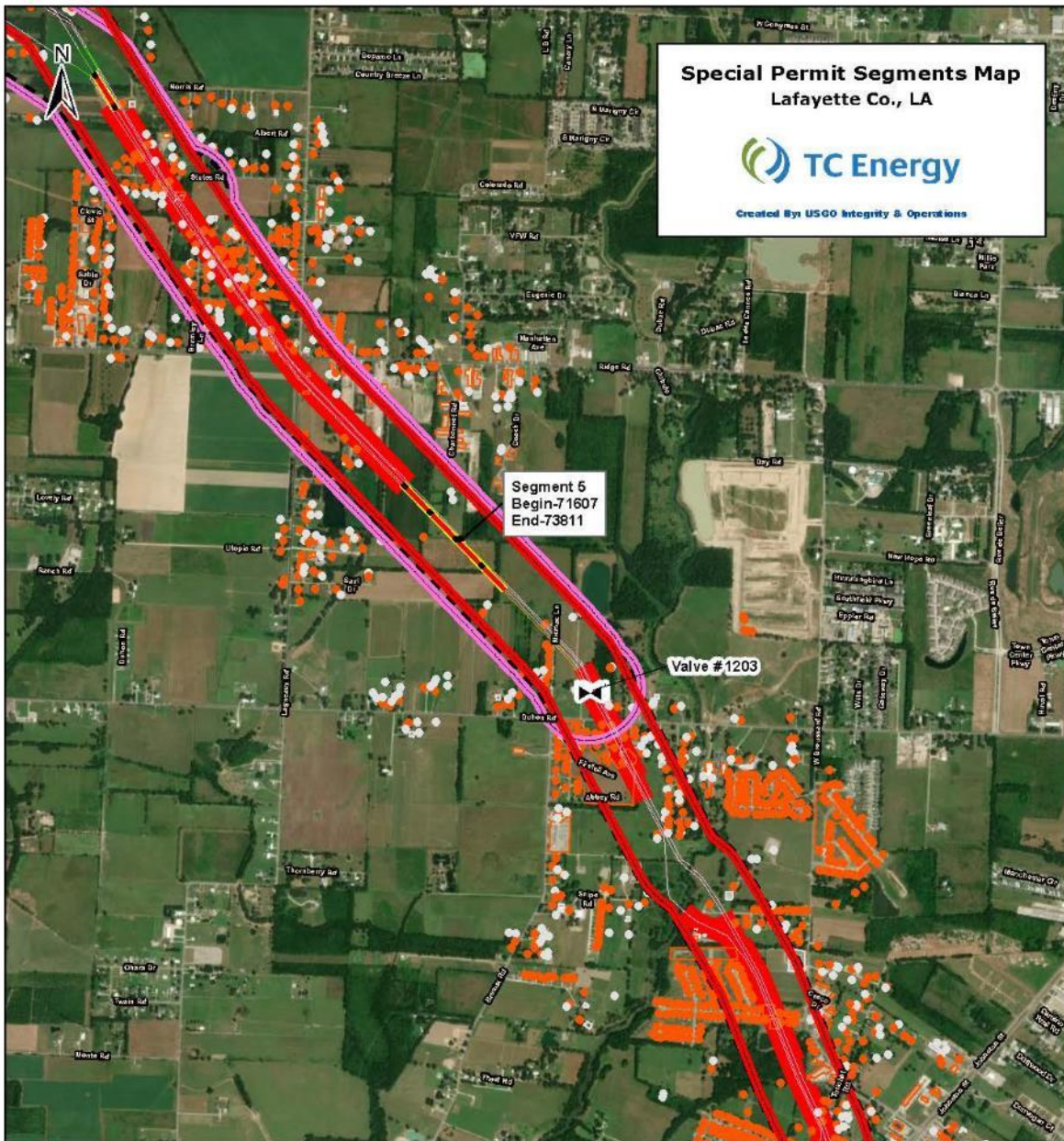
24-inch East Lateral 200 and 30-inch East Lateral 400 Special Permit Segments



\\nas01prod\hst\top\camb\pnd_cpg_31A\0118-Mapping\Special Permit\area\request_3137_CST Ray PHMSA-2019-0201 Special Permit Map Update\Revised CST Map 1.mxd

Attachment B-2 – Route Maps

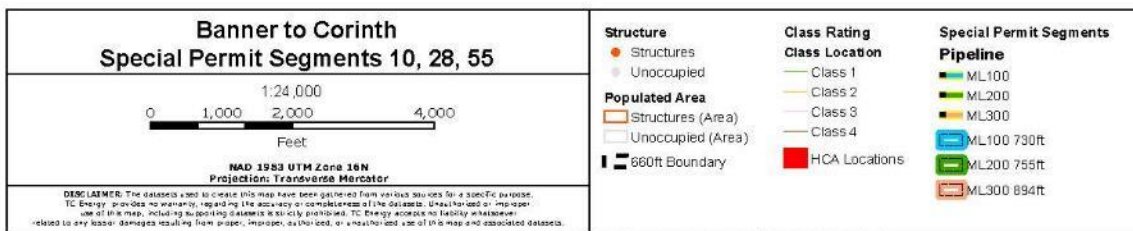
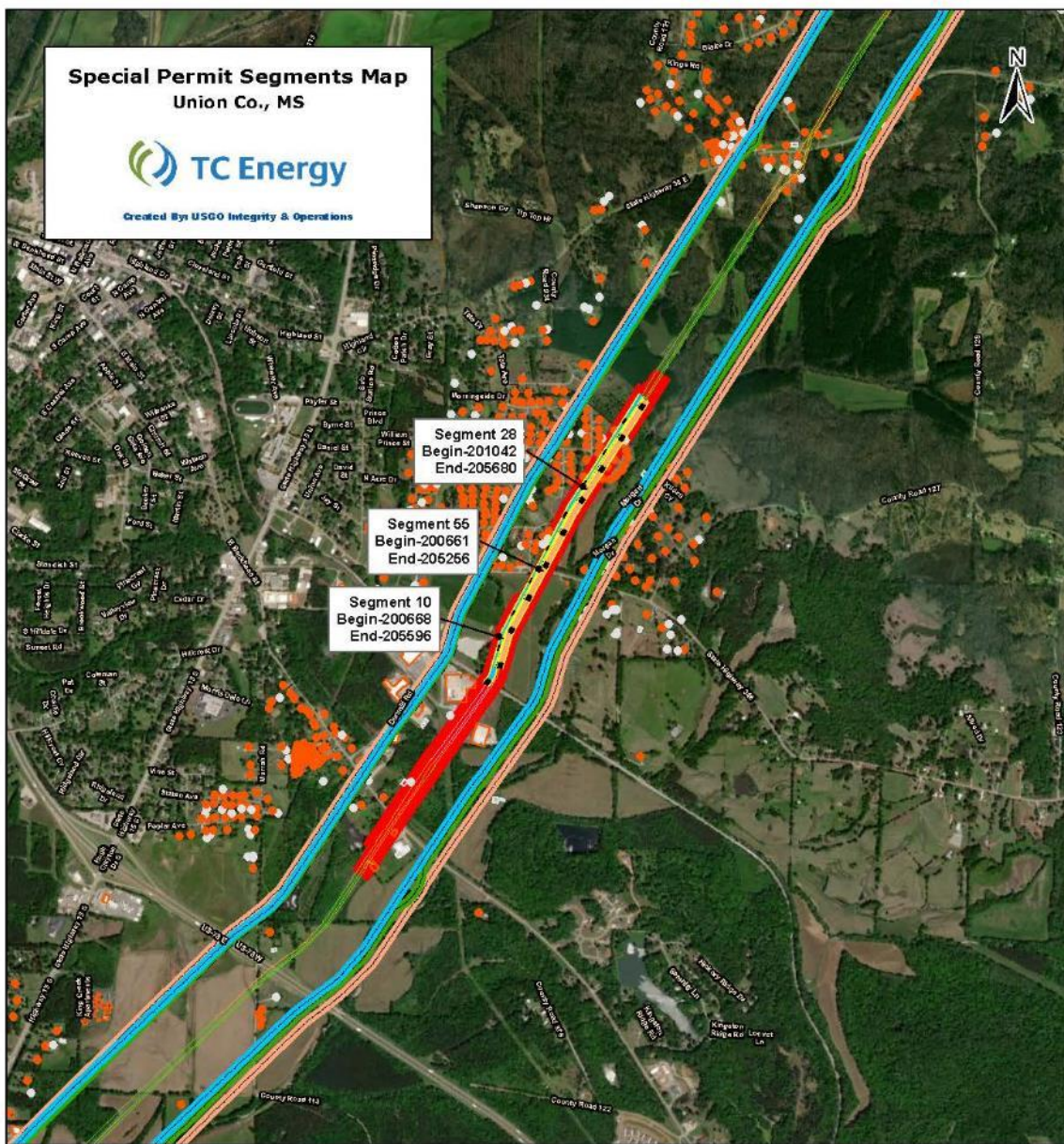
24-inch East Lateral 200 and 30-inch East Lateral 400 Special Permit Segments



\\nae00p002\top\ca\enr_and_cpy_01\9120_Mapping\Special Permits\Areas\valve_1204_001\New PHMSA-2019-0201 Special Permit Map Updates\Revised GAT Map 2.mxd

Attachment B-3 – Route Maps 30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300

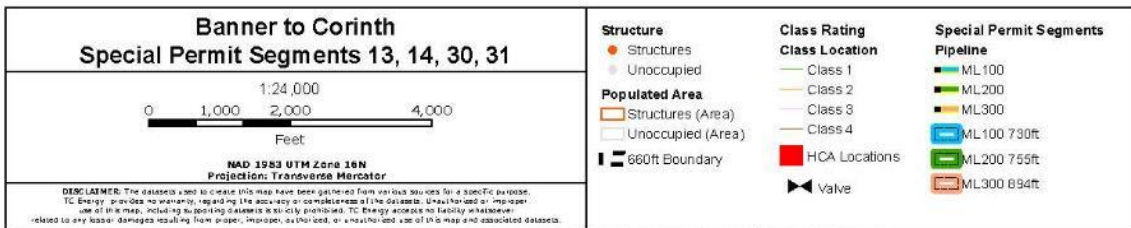
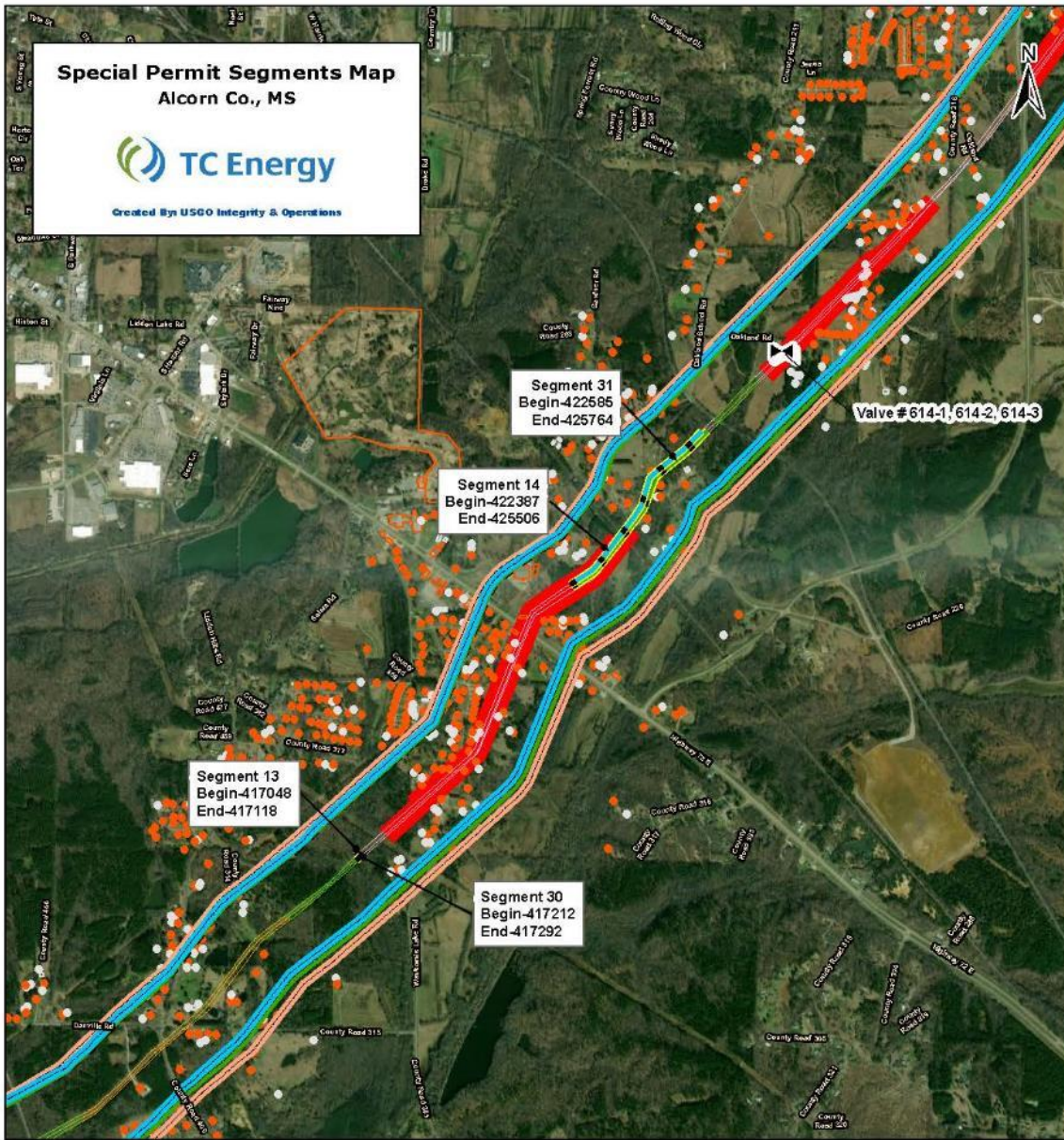
Special Permit Segments



\\nas.corp02.tcl.columb_pnd_cpg_gis\116-Mapping\Special Permit Areas\Request_3157_C01 New PHMSA-2019-0201 Special Permit Map Updated Revised 027 Map 0.mxd

Attachment B-4 – Route Maps 30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300

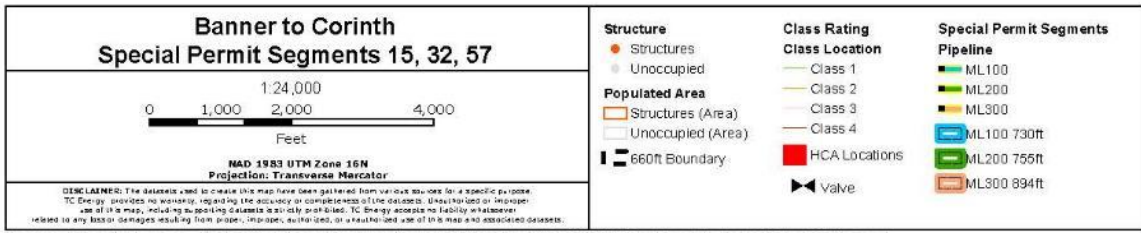
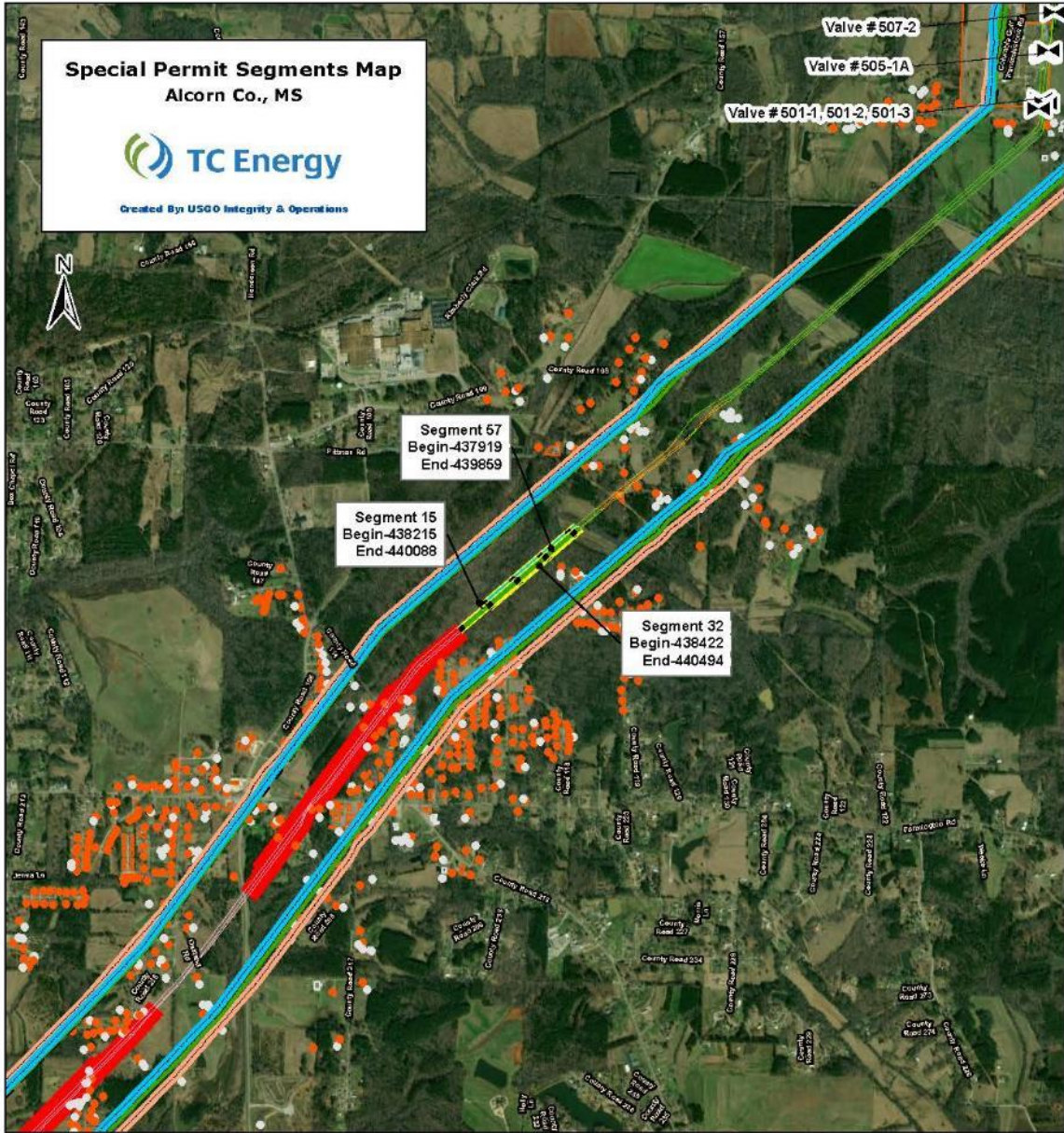
Special Permit Segments



\\nas.corp02h2.tcl.columb_prd_cpg_gis\GIS\6-Mapping\Special Permits\Area\Request_3157_CGT New PHMSA-2019-0201 Special Permit Map Updates\Revised CGT Map_4.mxd

Attachment B-5 – Route Maps 30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300

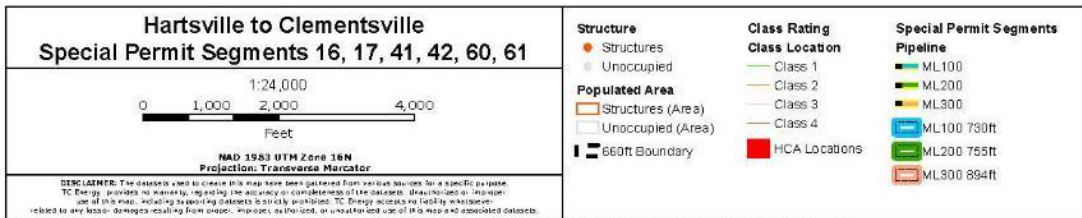
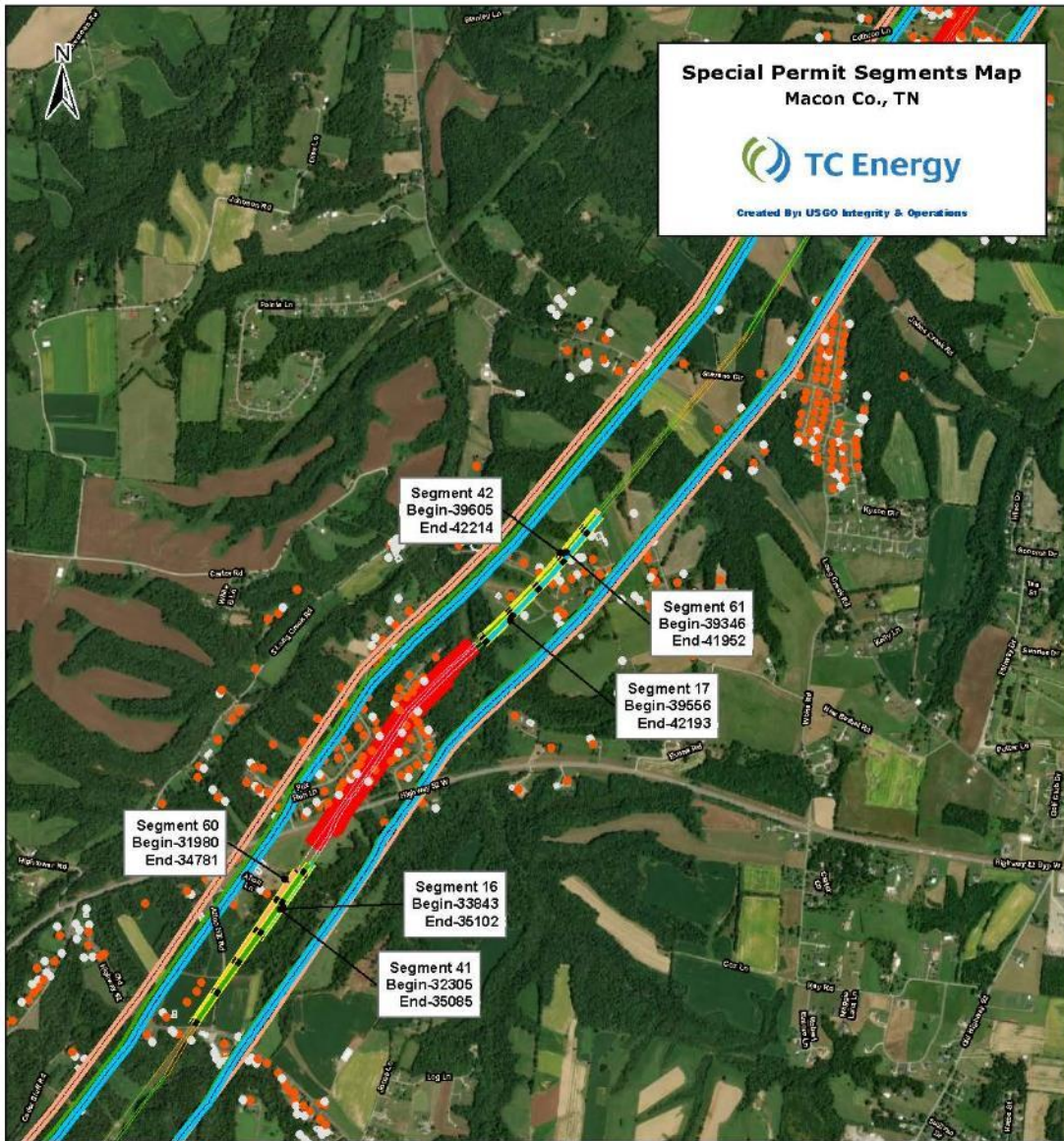
Special Permit Segments



\\nas-east-prod01\top\enr\enr_gis\gis\116\Mapings\Special Permits\Area\Request_3157_CST\Rev_01\MSA-2019-0201_Special Permits Map Updates\Revised_CST_Map_Symbol

Attachment B-6 – Route Maps

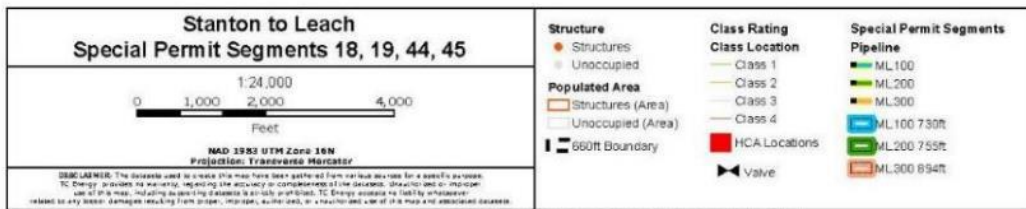
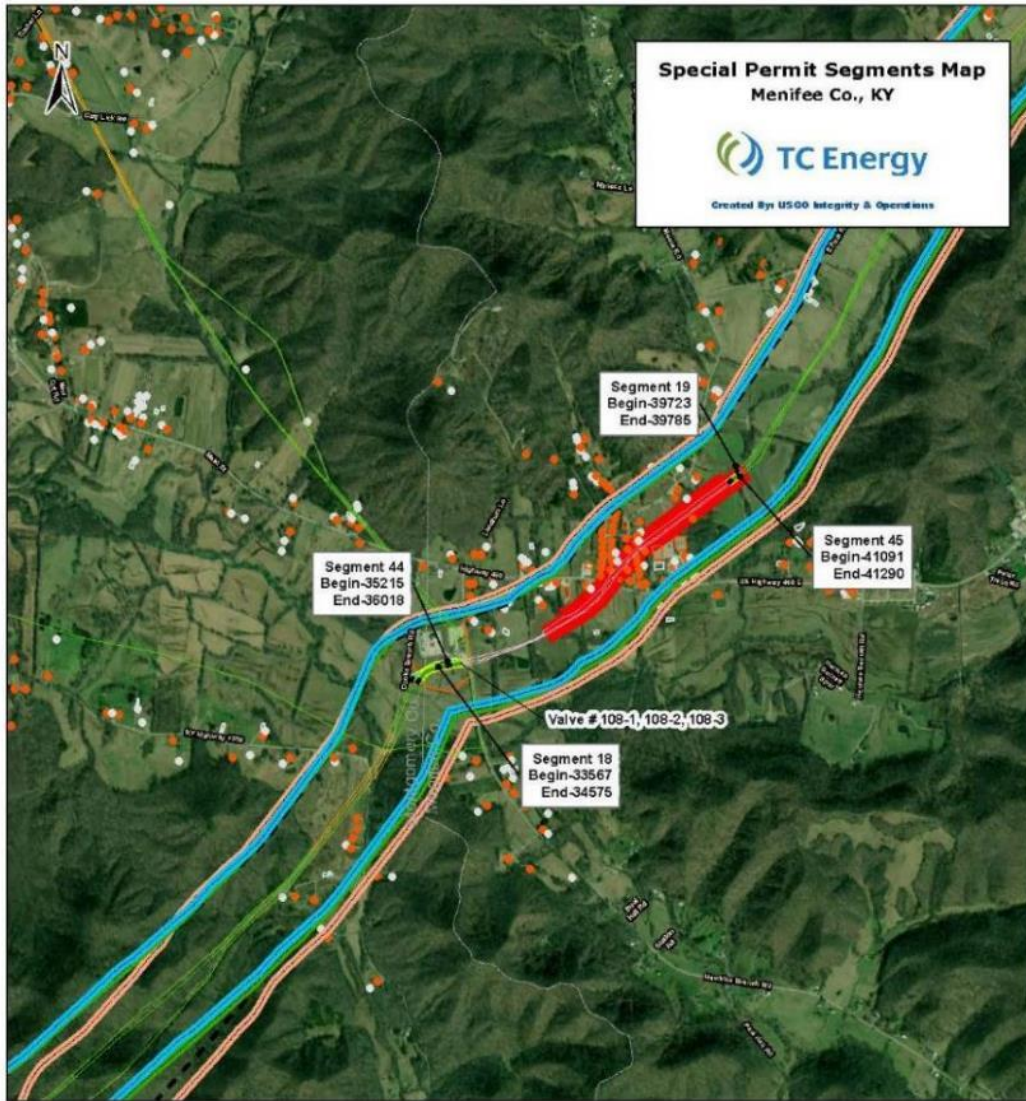
30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300 Special Permit Segments



\\nas001\proj\GIS\MapInfo\Special Permits\Areas\Resuscit_3157_CST_Nov_PHMSA-2019-0201_Special_Permit_Map_Locate\Raw\2019_CST_Map_6.mxd

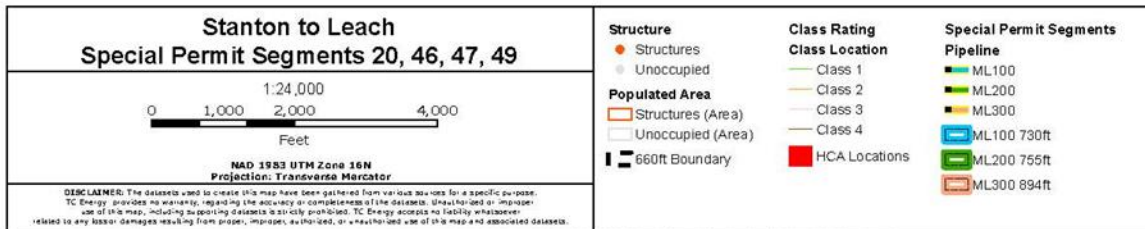
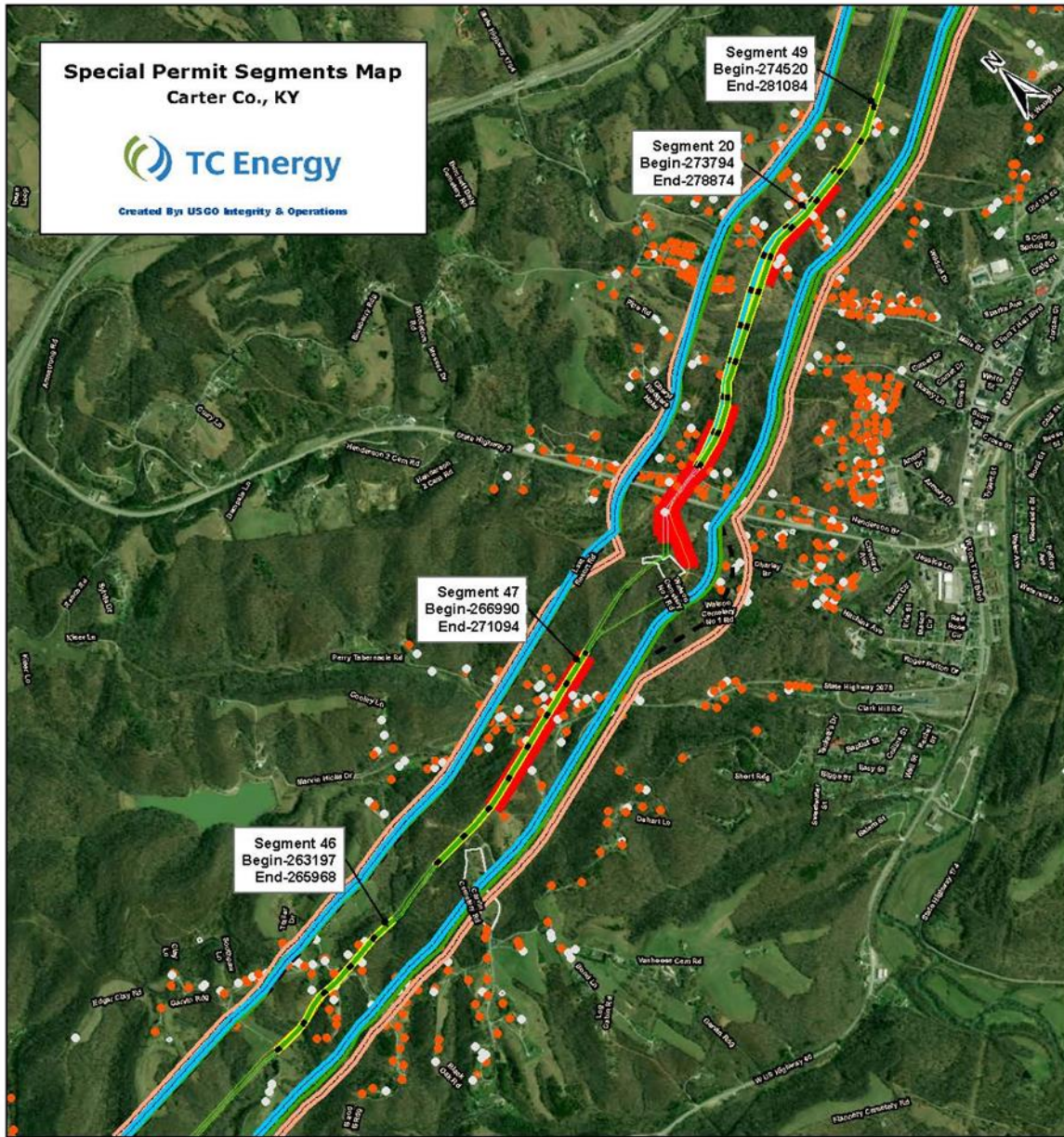
Attachment B-7 – Route Maps

30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300 Special Permit Segments



Attachment B-8 – Route Maps

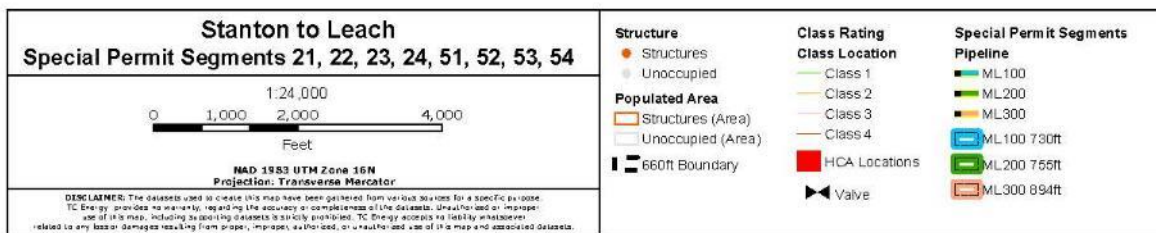
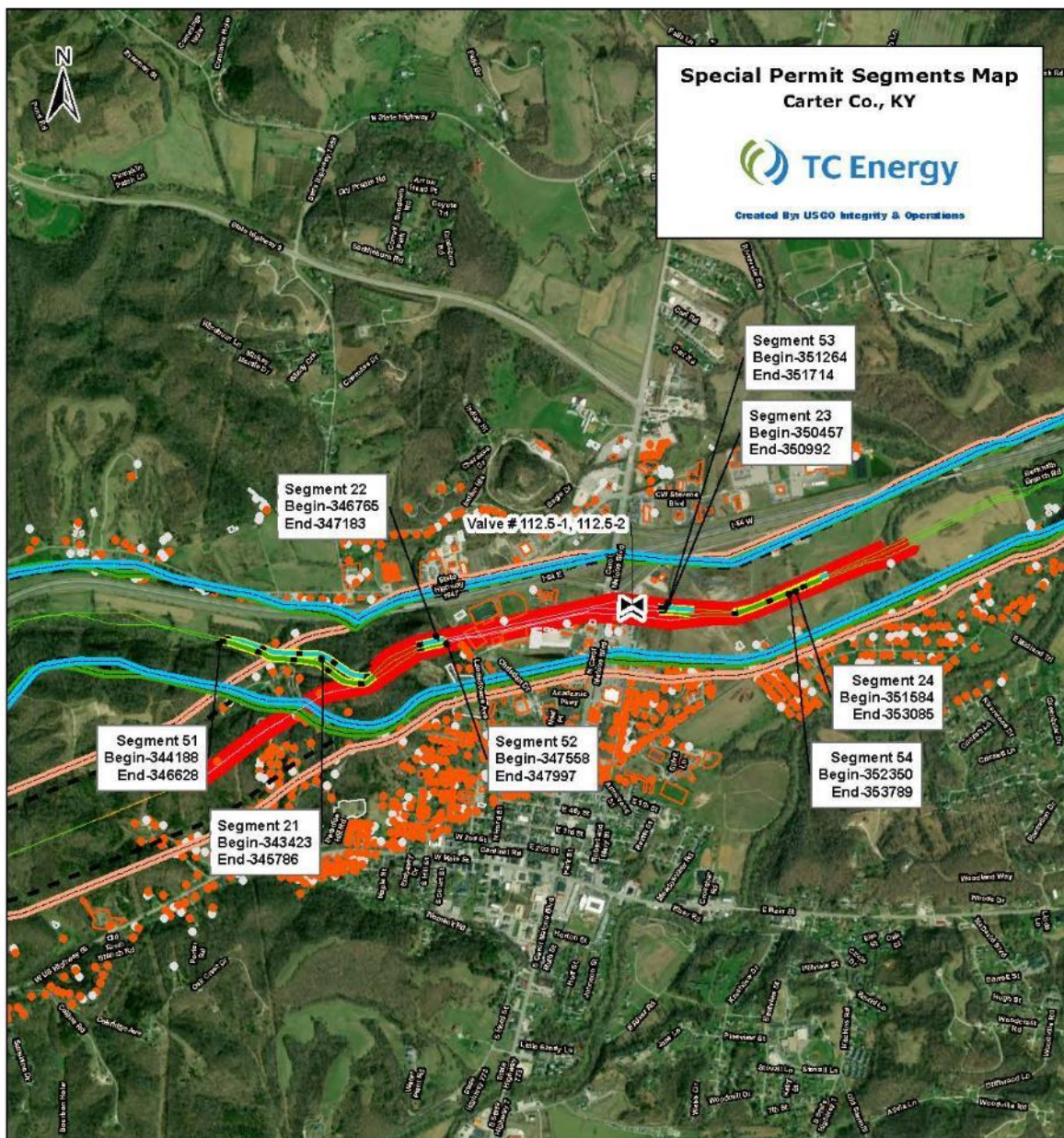
30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300 Special Permit Segments



\\vawcorp02.top\c\sm\prj_cpg_gis\GIS-Mapping\Special Permit Areas\Project_3157_CST New PHMSA-2019-0201 Special Permit Map Updates\Revised CST Map 8.mxd

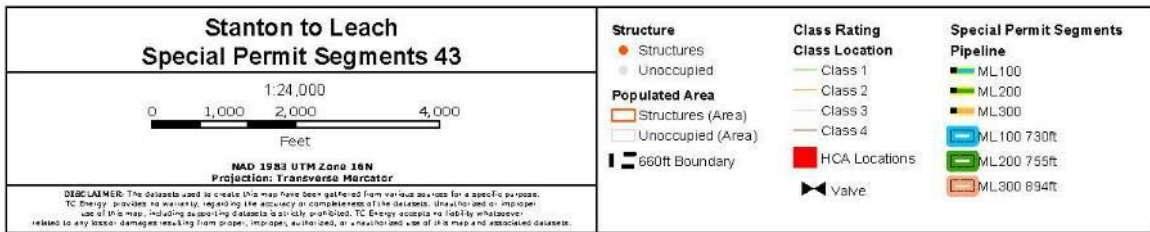
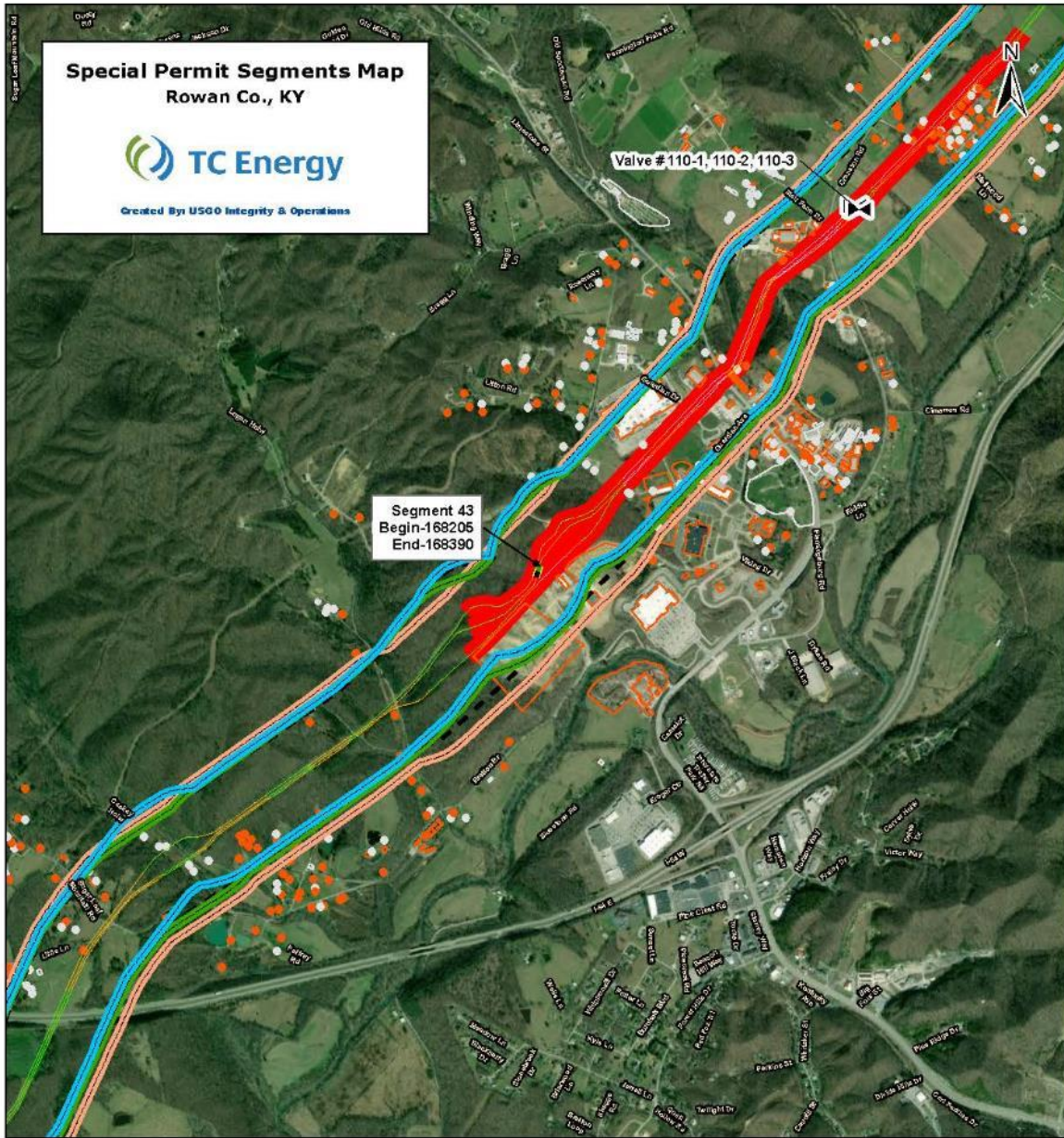
Attachment B-9 – Route Maps

30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300 Special Permit Segments



Attachment B-10 – Route Maps

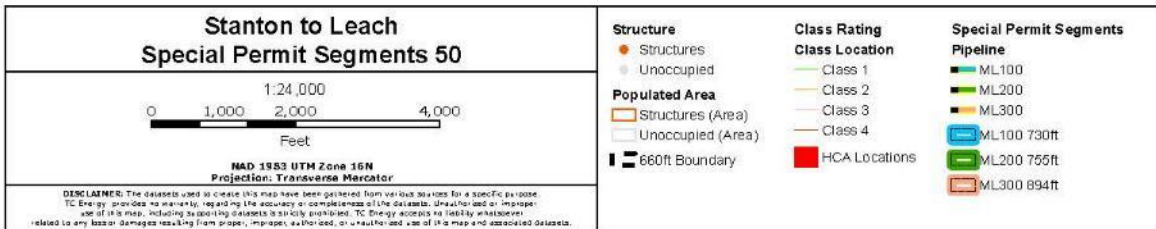
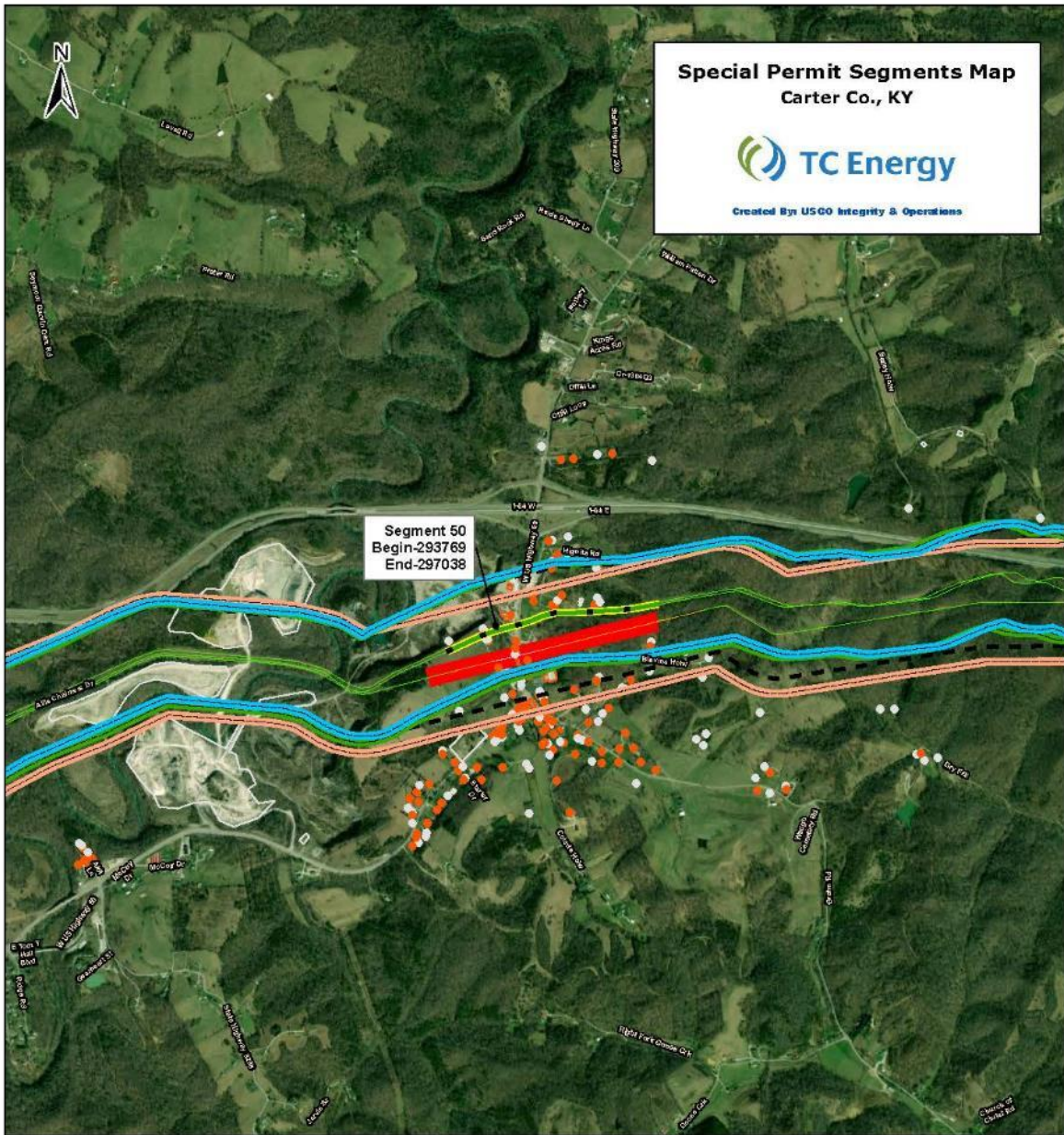
30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300 Special Permit Segments



\\sawnewprod2.tptc.com\pnt_cpg_gint\gint\67846\pnt\Special Permit Areas\Request_3137_C01 Rev. 08034-2019\0201_Special Permit Map Update\Revised C01 Map_10.mxd

Attachment B-11 – Route Maps

30-inch Main Line 100, 30-inch Main Line 200, & 36-inch Main Line 300 Special Permit Segments



Attachment C – Special Permit Conditions

1) **Condition 1 - Maximum Allowable Operating Pressure**

- a) **Maximum Allowable Operating Pressure**: CGT must continue to operate each *special permit segment* and *special permit inspection area* at or below the existing MAOP of 935 psig (ML 100 Pipeline), 973 psig (EL 200 Pipeline), and 1,007 psig (EL 400 Pipeline, ML 200 Pipeline, and ML 300 Pipeline).
- b) **Pressure Test**: CGT must identify previous pressure tests for each *special permit segment*. Pressure test records for each *special permit segment* must meet 49 CFR 192.517(a) and be traceable, verifiable, and complete (TVC)¹¹ as required in 49 CFR 192.624(a)(1).
- i) CGT has furnished pressure test records to PHMSA for the *special permit segments*. **Table 2 – Special Permit Segments** identifies the *special permit segments* where the pressure test records supplied by CGT do not meet the requirements of TVC or the pressure test was less than 1.25 times the MAOP and the completion of **Condition 1(b)** is required. If CGT identifies additional pressure test records that are TVC records, CGT has the option to submit these pressure test records to the Director, PHMSA Eastern Region, and to the Director, PHMSA Engineering and Research Division, within 60 days of the grant of the special permit. The pressure test records must be compliant with **Condition 1(b)**.¹² CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, that the TVC pressure test records are compliant with 49 CFR 192.517(a), 192.624(a)(1), and 192.619(a)(1) through (a)(4) for a Class 1 location, or CGT must pressure test the *special permit segment* in accordance with **Condition 1(b)(ii)**.
- ii) If CGT does not have a TVC record of a 1.25 times the MAOP hydrotest in accordance with Subpart J, or the *special permit segment* requires an updated

¹¹ TVC procedures and records must follow the following: 1) “Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements and Other Related Amendments”; 84 FR 52218 to 52219; October 1, 2019; and 2) PHMSA Advisory Bulletin: Pipeline Safety: Verification of Records; 77 FR 26822; May 7, 2012; <https://www.gpo.gov/fdsys/pkg/FR-2012-05-07/pdf/2012-10866.pdf>.

¹² The pressure test records must cover the entire length of the *special permit segment*, regardless of when the pipeline, single or multiple pipe joints, or other pipeline components were installed. Affidavits for a pressure test are not acceptable TVC pressure test records.

pressure test, the *special permit segment* must be hydrostatically tested¹³ to a minimum of 1.39 times the MAOP for eight (8) continuous hours in accordance with 49 CFR Part 192, Subpart J, within 18 months of the grant of this special permit.¹⁴ CGT must pressure test *special permit segments 46, 47, 49, and 50* to a minimum of 1.39 times the MAOP for eight (8) continuous hours in accordance with **Condition 1(b)**.

- c) **MAOP Restoration or Uprating of Previously De-rated Pipe**: MAOP restoration or uprating is not approved for this special permit.

2) **Condition 2 - Procedure Updates**

Within 90 days of the grant of the special permit, CGT must develop and maintain procedures in accordance with 49 CFR 192.603 and 192.605 that incorporate the special permit condition requirements as follows:

- a) **Operations and Maintenance Manual**: CGT must amend the applicable sections of its Operations and Maintenance (O&M) manual(s) and procedures to incorporate the special permit conditions.
- b) **Integrity Management Program**:
 - i) CGT must incorporate each *special permit segment* into its written integrity management (IM) program procedures as if the *special permit segment* is a “covered segment” as defined in 49 CFR 192.903, except for the reporting requirements contained in 49 CFR 192.945.¹⁵ A *special permit inspection area* outside of a *special permit segment* is not required to be included as “covered segments” in accordance with 49 CFR 192.903.

¹³ For all in-service and pressure test failures, CGT must perform a root cause analysis, including the metallurgical examination of the failed pipe, to determine if the failure is caused by a systemic or non-systemic issue. CGT must provide the written results of this root cause analysis to the Director, PHMSA Eastern Region, within 90 days of the failure and must submit a copy of the root cause analysis to the Director, PHMSA Engineering and Research Division.

¹⁴ The grant of this special permit, as used throughout, is the signed issuance date of the special permit.

¹⁵ CGT must follow the reporting requirements in **Condition 15 – Annual Report** as well as those noted throughout the conditions contained herein.

- ii) The *special permit inspection area* and *special permit segment* must have integrity threats identified, assessed, and remediated in accordance with these special permit conditions, 49 CFR 192.917, and 49 CFR Part 192, Subpart O.
 - iii) Any high consequence area (HCA) in either a *special permit segment* or a *special permit inspection area* must be assessed and remediated for threats in accordance with these special permit conditions and 49 CFR Part 192, Subpart O.
 - iv) All permit conditions that are applicable to a *special permit segment* or to a *special permit inspection area* are applicable to HCAs where the HCA overlaps a *special permit segment* or a *special permit inspection area*.
 - v) All special permit conditions that are applicable to a *special permit inspection area* are also applicable to the *special permit segment*. A *special permit segment* must meet the requirements of 49 CFR 192, Subpart O, if Subpart O is more stringent than the special permit conditions.
 - vi) The *special permit inspection area* must be able to be assessed using inline inspection (ILI) tools, including tethered or remotely controlled tools, in accordance with 49 CFR 192.150 and 192.493.
- c) **Damage Prevention Program**: CGT must incorporate within a *special permit inspection area* the applicable best practices of the Common Ground Alliance (CGA)¹⁶ in its damage prevention (DP) program.

3) **Condition 3 - Corrosion Control**

CGT must promptly address any corrosion control deficiencies in a *special permit segment* that are indicated by the inspection and testing programs required under 49 CFR 192.463 and 192.465.

- a) **Cathodic Protection Test Station Spacing**: At least one (1) cathodic protection (CP) pipe-to-soil test station must be located within each *special permit segment*, with a spacing not to exceed ½ mile between CP pipe-to-soil test stations. In cases where obstructions or restricted areas prevent such test station placement, the test station must

¹⁶ Common Ground Alliance. (March 2020). Best Practices Guide. Retrieved from: <https://commongroundalliance.com/BPguide>.

be placed in the closest practical location, not to exceed a 3,000-foot spacing. CP pipe-to-soil test stations must be installed within 12 months of the grant of this special permit.

- b) **Annual Monitoring of Test Station Potential Measurements:** At least once every calendar year, not to exceed 15 months, CGT must monitor CP pipe-to-soil test stations to meet 49 CFR 192.463 and 192.465 for the *special permit segment* and must include “on and off” potential measurements. Test station readings (pipe-to-soil potential measurements) must comply with Appendix D – Section I.A. (1) of 49 CFR Part 192 or remediation detailed in paragraph (c) of this condition is required. For hard spots identified with a Brinell Hardness (HB) of 300 HB or greater, CP voltage levels must be maintained more electro-positive than minus 1.2 volts direct current (DC).
- c) **Inadequate Cathodic Protection Level Determination:**
 - i) In instances where inadequate potentials are a result of an electrical short to an adjacent foreign structure, a rectifier malfunction, an interruption of power source, or an interruption of CP current due to other non-systemic or location-specific causes, CGT must document and repair these instances. A close interval survey (CIS) will not be required.
 - ii) All other instances must be assessed as detailed in **Condition 4 – Close Interval Surveys.**
- d) **Remedial Action Plans:**
 - i) Within six (6) months of identifying a deficiency, CGT must develop a remedial action plan to restore CP to meet 49 CFR 192.463. Within two (2) months of the finding, CGT must apply for any necessary environmental permits (federal or state).
 - ii) CGT must complete the remediation and confirm restoration of adequate CP over the entire area where inadequate CP levels were detected within 12 months of the deficiency finding or as soon as practicable after obtaining the necessary permits.

4) **Condition 4 - Close Interval Surveys**

a) **Survey Methodology and Boundaries:**

- i) CGT must perform an “on and off” current CIS at a maximum 5-foot spacing along the entire length of each *special permit segment*.¹⁷
- ii) CGT must evaluate each *special permit segment* in accordance with 49 CFR 192.463.
- iii) For inadequate CP level determination described in **Condition 3(c)(ii)**, CGT must conduct a CIS in both directions from the test station with an inadequate CP reading with the CIS ending at the adjacent test stations.

b) **Survey Intervals:** CGT must perform the CIS within the following timeframes:

- i) Initial assessment must be completed for each newly incorporated and extended *special permit segment* within 12 months after the grant of the special permit. For a *special permit segment* renewal, the CIS may be conducted at the next reassessment interval.¹⁸
- ii) Reassessments must be conducted every five (5) years not to exceed 66 months. CISs within the reassessment interval are not required to be performed in the same year as ILI reassessments.

c) **Survey Remediation and Remedial Action Plans:**

- i) If a *special permit segment* requires the use of 100 millivolt shift criteria¹⁹ or the installation of linear anodes along the *special permit segment* to meet the CP requirements of 49 CFR 192.463, it is not eligible to operate with a Class 1 pipe in a Class 3 location. CGT must either: (1) replace the pipe in the *special permit*

¹⁷ Each condition in this special permit that requires CGT to perform an action with respect to the *special permit inspection area* also requires CGT to perform that action on each *special permit segment* within the area.

¹⁸ A CIS survey conducted in 2020 for a *special permit segment* that is permit condition compliant would not need to be resurveyed in 2021 but could wait until the next CIS survey reassessment time.

¹⁹ A.W. Peabody, “Peabody’s Control of Pipeline Corrosion,” second edition, “Criteria for Cathodic Protection.” “The 100mV polarization criterion should not be used in areas subject to stray current because 100 mV of polarization may not be sufficient to mitigate corrosion in these areas. This criterion also should not be used in areas where the intergranular form of external SCC, also referred to as high-pH or classical SCC, is suspected. The potential range for cracking lies between the native potential and -850 mV (CSE) such that application of the 100mV polarization criterion may place the potential of the structure in the range for cracking.”

- segment* with Class 3 location standard (design factor) pipe (see 49 CFR 192.111(a)); (2) recoat the pipe with non-shielding external coating within 12 months of the finding; or (3) lower the MAOP to meet 49 CFR 192.611.
- ii) Within four (4) months of identifying a deficiency, CGT must develop a remedial action plan to restore CP to meet 49 CFR 192.463. Within two (2) months of the remedial action plan being developed, CGT must apply for any necessary environmental permits (federal or state).
 - iii) CGT must complete remediation of each *special permit segment* and confirm restoration of adequate CP over the entire area where inadequate CP levels were detected within 12 months of the survey or as soon as practicable after obtaining the necessary permits.²⁰

5) **Condition 5 - Inline Inspection**

- a) **Threat Identification**: CGT must implement data integration and identify integrity threats in the *special permit inspection area* at least once each calendar year, with intervals not to exceed 15 months, in accordance with 49 CFR 192.917 and **Condition 13(c) – Data Integration**. The stress corrosion cracking (SCC) threat assessment for the *extended special permit segment*,²¹ must be conducted using the current incorporated by reference (IBR) edition of the American Society of Mechanical Engineers (ASME) Standard B31.8S, "Managing System Integrity of Gas Pipelines" (ASME B31.8S) Appendix A3 and National Association of Corrosion Engineers (NACE) Standard Practice (SP) 0204-2008, "Stress Corrosion Cracking Direct Assessment Methodology," Sections 1.2.1.1 and 1.2.2.
- b) **Inline Inspection Methodology**: CGT must conduct instrumented ILI integrity assessments in accordance with 49 CFR 192.493, for each *special permit inspection area* for all threats identified in accordance with 49 CFR 192.919 and 192.921.

²⁰ If remediation based upon the findings of the CIS is not practicable within 12 months of the CIS survey, CGT must submit a schedule and justify the delay 60 days prior to the 12-month completion requirement to the Director, PHMSA Eastern Region. CGT must receive a "no objection" letter from the Director, PHMSA Eastern Region, prior to a pipe coating remediation schedule extension.

²¹ The *extended special permit segment* is defined as the *special permit segment* and the five (5) contiguous miles past each endpoint.

- i) At a minimum, CGT must conduct ILI assessments for corrosion and denting with high-resolution (HR) magnetic flux leakage (HR-MFL) and HR deformation tools with deformation-extended sensor arms not limited by pig cups.
 - ii) For near-neutral or high-pH SCC (cracking threat), CGT must use an ILI tool²² that will identify tight cracks.²³ Based upon information provided by CGT, PHMSA has determined the *special permit segments* are susceptible to SCC and must be assessed for SCC.
 - iii) A *special permit segment* with electric flash-welded (EFW) pipe must have an ILI tool assessment run for hard spots and cracking from hard spots.
 - iv) In a *special permit inspection area* that has experienced pipe or girth weld leaks or ruptures due to soil movement or the threat has been identified, CGT must run inertial measurement unit (IMU) and HR-deformation ILI tools for detection and remediation of strains and denting of the pipe body and girth welds from soil or pipe movements that impair pipeline integrity. Remediation must be conducted as determined by **Condition 13(j) – Pipe and Soil Movement**.
- c) **Inline Inspection Assessment Intervals:** CGT must conduct initial assessments and reassessments for the *special permit inspection area* in accordance with the following:
- i) Initial ILI assessments must be conducted as follows:
 - (1) If the *special permit segment* has EFW pipe, it must be assessed for hard spots within 18 months of the special permit grant date.²⁴
 - (2) CGT must assess for the cracking threat in each *extended special permit segment* within 18 months of the special permit grant date.
 - (3) All other identified threats must be assessed within two (2) years of special permit grant date.

²² The crack ILI tool must be comparable to an electro-magnetic acoustic transducer (EMAT) ILI tool.

²³ CGT may propose an alternative assessment method for SCC (such as spike hydrostatic testing in accordance with 49 CFR 192.506) to the Director, PHMSA Eastern Region, with a copy of the proposal to the Director, PHMSA Engineering and Research Division. CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to implementing any alternative assessment methods for SCC.

²⁴ As of the date of the grant of this special permit, CGT has identified EFW seam pipe in *special permit segments 7, 8, 30, 31, 32, 55, and 57*, which must be assessed for the hard spot pipe cracking threat.

- (4) For newly identified threats, assessments must be completed within two (2) years of identification.
 - (5) Previous ILI assessments may be applied if **Condition 8 – Anomaly Evaluation and Remediation** is completed, and the **Condition 5(c)(ii)** reassessment interval is maintained.
- ii) Reassessments must be completed in accordance with the shortest interval of the following:
 - (1) 49 CFR 192.939(a);
 - (2) Intervals of five (5) calendar years not to exceed 66 months, if the *special permit segment* contains any of the following:
 - (a) low-frequency electric resistance welded (LF-ERW) or EFW pipe,
 - (b) hard spots,
 - (c) shorted carrier pipe to the casing,
 - (d) susceptible to SCC, or
 - (e) pipe or soil movement; or
 - (3) The engineering critical assessment (ECA)-determined interval, if applicable.
 - iii) After conducting two (2) assessments of a threat, one of which must be after the grant of this special permit, CGT may request reassessment intervals up to seven (7) years for that threat assessment. CGT must submit for and receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to implementing this change.
 - iv) If factors beyond CGT’s control prevent the completion of an assessment within the required timeframe or reassessment interval, CGT must perform the assessment as soon as practicable, and CGT must submit a letter justifying the delay and provide the anticipated date of completion to the Director, PHMSA Eastern Region, no later than two (2) months prior to the end the timeframe or interval. CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, for the delay or must lower the MAOP of the *special permit segment* in accordance with 49 CFR 192.611.
- d) **Remediation:** Anomaly assessments must be evaluated and remediated in accordance with **Condition 8 – Anomaly Evaluation and Remediation**.

6) **Condition 6 - Girth Welds**

- a) **Construction Girth Weld Non-Destructive Test Records**: CGT must provide records to PHMSA that demonstrate the girth welds in the *special permit inspection area* were either:
- i) Non-destructively tested (NDT) at the time of construction in accordance with the federal pipeline safety regulations at the time the pipelines were constructed, or
 - ii) At least 1% of the girth welds and a minimum of two (2) girth welds in each *special permit segment* were NDT after initial construction and prior to the special permit application. CGT must demonstrate these welds were excavated, NDT, and repaired, if the welds do not meet federal pipeline safety regulations at the time the pipelines were constructed.
- b) **Missing Records**: If CGT cannot provide girth weld records to PHMSA to demonstrate compliance with **Condition 6(a)**, CGT must complete either **Condition 6(b)(i)** or both **Conditions 6(b)(ii)** and **(iii)** within 12 months of the grant of this special permit as follows:²⁵
- i) Certify to PHMSA, in writing, that there have been no in-service leaks or breaks in the girth welds in the *special permit inspection area* for the life of the pipeline; or
 - ii) Evaluate the terrain along each *special permit segment* for threats to girth weld integrity from soil or settlement stresses, perform NDT, and remediate all such integrity threats;²⁶ and
 - iii) Excavate,²⁷ visually inspect, and perform NDT on at least two (2) girth welds on each *special permit segment* in accordance with the applicable American Petroleum

²⁵ CGT may propose an alternative method for obtaining missing records to the Director, PHMSA Eastern Region, with a copy of the proposal to the Director, PHMSA Engineering and Research Division. CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to implementing the alternative method. An example of an alternative method could be usage of an appropriate ILI tool to identify girth weld(s) for excavation to determine overall girth weld integrity in the *special permit segment*.

²⁶ If a *special permit segment* has not had girth weld NDT to meet **Condition 6 – Girth Welds** and has experienced pipe or girth weld leaks or ruptures due to soil movement or the threat has been identified, then **Condition 5(b)(iv)** must be conducted within 12 months of the finding.

²⁷ CGT must evaluate the pipe for SCC any time the *special permit inspection area* is uncovered or excavated in accordance with **Condition 8(b) or (c)** of this special permit. Pipe with fusion bonded epoxy coating does not require SCC evaluation when excavated unless SCC has been identified as a threat in the *special permit inspection area*.

Institute Standard 1104, “*Welding of Pipelines and Related Facilities*” (API 1104) as follows:

- (1) Using the edition of API 1104 current at the time the pipeline was constructed;
 - (2) Using the edition of API 1104 IBR in the federal pipeline safety regulations at the time the pipeline was constructed; or
 - (3) Using the edition of API 1104 currently IBR in 49 CFR 192.7.
- c) **Defective Girth Welds**: If any girth weld in a *special permit segment* is found unacceptable in accordance with the API 1104 IBR Edition at the time of pipeline construction, CGT must repair the girth weld immediately and then prepare an inspection and remediation plan for all remaining girth welds in the *special permit segment* based upon the repair findings and the threat to the *special permit segment*. CGT must submit the inspection and remediation plan for girth welds to the Director, PHMSA Eastern Region, and must receive a “no objection” letter, for the girth weld remediation plan prior to its implementation.²⁸ CGT must remediate girth welds in the *special permit segment* in accordance with the inspection and remediation plan within 90 days of the “no-objection” letter receipt.²⁹

7) **Condition 7 - Stress Corrosion Cracking Threat**

CGT must evaluate the entire length of each *special permit inspection area* for SCC as follows:

- a) **Threat Assessments**: CGT must complete the SCC threat assessment as detailed in **Condition 5(a) – Threat Assessment**. Based upon information provided by CGT, PHMSA has determined the *special permit segments* are susceptible to SCC and must be assessed for SCC.
- b) **SCC Integrity Assessment**: If the threat assessment required under **Condition 7(a)** indicates the *extended special permit segment*³⁰ is susceptible to either near-neutral

²⁸ The Director, PHMSA Eastern Region, must respond to CGT's submittal letter within 90 days of receipt with a decision letter, or either give CGT a request for additional information or a need of additional time for PHMSA to review the request.

²⁹ CGT must include any plan requirements or comments received from the Director, PHMSA Eastern Region, into the remediation plan.

³⁰ The *extended special permit segment* is defined as the *special permit segment* and the five (5) contiguous miles past each endpoint.

or high-pH SCC, CGT must perform an SCC assessment on the *extended special permit segment* in accordance with **Condition 5 – Inline Inspection**. SCC integrity assessment using spike pressure testing is not approved for this special permit.³¹

- c) **Examination of Pipe**: If the threat of SCC exists in the *extended special permit segment* as determined in **Condition 7(a)**, CGT must directly examine the pipe for SCC, when the coating has been identified as poor during the pipeline examination. The examination must be conducted using an accepted crack detection practice in accordance with 49 CFR 192.710(c)(4), (d), and **Condition 7(d)** when the *extended special permit segment* is uncovered for any reason to comply with the special permit and IM activities, not including One Call activities (49 CFR 192.614).
- d) **Inspection of Pipe at Excavations**: Except for pipe coated with non-shielding coatings (fusion-bonded or liquid-applied epoxy coatings) and excavations performed in accordance with 49 CFR 192.614(c), CGT must directly examine the pipe for SCC using non-destructive examination methods appropriate for the type of pipe and integrity threat conditions in the ditch. CGT must use appropriate methods for crack detection, such as phased array ultrasonic testing (PAUT), inverse wavefield extrapolation (IWEX), or magnetic particle inspection (MPI),³² when an *extended special permit segment* is uncovered, and the coating has been identified as poor during the pipeline examination. Visual inspection is not sufficient to determine “poor coating.” CGT must “jeep” the excavated segment to determine the coating condition. Examples of “poor coating” include, but are not limited to, a coating that has become damaged and is losing adhesion to the pipe which is shown by falling off the pipe and/or shields the CP. CGT must keep coating records³³ at all excavation locations in the *special permit inspection area* to demonstrate the coating condition.

³¹ CGT may propose an alternative assessment method for SCC (such as spike hydrostatic testing in accordance with 49 CFR 192.506) to the Director, PHMSA Eastern Region, with a copy of the proposal to the Director, PHMSA Engineering and Research Division. CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to implementing any alternative assessment methods for SCC.

³² When MPI finds cracking, another method must be used to size the crack unless the crack can be completely ground out and still meet the pipeline MAOP.

³³ The records must include, at a minimum, a description of CGT’s detection procedures, records of finding, and mitigation procedures implemented for the excavation.

e) **Discovery of SCC**: If CGT discovers SCC³⁴ activity by any means within the *extended special permit segment* in similar pipe vintage (manufacturer, manufacturing time or age, diameter, wall thickness, grade and seam type) and pipe coating vintage (in accordance with 49 CFR 192.917(e)), or the *extended special permit segment* has had an in-service or hydrostatic test SCC failure or leak,³⁵ the *special permit segment* must be further assessed and mitigated, within 18 months of finding SCC and reassessed every five (5) calendar years or less³⁶ based upon the evaluated growth of the SCC, using one (1) of the following methods:

i) **Spike Hydrostatic Test Program**:³⁷

- (1) CGT must perform its SCC spike hydrostatic test program in an *extended special permit segment* in accordance with 49 CFR 192.506 and include an ECA of the results that includes a determination of the reassessment interval, and
- (2) If a joint of pipe in an *extended special permit segment* leaks or ruptures during a hydrostatic test due to SCC, CGT must replace the pipe joint that does not meet 49 CFR 192.611 in the *extended special permit segment* with new pipe. CGT must complete a successful SCC hydrostatic test prior to returning the *extended special permit segment* to operational service;

ii) **Crack Detection Tool Assessment**: CGT must run an electro-magnetic acoustic transducer (EMAT) ILI tool or other equivalent crack detection ILI tool in the *extended special permit segment*;

³⁴ “SCC” activity shall be defined as greater than 20 percent wall thickness depth and 2-inches in length.

³⁵ For all in-service and pressure test failures, CGT must perform a root cause analysis, including the metallurgical examination of the failed pipe, to determine if the failure is caused by a systemic or non-systemic issue. CGT must provide the written results of this root cause analysis to the Director, PHMSA Eastern Region, within 90 days of the failure and must submit a copy of the root cause analysis to the Director, PHMSA Engineering and Research Division.

³⁶ CGT has the option to submit a written request to the Director, PHMSA Eastern Region, with a copy to the Director, PHMSA Engineering and Research Division, for extension of the crack assessment interval to seven (7) years, as defined in 49 CFR 192.939(a), if the ECA shows that five (5) calendar year assessments are not required. CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to extending the assessment interval to seven (7) calendar years.

³⁷ CGT may propose an alternative assessment method for SCC (such as spike hydrostatic testing in accordance with 49 CFR 192.506) to the Director, PHMSA Eastern Region, with a copy of the proposal to the Director, PHMSA Engineering and Research Division. CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to implementing any alternative assessment methods for SCC.

- iii) **MAOP Lowered**: CGT must lower the MAOP of the *special permit segment* to 60% specified minimum yield strength (SMYS);
 - iv) **Pipe Replacement**: CGT must replace all pipe and comply with 49 CFR 192.611 and 192.619 in the *special permit segment*; or
 - v) **Operating Pressure Lowered**: CGT must lower the operating pressure of the *special permit segment* to 20% below the maximum pressure during the preceding 90-day operating interval until CGT conducts an ECA and remediates the *special permit segment*.
- f) **SCC Remediation Plan**: If CGT discovers any SCC activity in the *extended special permit segment*, CGT must submit an SCC remediation plan to the Director, PHMSA Eastern Region, and send a copy to the Director, PHMSA Engineering and Research Division, no later than 90 days after the finding of SCC.³⁸ The plan must:
- i) Meet **Condition 7(e)** and include an SCC remediation/repair plan with SCC characterization and timing; or
 - ii) Include a technical justification that shows that CGT is addressing the threat for SCC in the *special permit segment*.
- 8) **Condition 8 - Anomaly Evaluation and Remediation**
- a) **General**: CGT must use the procedures specified in the special permit conditions, 49 CFR 192.712, and **Attachment A** when evaluating anomalies. CGT must account for ILI tool tolerance and corrosion growth rates in determining scheduled response times and repairs and must document and justify the values used.
 - i) **ILI Tool Accuracy**: CGT must demonstrate ILI tool tolerance accuracy for each ILI tool run by using calibration excavations and unity plots that demonstrate ILI tool accuracy to meet the tool accuracy specification provided by the vendor (typical for depth within +10% accuracy for 80% of the time). CGT must incorporate ILI tool accuracy by ensuring that each ILI tool service provider determines the tolerance of each tool and includes that tolerance in determining the size of each anomaly feature reported to CGT. CGT must compare previous indications to

³⁸ For CGT to go forward with the technical justification for addressing the SCC threat, CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region.

current indications that are significantly different. If a trend is identified where the tool has been consistently overcalling or under-calling, the remaining ILI features must be re-graded accordingly. ILI tools used must be calibrated as follows:

- (1) **General ILI Tool Calibration:** ILI tool calibrations must use ILI tool run results and anomaly calibrations from either the *special permit inspection area* or from the complete ILI tool run segment if the continuous ILI segment is longer than the *special permit inspection area*. ILI calibration excavations may include previously excavated anomalies or recent anomaly excavations with known dimensions that were field measured for length, depth, and width, externally re-coated, CP maintained, and documented for ILI calibrations prior to the ILI tool run. A minimum of four (4) calibration excavations must be used for unity plots.³⁹
- (2) **EMAT ILI Tool Calibration:**
 - (a) ILI calibration for EMAT ILI Tools must be based upon excavation results of a minimum of the two (2) most severe anomalies from a combined review of crack depth and length. If the EMAT tool identifies only one (1) anomaly, the anomaly must be excavated and assessed. CGT can propose alternative EMAT ILI Tool evaluation procedures to the Director, PHMSA Eastern Region, but must receive a “no objection” letter prior to usage of these procedures.
 - (b) If the EMAT ILI tool does not identify any cracking anomalies above the minimum length and depth criteria for 90% probability of detection, CGT must provide the following to the Director, PHMSA Eastern Region:

³⁹ Other known and documented pipeline features that are appropriate for the type of ILI tool used may be used as calibration excavations for ILI tool calibration with technical documentation of their validity. To use other known and documented pipeline features as calibration excavations for ILI tool calibration, CGT must complete the following: (1) submit a plan for using known and documented pipeline features such as calibration excavation data, to the Director, PHMSA Eastern Region, with a copy to the Director, PHMSA Engineering and Research Division. The plan must include at least the following information: a) reason that known and documented pipeline features will be used in place of anomalies on the pipelines; b) the pipeline features that will be used for the ILI tool calibration; and c) the technical justification for using the pipeline features for ILI tool calibration; (2) receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to performing the ILI tool calibration using pipeline features; (3) submit a report to the Director, PHMSA Eastern Region, with a copy to the Director, PHMSA Engineering and Research Division, and with the results of the use of pipeline features for the ILI tool calibration that includes technical documentation establishing the validity of using the pipeline features for the ILI tool calibration.

- (1) EMAT ILI service provider report with any CGT provided reporting thresholds for cracking;
 - (2) Calibration data showing the ILI tool meets API Standard 1163 IBR - *Sections 6 - Qualification of Performance Specifications, Section 7 - System Operational Verification, and Section 8 - System Results Validation*, as applicable; and
 - (3) Previous in-ditch non-destructive examination records showing no SCC findings.
 - (4) CGT must receive a “no objection” letter from the Director, PHMSA Eastern Region, that no excavation is required for the EMAT ILI tool calibration.
- ii) **Unity Plots**: The unity plots must show actual anomaly depth versus predicted depth.
 - iii) **ILI Tool Evaluations**: ILI tool evaluations for metal loss must use “6t x 6t”⁴⁰ interaction criteria for determining anomaly failure pressures and response timing.
 - iv) **Discovery Date**: The discovery date⁴¹ must be within 180 days of any ILI tool run for each type of ILI tool (e.g., HR-geometry, HR-deformation, HR-MFL, EMAT, IMU, or other equivalent ILI tools).
- b) **Remediation schedule for “special permit inspection area”**: CGT must remediate the *special permit inspection area*⁴² as follows:
- i) **Immediate repair conditions for a “special permit inspection area”**: CGT must repair the following conditions immediately upon discovery in a *special permit inspection area*:
 - (1) Metal loss anomaly where the calculation of the remaining strength of the pipe shows a predicted failure pressure determined in accordance with 49 CFR

⁴⁰ “6t” means pipe wall thickness times six (6).

⁴¹ Discovery date is the day, month, and year that CGT receives the ILI tool run results from the ILI tool service provider.

⁴² Throughout this special permit, the *special permit inspection area* includes the *special permit segment*, so any anomalies found in a *special permit segment* must be remediated to meet the requirements for a *special permit inspection area* in addition to the requirements of this condition for a *special permit segment*. The *special permit segment* has additional remediation criteria in later sections of this special permit condition.

192.712(b) less than or equal to 1.1 times the MAOP at the location of the anomaly.

- (2) Metal loss greater than 80% of nominal wall, regardless of dimensions.
 - (3) Metal loss preferentially affecting a detected pipe weld seam and the predicted failure pressure determined in accordance with 49 CFR 192.712(d) is less than or equal to 1.25 times the MAOP or the metal loss is greater than 50% of pipe wall thickness.⁴³
 - (4) A dent located between the 8 o'clock and 4 o'clock positions (upper 2/3 of the pipe) that has metal loss, cracking, or a stress riser, unless an engineering analysis conducted in accordance with 49 CFR 192.712 and **Attachment A** demonstrates the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.
 - (5) A crack or crack-like anomaly meeting any of the following criteria:
 - (a) Crack depth plus any metal loss is greater than 50% of pipe wall thickness;
 - (b) Crack depth plus any metal loss is greater than the inspection tool's maximum measurable depth; or
 - (c) The crack or crack-like anomaly has a predicted failure pressure, determined in accordance with 49 CFR 192.712(d), that is less than 1.25 times the MAOP.
 - (6) An indication or anomaly that, in the judgment of CGT, requires immediate action.
- ii) **One-year conditions – Hard Spots for a “special permit inspection area”**: CGT must repair by installation of a Type B sleeve or cut-out and recoat within 12 months of discovery, any hard spots found in the pipe body of EFW pipe discovered after the grant of the special permit with a hardness on the Brinell Hardness scale (HB) of either (1) 300 HB or greater and 2-inches in length or width; (2) 300 HB or greater with any cracking or metal loss over 10% of wall thickness; or (3) a single reading of 320 HB or greater at any location.

⁴³ ASME/ANSI B31G and R-STRENG are not acceptable evaluation methodologies for corrosion in pipe weld seams. Pipe weld seams must be evaluated using ECA methodology for cracking anomalies in accordance with 49 CFR 192.712(d).

iii) **One-year conditions – dents, metal loss, and cracks for a “special permit inspection area”**: CGT must repair the following conditions within 12 months of discovery in a *special permit inspection area*:

- (1) A smooth dent located between the 8 o'clock and 4 o'clock positions (upper 2/3 of the pipe) with a depth greater than 6% of the pipeline diameter (greater than 0.50 inches in depth for a pipeline diameter less than Nominal Pipe Size (NPS) 12), unless an engineering analysis conducted in accordance with 49 CFR 192.712 and **Attachment A** demonstrates the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.
- (2) A dent with a depth greater than 2% of the pipeline diameter (0.250 inches in depth for a pipeline diameter less than NPS 12) that affects pipe curvature at a girth weld or at a longitudinal or helical (spiral) seam weld, unless an engineering analysis conducted in accordance with 49 CFR 192.712 and **Attachment A** demonstrates the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.
- (3) A dent located between the 4 o'clock and 8 o'clock positions (lower 1/3 of the pipe) that has metal loss, cracking, or a stress riser, unless an engineering analysis conducted in accordance with 49 CFR 192.712 and **Attachment A** demonstrates the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.
- (4) Metal loss anomalies where a calculation of the remaining strength of the pipe shows a predicted failure pressure, determined in accordance with 49 CFR 192.712(b), at the location of the anomaly less than or equal to 1.39 times the MAOP for Class 2 locations, and 1.50 times the MAOP for Class 3 and 4 locations. For metal loss anomalies in Class 1 locations outside of the *special permit segment* with a predicted failure pressure greater than 1.1 times the MAOP, CGT must follow the remediation schedule specified in ASME/ANSI B31.8S, Section 7, Figure 4.
- (5) Metal loss that is located at a crossing of another pipeline, is in an area with widespread circumferential corrosion, or could affect a girth weld, with a predicted failure pressure determined in accordance with 49 CFR 192.712 less

than 1.39 times the MAOP for Class 1 locations or where Class 2 locations contain Class 1 pipe, or 1.50 times the MAOP for all other Class 2 locations and Class 3 and Class 4 locations.

- (6) Metal loss preferentially affecting a detected pipe weld seam, if that seam was formed by direct current, low-frequency or high-frequency electric resistance welding, electric flash welding, or that has a longitudinal joint factor less than 1.0 (49 CFR 192.113), and where the predicted failure pressure determined in accordance with 49 CFR 192.712(d) is less than 1.39 times the MAOP for Class 1 locations or where Class 2 locations contain Class 1 pipe, or 1.50 times the MAOP for all other Class 2 locations and Class 3 and Class 4 locations.⁴⁴
- (7) A crack or crack-like anomaly that has a predicted failure pressure determined in accordance with 49 CFR 192.712(d) that is less than or equal to 1.39 times the MAOP for Class 1 locations or where Class 2 locations contain Class 1 pipe, and 1.50 times the MAOP for all other Class 2 locations and Class 3 and Class 4 locations.

iv) **Two-year condition for crack repairs for a “special permit inspection area”:**

CGT must remediate any crack or crack-like anomaly that has a crack depth greater than 40% of the pipe wall thickness within two (2) years of discovery that are in the *special permit inspection area* and area outside of the *special permit segment*.

- v) **Monitored conditions for a “special permit inspection area”:** CGT does not have to schedule the following conditions for remediation but must record and monitor the conditions during subsequent risk assessments and integrity assessments for any change that may require remediation. Monitored conditions are the least severe and will not require examination and evaluation until the next scheduled integrity assessment.

- (1) A dent with a depth greater than 6% of the pipeline diameter (greater than 0.50 inches in depth for a pipeline diameter less than NPS 12) located between the 4 o'clock position and the 8 o'clock position (bottom 1/3 of the pipe), and

⁴⁴ ASME/ANSI B31G and R-STRENG are not acceptable evaluation methodologies for corrosion in pipe weld seams. Pipe weld seams must be evaluated using ECA methodology for cracking anomalies in accordance with 49 CFR 192.712(d).

engineering analyses of the dent conducted in accordance with 49 CFR 192.712 and **Attachment A** demonstrates the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.

- (2) A dent located between the 8 o'clock and 4 o'clock positions (upper 2/3 of the pipe) with a depth greater than 6% of the pipeline diameter (greater than 0.50 inches in depth for a pipeline diameter less than NPS 12), and engineering analyses of the dent conducted in accordance with 49 CFR 192.712 and **Attachment A** demonstrates the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.
- (3) A dent with a depth greater than 2% of the pipeline diameter (0.250 inches in depth for a pipeline diameter less than NPS 12) that affects pipe curvature at a girth weld or longitudinal or helical (spiral) seam weld, and engineering analyses conducted in accordance with 49 CFR 192.712 and **Attachment A** to demonstrate the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.
- (4) A dent that has metal loss, cracking, or a stress riser, and an engineering analysis conducted in accordance with 49 CFR 192.712 and **Attachment A** to demonstrate the condition is unlikely to pose a threat to the integrity of the pipeline until the next reassessment.
- (5) Metal loss preferentially affecting a detected pipe weld seam and where the predicted failure pressure determined in accordance with 49 CFR 192.712(d) is greater than 1.39 times the MAOP for Class 1 locations or where Class 2 locations contain Class 1 pipe, or 1.50 times the MAOP for all other Class 2 locations and Class 3 and Class 4 locations.⁴⁵
- (6) A crack or crack-like anomaly for which the predicted failure pressure, determined in accordance with 49 CFR 192.712(d), is greater than 1.39 times the MAOP for Class 1 locations or where Class 2 locations contain Class 1

⁴⁵ ASME/ANSI B31G and R-STRENG are not acceptable evaluation methodologies for corrosion in pipe weld seams. Pipe weld seams must be evaluated using ECA methodology for cracking anomalies in accordance with 49 CFR 192.712(d).

pipe, or 1.50 times the MAOP for all other Class 2 locations and Class 3 and Class 4 locations.⁴⁶ The crack depth is less than 40% of the pipe wall thickness.

- c) **Remediation schedule for a “special permit segment”**: In addition to the requirements in paragraphs (a) and (b) of **Condition 8** for a *special permit inspection area*, CGT must remediate conditions in a *special permit segment* as follows:⁴⁷
- i) **One-year conditions for a “special permit segment”**: CGT must repair the following conditions within one (1) year of discovery in a *special permit segment*:
- (1) **Pipe Wall**: Pipe wall thickness metal loss greater than 40%.
 - (2) **Weld Metal**: Girth weld metal loss greater than 30% of pipe wall thickness or pipe weld seam metal loss greater than 15% of pipe wall thickness.⁴⁸
 - (3) **Class 1 pipe**: Any anomaly with a predicted failure pressure less than 1.39 times the MAOP.
 - (4) **Class 2 pipe**: Any anomaly with a predicted failure pressure less than 1.67 times the MAOP.
 - (5) **Class 3 pipe**: Any anomaly with a predicted failure pressure less than 2.0 times the MAOP.
- ii) **One-year crack repair conditions for a “special permit segment”**: CGT must repair all anomalies with a predicted failure pressure determined in accordance with 49 CFR 192.712(d) that is less than 1.39 times the MAOP, or a crack depth that is greater than 40% of the pipe wall thickness.

⁴⁶ Failure stress pressure and crack growth analysis of cracks and crack-like defects must be determined using a technically proven fracture mechanics model appropriate to the failure mode (ductile, brittle or both) and boundary condition used (pressure test, ILI, or other). Examples of technically proven models include but are not limited to: for the brittle failure mode, the Raju/Newman Model; for the ductile failure mode, Modified LnSec, API RP 579-1/ASME FFS-1, June 15, 2007, (API 579-1, Second Edition) – Level II or Level III, CorLas™, PAFFC, and PipeAccess™. All crack fracture mechanic evaluation models must be used within the assessment limits of the model.

⁴⁷ The *special permit inspection area* includes the *special permit segment*, so any anomalies found in a *special permit segment* must be remediated to meet the requirements for a *special permit inspection area* in addition to the requirements in this condition. The *special permit segment* must also be remediated to meet all additional remediation requirements specifically for the *special permit segment* as required in the special permit conditions.

⁴⁸ ASME/ANSI B31G and R-STRENG are not acceptable evaluation methodologies for corrosion in pipe weld seams. Pipe weld seams must be evaluated using ECA methodology for cracking anomalies in accordance with 49 CFR 192.712(d).

- iii) **Un-cleared shorted casing for a “special permit segment”**: CGT must repair within 12 months of discovery any identified corrosion, cracking or other anomaly that is shorted to a casing that is greater than 30% of the pipe wall thickness.
- iv) **Monitored conditions for a “special permit segment”**: CGT does not have to schedule the following conditions for remediation but must record and monitor the conditions during subsequent risk assessments and integrity assessments for any change that may require remediation in a *special permit segment*. Monitored conditions are the least severe and will not require examination and evaluation until the next scheduled integrity assessment.
 - (1) **Class 1 pipe**: Any anomaly with a predicted failure pressure greater than or equal to 1.39 times the MAOP and an anomaly depth less than or equal to 40% wall thickness loss.
 - (2) **Class 2 pipe**: Any anomaly with a predicted failure pressure greater than or equal to 1.67 times the MAOP and an anomaly depth less than or equal to 40% wall thickness loss.
 - (3) **Class 3 pipe**: Any anomaly with a predicted failure pressure greater than or equal to 2.0 times the MAOP and an anomaly depth less than or equal to 40% of pipe wall thickness.

9) **Condition 9 - Pipe Casings**

CGT must identify all shorted casings within a *special permit segment* no later than six (6) months after the grant of this special permit and classify any shorted casings as either having a “metallic short” (the carrier pipe and the casing are in metallic contact) or an “electrolytic short” (the casing is filled with an electrolyte) using a commonly accepted method such as the Panhandle Eastern, Pearson, Direct Current Voltage Gradient (DCVG), Alternating Current Voltage Gradient (ACVG), or AC Attenuation.⁴⁹

- a) **Clear Shorted Casings**: Where practical, CGT must clear shorted casings identified within a *special permit segment* no later than 12 months after the grant of this special permit as follows:

⁴⁹ As of the date of the grant of this special permit, CGT reported they identified six (6) shorted casings within the *special permit segments*.

- i) **Metallic Shorts**: CGT must clear any metallic short on a casing in a *special permit segment* no later than 12 months after the short is identified.
 - ii) **Electrolytic Shorts**: CGT must remove the electrolyte from the casing/pipe annular space on any casing in a *special permit segment* that has an electrolytic short within 12 months of identifying the short. If CGT identifies any shorts after uprating, they must be cleared no later than 12 months after identification.
 - iii) **All Shorted Casings**: CGT must install external corrosion control test leads on both the carrier pipe and the casing in accordance with 49 CFR 192.471 to facilitate the future monitoring for shorted conditions. CGT may then choose to fill the casing/pipe annular space with a high dielectric casing filler or other material that provides a corrosion-inhibiting environment provided CGT completed an assessment and all necessary repairs.
- b) **Remediation of Un-cleared Casing Shorts**: If it is impractical for CGT to clear a shorted casing within a *special permit segment*, CGT must document the actions taken to remediate the shorted casing and must receive a “no objection” letter from the Director, PHMSA Eastern Region, to use ILI assessments instead of clearing the short.^{50, 51} In addition to the notification, CGT must conduct the following:
- i) A *special permit segment* with shorted casings must be assessed with the appropriate ILI tools (a minimum of HR-MFL and HR-Deformation ILI and with EMAT ILI when a *special permit segment* is susceptible to SCC) on a five (5) calendar year assessment schedule, not to exceed 66 months.
 - ii) CGT must remediate any identified corrosion, cracking, or other anomalies in accordance with **Condition 8 – Anomaly Evaluation and Remediation**.

10) **Condition 10 - Pipe - Seam Evaluations**

CGT must conduct engineering integrity assessments to identify any pipe in the *extended special permit segment* that may be susceptible to pipe seam leak, rupture, or other failure

⁵⁰ The Director, PHMSA Eastern Region, must respond to CGT’s submittal letter within 90 days. The Director, PHMSA Eastern Region, may provide a decision, request for additional information, or notify CGT of PHMSA’s need for additional time to provide a decision.

⁵¹ CGT must send a copy of the actions taken to clear the shorted casing to the Director, PHMSA Engineering and Research Division.

issues because of the vintage of the pipe, the manufacturer of the pipe, other physical or operational characteristics, or unknown pipe characteristics as follows:

a) **Identify and Test Pipe Seam Issues:**

- i) Within 12 months of the special permit grant, CGT must perform an engineering integrity analysis to determine if the pipe seam is susceptible to seam threats located in the *extended special permit segment*.⁵² This engineering integrity analysis must follow and document the processes listed herein along with other relevant materials:
 - (1) “M Charts” in “Evaluating the Stability of Manufacturing and Construction Defects in Natural Gas Pipelines,” by Kiefner and Associates (updated April 26, 2007), under PHMSA Contract DTFAA-COSP02120; and
 - (2) Figure 4.2, “Framework for Evaluation with Path for the Segment Analyzed Highlighted” from TTO-5, “Low Frequency ERW and Lap Welded Longitudinal Seam Evaluation,” by Michael Baker Jr. and Kiefner and Associates, et. al. under PHMSA Contract DTRS56-02-D-70036.
- ii) If the engineering integrity analysis identifies pipe seam issues in the *extended special permit segment* that are a threat to the integrity of the pipeline, CGT must confirm there are no systemic issues with the weld seam or pipe. Within 12 months of analysis completion, CGT must complete a hydrostatic test to a minimum of 1.39 times the MAOP for any identified *special permit segment*.

b) **Seam Leak or Failure:**

- i) If the pipeline experienced a seam leak or failure in the last five (5) years and CGT did not perform a hydrostatic test meeting **Condition 1(b)** after the seam leak or failure in the *special permit segment* of the same weld seam and manufacturer, then CGT must complete a hydrostatic test to a minimum of 1.39 times the MAOP within 18 months after the grant of this special permit in the *special permit segment*.
- ii) CGT must determine from the hydrostatic test whether there are systemic issues with the weld seam or pipe. CGT must perform a root cause analysis, including the metallurgical examination of the failed pipe, to determine if the failure is caused by

⁵² The *extended special permit segment* is defined as the *special permit segment* and the five (5) contiguous miles past each endpoint.

a systemic or non-systemic issue. CGT must provide the written results of this root cause analysis to the Director, PHMSA Eastern Region, within 90 days of the failure.⁵³

- c) **Pipe Replacement**: The *special permit segment* must be replaced if any of the following conditions exist or are discovered after the grant of this special permit:
- i) The *special permit segment* has any direct current-electric resistance welded (DC-ERW) seam or pipe with a longitudinal joint factor below 1.0 as defined in 49 CFR 192.113;
 - ii) The *special permit segment* pipe has any LF-ERW or EFW seam pipe joints that had pipe seam leaks or ruptures and the pipe has not been replaced with new pipe;⁵⁴
 - iii) Pipe in the *extended special permit segment* was constructed or manufactured prior to 1954 and had pipe seam leaks or ruptures;
 - iv) The *special permit segment* pipe has unknown manufacturing processes (i.e., unknown seam type, yield strength, or wall thickness); or
 - v) The *special permit segment* pipe has known manufacturing or construction issues that are unresolved, such as concentrated hard spots, hard heat-affected weld zones, selective seam corrosion, pipe movement that has led to buckling, past leak and rupture issues, or any other systemic issues.
- d) **Girth Weld or Seam Weld Repairs**: Within a *special permit segment*, CGT must remove and replace, in accordance with 49 CFR Part 192 requirements, all weld seam or girth weld repairs that have been made by the usage of fittings such as weldolets, threadolets, repair clamps, and pipe sleeves (steel or composite). This remediation must be completed within six (6) months of the grant of this special permit or within six (6) months of the identification.

⁵³ CGT must send a copy of the root cause analysis to the Director, PHMSA Engineering and Research Division.

⁵⁴ As of the date of the grant of this special permit, CGT has identified EFW seam pipe in *special permit segments 7, 8, 30, 31, 32, 55, and 57*.

- e) **Remediation Plan**: CGT must remediate all weld seam leaks, failures, or ruptures⁵⁵ discovered in the *special permit segment*. CGT must submit a seam remediation plan for the *special permit segment* to the Director, PHMSA Eastern Region, no later than 30 days after finding a seam leak, seam failure, or seam rupture in the *special permit segment* containing one of the following:
- i) A longitudinal weld seam remediation/repair plan that meets **Condition 10** and includes replacement, hydrostatic testing, or ILI, with completion of the remediation/repair plan within six (6) months of discovery, or
 - ii) A technical justification that shows that the *special permit segment* is not at risk for future longitudinal seam leaks or failures.

11) **Condition 11 - Control of Interference Currents**

CGT must address induced alternating current (AC) from parallel electric transmission lines and other interference issues, such as direct current (DC), that may affect the pipeline in a *special permit segment*. CGT must have an induced AC or DC program and remediation plan to protect the pipeline from corrosion caused by stray currents within 12 months of the grant of this special permit.

- a) **Surveys**: CGT must perform periodic interference surveys to detect the presence and level of any electrical stray current, including when there are current flow increases over the *special permit segment* grounding design from any co-located pipelines, structures, or high voltage alternating current (HVAC) powerlines, including from additional generation, a voltage up rating, additional lines, new or enlarged power substations, new pipelines or other structures.
- b) **Analysis of Results**: CGT must analyze the results of the survey to determine the cause of the interference and whether the level could cause significant corrosion (defined as 100 amps per meter squared for AC- induced corrosion), or if the

⁵⁵ For all in-service and pressure test failures, CGT must perform a root cause analysis, including the metallurgical examination of the failed pipe, to determine if the failure is caused by a systemic or non-systemic issue. CGT must provide the written results of this root cause analysis to the Director, PHMSA Eastern Region, within 90 days of the failure and must submit a copy of the root cause analysis to the Director, PHMSA Engineering and Research Division.

interference impedes the safe operation of the pipeline, or that may cause a condition that would adversely impact the environment or the public.

- c) **Remediation**: Remedial action is required when the interference in the *special permit segment* is at a level that could cause significant corrosion (defined as 100 amps per meter squared for AC-induced corrosion), or if it impedes the safe operation of a pipeline, or may cause a condition that would adversely impact the environment or the public. Within six (6) months after completing the interference survey, CGT must develop a remediation procedure and apply for any necessary permits to conduct remediation. CGT must complete all remediation within six (6) months, or as soon as practicable, after obtaining the necessary permits for the remediation.
- d) **Completion Schedules**: If environmental permitting or right-of-way factors beyond CGT's control prevent the completion of any remediation within six (6) months of completing the interference engineering analysis of the survey results, CGT must complete remediation as soon as practicable and submit a letter justifying the delay and providing the anticipated date of completion to the Director, PHMSA Eastern Region, no later than one (1) month prior to the end of the six (6) month completion date. Any extended evaluation and remediation schedules submitted to PHMSA from CGT must receive a "no objection" letter from the Director, PHMSA Eastern Region.

12) **Condition 12 - Mainline Valve – Monitoring and Remote Control for Ruptures**

CGT must automate mainline valves⁵⁶ for closure or demonstrate capability to manually close mainline valves in accordance with the requirements of this **Condition 12**. A *special permit segment* must have upstream and downstream automated shutdown valves (ASVs) or remote-controlled valves (RCVs) so that the distance between the valves is no greater than 20 miles.⁵⁷ CGT must automate mainline valves to close in accordance with the requirements in **Condition**

⁵⁶ A mainline valve is a sectionalizing valve used to isolate or stop gas flow upstream or downstream along the pipeline.

⁵⁷ The location of a *special permit segment* with regards to each upstream and downstream valve is detailed in **Figure 1 - Location of Special Permit Segments Between ASVs**.

12 within 12 months of the grant of this special permit. The *special permit segment* must have procedures for rupture isolation as follows:

- a) **Valve Locations**: All *special permit segments* must have telemetry connections to the CGT supervisory control and data acquisition (SCADA) system installed. ASVs or RCVs must be installed as follows:
 - i) ***Special permit segments 1, 2, 3, 4, and 5***: Rayne to Valve 1204 ***Special Permit Inspection Area*** - 24-inch diameter Line EL200:
 - (1) Upstream: Rayne Compressor Station at MP 0.2, (Survey Station 10+93);
 - (2) Downstream: Mainline Valve 1203-2 at MP 14.4, (Survey Station 757+87); and
 - (3) A SCADA system for pressure monitoring, communication, and control is installed at the Rayne Compressor Station at MP 0.2.
 - ii) ***Special permit segments 7 and 8***: Rayne to Valve 1203 ***Special Permit Inspection Area*** - 30-inch diameter EL400:
 - (1) Upstream: Rayne Compressor Station at MP 0.2, (Survey Station 10+93);
 - (2) Downstream: Mainline Valve 1203-4 at MP 14.4, (Survey Station 757+87); and
 - (3) A SCADA system for pressure monitoring, communication, and control is installed at the Rayne Compressor Station at MP 0.2.
 - iii) ***Special permit segment 10***: Banner to Corinth ***Special Permit Inspection Area*** - 30-inch diameter ML100:
 - (1) Upstream: New Albany Compressor Station at MP 42.3, (Survey Station 2231+32);
 - (2) Downstream: Mainline Valve 610-1 at MP 35.6, (Survey Station 1881+33); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 42.3 (New Albany Compressor Station).
 - iv) ***Special permit segments 13, 14, and 15***: Banner to Corinth ***Special Permit Inspection Area*** - 30-inch diameter ML100:
 - (1) Upstream: Corinth Compressor Station at MP 85.3, (Survey Station 4506+33);
 - (2) Downstream: Mainline Valve 613-1 at MP 74.0, (Survey Station 3906+33); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 85.3 (Corinth Compressor Station).

- v) ***Special permit segments 16 and 17:*** Hartsville to Clementsville ***Special Permit Inspection Area*** - 30-inch diameter ML100:
 - (1) Upstream: Mainline Valve 308-1 at MP 12.7, (Survey Station 668+42);
 - (2) Downstream: Hartsville Compressor Station at MP 0.0, (Survey Station 0+02);
and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 0.0 (Hartsville Compressor Station).
- vi) ***Special permit segment 18:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML100:
 - (1) Upstream: Mainline Valve 108-1 at MP 6.6, (Survey Station 346+11);
 - (2) Downstream: Stanton Compressor Station at MP 0.0, (Survey Station 0+02);
and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 0.0 (Stanton Compressor Station).
- vii) ***Special permit segment 19:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML100:
 - (1) Upstream: Mainline Valve 109-1 at MP 18.8, (Survey Station 993+20);
 - (2) Downstream: Mainline Valve 108-1 at MP 6.6, (Survey Station 346+11); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 6.6 (Mainline Valve 108-1).
- viii) ***Special permit segment 20:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML100:
 - (1) Upstream: Mainline Valve 112-1 at MP 59.9, (Survey Station 3162+99);
 - (2) Downstream: Mainline Valve 111-1 at MP 45.9, (Survey Station 2424+49); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 59.9 (Mainline Valve 112-1).
- ix) ***Special permit segments 21, 22, 23, and 24:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML100:
 - (1) Upstream: Greyson Compressor Station at MP 68.3, (Survey Station 3606+54);
 - (2) Downstream: Mainline Valve 112-1 at MP 59.9, (Survey Station 3162+99); and

- (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 68.3 (Greyson Compressor Station).
- x) ***Special permit segment 28:*** Banner to Corinth ***Special Permit Inspection Area*** - 30-inch diameter ML200:
 - (1) Upstream: Mainline Valve 610-2 at MP 35.6, (Survey Station 1881+76);
 - (2) Downstream: Mainline Valve 609-2 at MP 24.0, (Survey Station 3162+99); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 24.0 ~~42.3~~ (Mainline Valve 609-2).
- xi) ***Special permit segments 30, 31, and 32:*** Banner to Corinth ***Special Permit Inspection Area*** - 30-inch diameter ML200:
 - (1) Upstream: Corinth Compressor Station at MP 85.4, (Survey Station 4510+80);
 - (2) Downstream: Mainline Valve 613-2 at MP 74.0, (Survey Station 3908+50); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 85.4 (Corinth Compressor Station).
- xii) ***Special permit segments 41 and 42:*** Hartsville to Clementsville ***Special Permit Inspection Area*** - 30-inch diameter ML200:
 - (1) Upstream: Mainline Valve 308-2 at MP 12.7, (Survey Station 671+07);
 - (2) Downstream: Hartsville Compressor Station at MP 0.1, (Survey Station 4+48); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 0.1 (Hartsville Compressor Station).
- xiii) ***Special permit segments 44 and 45:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML200:
 - (1) Upstream: Mainline Valve 109-2 at MP 19.0, (Survey Station 1005+35);
 - (2) Downstream: Mainline Valve 108-2 at MP 6.6, (Survey Station 359+67); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 6.6 (Mainline Valve 108-2).
- xiv) ***Special permit segment 43:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML200:
 - (1) Upstream: Mainline Valve 110-2 at MP 33.3, (Survey Station 1757+92);

- (2) Downstream: Mainline Valve 109-2 at MP 19.0, (Survey Station 1005+35); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 33.3 (Mainline Valve 110-2).
- xv) ***Special permit segments 46, 47, 49 and 50:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML200:
- (1) Upstream: Mainline Valve 112-2 at MP 60.0, (Survey Station 3169+47);
 - (2) Downstream: Mainline Valve 111-2 at MP 46.0, (Survey Station 2431+01); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 60.0 (Mainline Valve 112-2).
- xvi) ***Special permit segments 51, 52, 53, and 54:*** Stanton to Leach ***Special Permit Inspection Area*** - 30-inch diameter ML200:
- (1) Upstream: Greyson Compressor Station at MP 68.5, (Survey Station 3617+09);
 - (2) Downstream: Mainline Valve 112-2 at MP 60.0, (Survey Station 3169+47); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 68.5 (Greyson Compressor Station).
- xvii) ***Special permit segment 55:*** Banner to Corinth ***Special Permit Inspection Area*** - 36-inch diameter ML300:
- (1) Upstream: New Albany Compressor Station at MP 42.3, (Survey Station 2231+32);
 - (2) Downstream: Mainline Valve 610-3 at MP 35.6, (Survey Station 1877+89); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 42.3 (New Albany Compressor Station)
- xviii) ***Special permit segments 57:*** Banner to Corinth ***Special Permit Inspection Area*** - 36-inch diameter ML300:
- (1) Upstream: Corinth Compressor Station at MP 85.3, (Survey Station 4505+01);
 - (2) Downstream: Mainline Valve 614-3 at MP 80.9, (Survey Station 4269+30); and
 - (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 85.3 (Corinth Compressor Station).
- xix) ***Special permit segments 60 and 61:*** Hartsville to Clementsville ***Special Permit Inspection Area*** - 36-inch diameter ML300:

- (1) Upstream: Mainline Valve 308-3 at MP 12.6, (Survey Station 666+42);
- (2) Downstream: Hartsville Compressor Station at MP 0.0, (Survey Station 0+02);
and
- (3) A SCADA system for pressure monitoring, communication, and control must be installed at the MP 0.0 (Hartsville Compressor Station).

b) **Automatic Shutoff Valve Requirements:**

- i) If an ASV is used, CGT must confirm the 30-minute ASV shut-in pressure for a *special permit segment* after “notification of potential rupture” by flow modeling of the *special permit inspection area* and any looped pipelines or gas receipt tie-ins between the ASVs or RCVs. Flow modeling must include anticipated maximum, normal, or any other flow volumes, pressures, or any other operating conditions that may be encountered during the calendar year. The flow model detection for a rupture must be based upon 0.500 times the pipe diameter area or smaller pipe area (partial pipe opening) for rupture sizing to account for pressure drop. If operating conditions change that could affect the ASV set pressures and the 30-minute isolation time after “notification of potential rupture,” a new flow model must be conducted and ASV set pressures must be reset prior to the next review for ASV set pressures. If the *special permit segment* cannot be isolated within 30 minutes of a “notification of potential rupture” by usage of ASVs, then RCVs must be installed. **Table 5 – ASV Closure Settings for Isolation of Special Permit Segment** has the ASV shutoff pressures and shut-off times for isolation of the *special permit segment* after “notification of potential rupture.”
- ii) ASVs must be equipped with rupture sensing equipment to detect the *special permit segment* “rate of pressure drop” with a set-point of 40 psig/minute or less unless CGT submits a request for a “rate of pressure drop” set-point change and receives a “no objection” letter from the Director, PHMSA Eastern Region, for any revised shut-in pressures prior to their implementation.
- iii) ASV shut-in pressures must be confirmed and reset on a calendar year basis not to exceed 15 months. CGT must submit initial and annual ASV shut-in pressures to the Director, PHMSA Eastern Region, as detailed in **Condition 15 – Annual Report**, and receive a “no objection” letter from the Director, PHMSA Eastern

Region, for any revised shut-in pressures prior to their implementation. The Director, PHMSA Eastern Region, must respond to CGT's submittal letter within 90 days with a decision letter, or either give CGT a request for additional information or additional time for PHMSA to review the request.

- iv) If the pipeline is impacted by extreme weather or other emergency conditions that reduce pipeline operating pressures in the *special permit segment* to operating pressures where the ASV shut-in pressures require emergency resetting, CGT may reset ASV shut-in pressures below the operating pressure requirements for a maximum period of seven (7) days, but must notify the Director, PHMSA Eastern Region, within two (2) days of the pressure reset.
- c) **Remote Monitoring and Control**: Each *special permit segment* must be controlled by a SCADA system and must be equipped for remote monitoring and control, or remote monitoring and automatic control, in accordance with 49 CFR 192.620(d)(3)(iii) and the below requirements in this **Condition 12**.
- d) **Crossover or Lateral Pipe Connection Isolation**: If any crossover or lateral pipe⁵⁸ connects to the isolated segment between the upstream and downstream mainline valves, the nearest valve on the crossover connection(s) or lateral(s) must be isolated such that, when all valves are closed, there is no flow path for gas to flow to the leak or rupture site (except for residual gas already in the shut-off segment). If the nearest valve for a gas receipt or delivery line to the *special permit inspection area* is not isolated, isolation valves must be installed within 12 months of the grant of this special permit.⁵⁹ Crossover valves that are in the CGT O&M procedures as locked closed and that are only opened when manned by CGT operating personnel do not require RCVs or ASVs for closure.

⁵⁸ **Table 6 – Laterals Connecting Between Isolation Valves** has a listing of all lateral valves.

⁵⁹ Gas delivery or receipt pipelines must have a shutoff valve (gate or ball valve) either at the connection between the isolation valves for a special permit segment or at the delivery or receipt meter station. Any gas delivery or receipt station over 5-miles in length that is connected between the isolation valves for a special permit segment must have a RCV or ASV within 5-miles of the pipeline tie-in. For gas delivery or receipt pipelines manual shutoff valves can be used for isolation but must be closed within 30-minutes of the pipeline leak or rupture confirmation. Check valves cannot be used for pipelines over 8-inch diameter.

e) **Remote-Control and Automatic-Shutoff Valve Status:**

- i) RCVs must be constantly monitored for valve status (open, closed, or partial closed/open), upstream pressure, and downstream pressure.
- ii) A *special permit segment* with ASVs must have a minimum of one (1) pressure monitoring point within the segment when the mainline valve locations do not have pressure monitoring. If an ASV is used, CGT must determine the set pressure used in **Condition 12(b)** on a calendar year basis not to exceed 15 months and must report the set pressure to PHMSA each year in the **Condition 15 - Annual Report**. ASV pressure settings must be determined by flow modeling of the *special permit segment*, *special permit inspection area*, and all looped, delivery, or receipt pipelines tied into the *special permit inspection area* that could affect pressures in the *special permit segment*. If the ASV pressure settings cannot be accurately determined, RCVs must be installed for the *special permit segment*. The shutdown time for ASVs must be within 30 minutes of the “notification of potential rupture.”

f) **Mainline Valve Closure:** Closure of the appropriate valves following a pipeline leak or rupture must occur “as soon as practicable” and must not exceed 30 minutes from the “notification of potential rupture” as defined below.⁶⁰

- i) “Notification of Potential Rupture” means any of the following events that involve an unintentional or uncontrolled release of a large volume of gas from a transmission pipeline:
 - (1) A release of gas observed by or reported to CGT (e.g., by its controller(s) in a control room, field operations personnel, nearby pipeline or utility personnel, the public, local responders, or public authorities) that may be representative of an unintentional or uncontrolled release event meeting paragraphs (2) or (3) of this definition;
 - (2) CGT observes an unanticipated or unplanned pressure loss outside of the pipeline’s normal operating pressures, as defined in CGT’s written procedures.

⁶⁰ The pipeline valve section location to be closed and isolated (if there should be a rupture) must be confirmed by CGT through Gas Control or other field operations personnel monitoring of the appropriate pipeline pressures, pressure changes, or flow rate changes through a compressor discharge section or by location confirmation from responsible persons.

If CGT establishes an unanticipated or unplanned pressure loss threshold that is greater than a 10% pressure loss, occurring within a time interval of 15 minutes or less, CGT must document in its written procedures the need for a greater pressure-change threshold due to pipeline flow dynamics (including the pipeline operating pressure, gas flow rate or volume), that are caused by fluctuations in gas demand, gas receipts, or gas deliveries; or

- (3) CGT observes an unexplained flow rate change, pressure change, equipment function, or other pipeline instrumentation indication that may be representative of an event meeting paragraph (2) of this definition.

Note: Notification of potential rupture occurs when an event, as defined in this section/paragraphs (2) or (3) above, is first observed by or reported to CGT.

- ii) CGT must evaluate and identify a rupture,⁶¹ as defined above, as being either an actual leak event, rupture event, or non-rupture event in accordance with operating procedures and 49 CFR 192.615.
- g) **Gas Control Center Monitoring:** The CGT Gas Control Center must monitor the *special permit inspection area* 24 hours a day, seven (7) days a week, and must confirm the existence of a leak or rupture as soon as practicable in accordance with CGT pipeline operating procedures.
- h) **Remote Monitoring:** CGT must maintain remote monitoring and automatic control equipment, mainline valves, mainline valve operators, and pressure sensors in accordance with 49 CFR 192.631 and 192.745. All remote monitoring and automatic control equipment, including pressure sensors, must have backup power to maintain communications and control to the CGT Gas Control Center during power outages.
- i) **Point-to-Point Verification:** CGT must conduct a point-to-point verification between SCADA displays and the mainline valve, sensors, and communications equipment in accordance with 49 CFR 192.631(c) and (e).

⁶¹ For all in-service and pressure test failures, CGT must perform a root cause analysis, including the metallurgical examination of the failed pipe, to determine if the failure is caused by a systemic or non-systemic issue. CGT must provide the written results of this root cause analysis to the Director, PHMSA Eastern Region, within 90 days of the failure and must submit a copy of the root cause analysis to the Director, PHMSA Engineering and Research Division.

- j) **Valve Maintenance**: CGT must maintain all valves used to isolate a leak or rupture in accordance with this special permit and 49 CFR 192.745.
- k) **Inoperable Valves**: CGT must take remedial measures to correct any valve used to isolate a leak or rupture that is found to be inoperable or unable to maintain shutoff, as follows:
 - i) Repair or replace the valve as soon as practicable but no later than six (6) months after the finding;
 - ii) Designate an alternative valve within 14 calendar days of the finding while repairs are being made. Repairs must be completed within six (6) months; and
 - iii) If valve repair or replacement cannot be met due to circumstances beyond CGT's control, CGT must notify, in writing, the Director, PHMSA Eastern Region, of the reasons the schedule cannot be met and obtain a letter of "no objection" from PHMSA prior to implementing the schedule change.
- l) **Emergency Communications**:
 - i) CGT must establish and maintain adequate means of communication with the appropriate public safety access point (9-1-1 emergency call center) or emergency management coordinating agency and must notify them, as well other emergency responders, if there is a leak or rupture, as required in 49 CFR 192.615;
 - ii) CGT must immediately and directly notify the appropriate public safety access point (9-1-1 emergency call center) or other emergency management coordinating agency for the communities and jurisdictions in which the pipeline is located when a release is indicated,⁶² and
 - iii) In accordance with these special permit conditions and as required in 49 CFR 192.615 and 192.631, CGT must establish actions required to be taken by a pipeline controller or the appropriate emergency response coordinator when an emergency occurs in the *special permit inspection area*.

⁶² CGT must designate the pipeline controller or the appropriate operator emergency response coordinator in its operating procedures and train the designated individual for coordinating with emergency responders.

13) **Condition 13 - Special Permit Specific Conditions:**

CGT must comply with the following requirements:

- a) **Line-of-Sight Markers:** CGT must install and maintain line-of-sight markings on the pipeline in each *special permit segment*, except in agricultural areas or large water crossings, such as lakes, where line-of-sight signage is not practical. Line-of-sight markers must be installed within six (6) months of the grant of this special permit and replaced as necessary by CGT within 30 days after identification of line-of-sight marker removal.
- b) **Depth of Cover Survey:**
 - i) CGT must complete, within six (6) months of the grant of this special permit, a depth of cover survey for each *special permit segment*.
 - ii) CGT must implement additional safety measures for any pipe in a *special permit segment* that does not meet 49 CFR 192.327(a) for a Class 1 location where there is a reduced depth of cover. A *special permit segment* with depth of cover less than 24 inches must be either lowered, have additional soil cover added, or have a concrete pad installed unless it is in consolidated rock.
 - iii) For CGT to use other remedial measures for depth of cover requirements that are based upon the threat, such as increased pipeline patrols or additional line markers, CGT must submit these procedures to the Director, PHMSA Eastern Region, for a “no objection” letter prior to usage. The Director, PHMSA Eastern Region, must respond to CGT’s submittal letter within 90 days. The Director, PHMSA Eastern Region, may provide a decision, request for additional information, or notify CGT of PHMSA’s need for additional time to provide a decision.
- c) **Data Integration:** CGT must develop and maintain data integration⁶³ in accordance with 49 CFR 192.917, of all special permit condition findings and remediation in a *special permit segment* and *special permit inspection area*. Data integration must be completed at least once each calendar year, with intervals not to exceed 15 months.

⁶³ Data integration is defined as the gathering of relevant pipeline attributes, operational, maintenance, environmental, and integrity information and integrating this information together to assess threats to the pipeline and to use this information to conduct assessments and remediation for those threats.

- i) Data integration must include the following information: (1) Pipe diameter, wall thickness, grade, and seam type; (2) pipe coating; (3) MAOP; (4) class location, including boundaries on aerial photography; (5) HCAs, including boundaries on aerial photography; (6) hydrostatic test pressure, including any known test failures; (7) casings; (8) any in-service ruptures or leaks; (9) ILI survey results, including HR-MFL, HR-geometry/caliper, or deformation tools; (10) the most recent CIS results; (11) depth-of-cover surveys; (12) rectifier readings for the past five (5) years; (13) CP test point survey readings for the past five (5) years; (14) AC/DC interference surveys; (15) pipe coating surveys; (16) pipe coating and anomaly evaluations from pipe excavations; (17) SCC excavations and findings; and (18) pipe exposures from encroachments.⁶⁴ Structures must be validated each calendar year by obtaining new aerial imagery or by ground patrol in accordance with **Condition 13(h)**.
- ii) If requested by PHMSA, CGT must complete and submit data integration documentation and drawings, with four (4) years of prior data, beginning with the 2nd annual report of this modified special permit.
- iii) CGT must maintain data integration as a composite of all applicable data elements in comparable data viewer.
- d) **Pipe Properties Testing**: If the pipe does not meet **Condition 16(b)**, CGT must test the pipe in a *special permit segment* as follows:⁶⁵

⁶⁴ Hydrostatic test failures, in-service ruptures, rectifier readings, CP test point survey readings, AC/DC interference surveys, pipe coating surveys, pipe coating and anomaly evaluations from pipe excavations, SCC excavations and findings, and pipe exposures from encroachments must be maintained for data integration into a comparable data viewer. These data elements may not be on a drawing.

⁶⁵ **Table 2 – Special Permit Segments** identifies the *special permit segments* where the material records supplied by CGT do not meet the requirements for TVC and the completion of **Condition 13(d) – Pipe Properties Testing** is required. If CGT identifies additional material records that are TVC records, CGT has the option to submit these material records to the Director, PHMSA Eastern Region, and to the Director, PHMSA Engineering and Research Division, within 60 days of the grant of the special permit.

- i) Develop and implement procedures for conducting non-destructive or destructive tests, examinations, and assessments for any *special permit segment*, without TVC⁶⁶,⁶⁷ pipe material properties records, in accordance with this condition and either 49 CFR 192.607 or 192.105 for determining MAOP. Non-destructive or destructive tests, examinations, and assessments must be completed within 18 months of the grant of this special permit.
- ii) CGT must test pipe in each *special permit segment* without TVC material properties and of different vintages as defined in **Condition 13(d)(iv)**. Material tests must be conducted at two (2) excavation sites per mile with excavations spaced between 1,320 to 3,960 feet in each mile segment. If the *special permit segment* is less than ½ mile, only one (1) excavation site is required.
- iii) CGT must perform a minimum of two (2) destructive or NDT methods at an excavation site. CGT must conduct NDT assessments using test procedures, calibration pipe of similar confirmed properties for equipment testing, and ball indentation methodology, or an equivalent method.⁶⁸ If NDT of pipe material properties show that the pipe wall thickness is not within API 5L specification tolerances, and the pipe grade is under the strength requirements of API 5L by 1,000 pounds per square inch (psi) or more, then CGT will confirm the yield strength of that individual pipe using destructive test methods or remove the *special permit segment* pipe. If ILI tools are used to verify the pipeline materials, CGT must submit an assessment procedure to the Director, PHMSA Eastern Region, for a “no objection” letter prior to its usage.⁶⁹ The Director, PHMSA Eastern Region, must

⁶⁶ TVC procedures and records must follow the following: 1) “Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements and Other Related Amendments”; 84 FR 52218 to 52219; October 1, 2019; and 2) PHMSA Advisory Bulletin: Pipeline Safety: Verification of Records; 77 FR 26822; May 7, 2012; <https://www.gpo.gov/fdsys/pkg/FR-2012-05-07/pdf/2012-10866.pdf>.

⁶⁷ Material records must cover the entire length of the *special permit segment*, regardless of when the pipeline, single or multiple pipe joints, or other pipeline components were installed. Affidavits for a material record are not acceptable TVC material records.

⁶⁸ CGT must submit the non-destructive assessment method and procedures to the Director, PHMSA Eastern Region, and the Director, PHMSA Engineering and Research Division. The Director, PHMSA Eastern Region, must respond to CGT’s submittal letter within 90 days. The Director, PHMSA Eastern Region, may provide a decision, request for additional information, or notify CGT of PHMSA’s need for additional time to provide a decision.

⁶⁹ CGT must send a copy of the assessment procedure to the Director, PHMSA Engineering and Research Division.

- respond to CGT's submittal letter within 90 days. The Director, PHMSA Eastern Region, may provide a decision, request for additional information, or notify CGT of PHMSA's need for additional time to provide a decision.
- iv) CGT must assess pipe in a *special permit segment* with missing mill test reports (MTRs) or missing mill inspection reports (i.e. Moody Engineering Reports) for each unique combination of the following attributes: wall thicknesses (within 10 percent of the smallest wall thickness in the population), grade, manufacturing process, pipe manufacturing dates (within a 2-year interval), and construction dates (within a 2-year interval).
 - v) CGT cannot use the material properties determined from either destructive or NDT required by this condition to raise the original grade or specification of the pipeline material. CGT must use the applicable standard referenced in 49 CFR 192.7.
 - vi) For a future *special permit segment* with missing mill inspection reports for mechanical and chemical properties, CGT must use the above methodology, or CGT may elect to remove pipe joints for destructive testing.⁷⁰
- e) **Pipeline System Flow Reversals**: For pipeline system flow reversals lasting longer than 90 days and where the MAOP for class location changes are exceeded under either 49 CFR 192.619(a)(1) or 192.611⁷¹ in a *special permit segment*, CGT must prepare a written plan that corresponds to the applicable criteria identified in the PHMSA Advisory Bulletin, ADB-2014-04, "Guidance for Pipeline Flow Reversals, Product Changes and Conversion of Service" (79 FR 56121; Sept. 18, 2014). CGT must submit the written flow reversal procedure to the Director, PHMSA Eastern Region, and submit a copy of the plan to the Federal Docket for this special permit at www.regulations.gov.⁷² CGT must receive a "no objection" letter from the Director,

⁷⁰ CGT must prepare a procedure in accordance with **Condition 13(d) – Pipe Properties Testing**, for material documentation and submit to the Director, PHMSA Eastern Region, and receive a "no objection" letter prior to usage of the procedure. The Director, PHMSA Eastern Region, must respond to CGT's submittal letter within 90 days. The Director, PHMSA Eastern Region, may provide a decision, request for additional information, or notify CGT of PHMSA's need for additional time to provide a decision. A copy of the procedure must be sent to the Director, PHMSA Engineering and Research Division.

⁷¹ An example of exceedance of 49 CFR 192.619(a)(1) is a Grandfathered MAOP which has a design factor above 0.72. An example of exceedance of 49 CFR 192.611 is a Class 1 to 3 location change.

⁷² CGT must send a copy of the flow reversal procedure to the Director, PHMSA Engineering and Research Division.

PHMSA Eastern Region, prior to implementing the pipeline system flow reversal through a *special permit segment*.

- f) **Environmental Assessments and Permits**: CGT must evaluate the potential environmental consequences and affected resources of any land disturbances and water body crossings, and pipeline natural gas emissions from implementation of the special permit conditions for a *special permit segment* or *special permit inspection area* prior to the disturbance or activity. If a land disturbance, water body crossing, or pipeline natural gas emission is required, CGT must obtain and adhere to all applicable federal, state, and local environmental permit requirements when conducting the special permit conditions activity.
- g) **Gas Quality**: CGT must transport gas through the *special permit segment* whose composition quality is suitable for sale to gas distribution customers, including no free-flow water or hydrocarbons, no water vapor content that exceeds acceptable limits for gas distribution customer delivery, hydrogen sulfide (H₂S) not to exceed one (1) grain per 100 cubic feet, or carbon dioxide (CO₂) not to exceed three (3) percent by volume.
- h) **Annual Class Location Study**: CGT must conduct a class location study on the *special permit inspection area* at least once each calendar year, with intervals not to exceed 15 months, in accordance with 49 CFR 192.609.
- i) **Notifications**: For any special permit condition that requires CGT to provide a notice for a “no objection” response from PHMSA, other notice, annual report, or documentation to the Director, PHMSA Eastern Region, CGT must also send a copy to the State Agency that has interstate agent agreements with PHMSA and to the Director, PHMSA State Programs.
- j) **Pipe and Soil Movement**: Girth weld strain from soil movement exerted onto the pipeline in the *special permit segment* must not exceed 0.5 percent and must account for girth weld misalignment. CGT must develop procedures on how to evaluate and remediate soil stresses and strains on the pipeline including IMU intervals. CGT must submit soil stress and strain evaluation and remediation procedures to the Director, PHMSA Eastern Region, within three (3) months of identification and must receive a “no objection” letter prior to implementation.

k) **Gas Leakage Surveys and Remediation:**

- i) CGT must conduct gas leakage surveys using instrumented gas leakage detection equipment along each *special permit segment* and at all valves, flanges, pipeline tie-ins, ILI launcher and ILI receiver facilities in each *special permit inspection area* at least twice each calendar year, not to exceed 7½ months. CGT must document the type of equipment used, survey findings, and remediation of all instrumented gas leakage surveys.
- ii) A gas transmission pipeline leak is a gas leak that can be seen, heard, felt, or detected by instrumented gas leakage detection equipment, or is an existing, probable, or future hazard to the public, operating personnel, property, or the environment. CGT must grade and remediate all gas transmission pipeline leaks in the *special permit segment* and at all valves, flanges, pipeline tie-ins, ILI launcher and ILI receiver facilities in each *special permit inspection area*, as follows:
 - (1) A Grade 1 leak requires immediate and/or continuous remediation efforts to stop the leak. A Grade 1 leak is defined as any of the following:
 - (a) Any leak which, in the judgment of the operating personnel at the scene, is regarded as an immediate hazard;
 - (b) Escaping gas that has ignited;
 - (c) Any indication of gas which has migrated into or under a building, or into a tunnel;
 - (d) Any reading at the outside wall of a building, or any reading where gas would likely migrate to an outside wall of a building;
 - (e) Any reading of 80% lower explosive limit (LEL), or greater, in a confined space;
 - (f) Any reading of 80% LEL, or greater in small substructures (other than gas associated substructures) from which gas would likely migrate to the outside wall of a building; or
 - (g) Any leak that can be seen, heard, or felt, and which is in a location that may endanger the public, property, or environment.

- (2) A Grade 2 leak requires remediation activity to be completed within 30 days or must have continuous remediation efforts to stop the leak. A Grade 2 leak is defined as any of the following:
- (h) Any leak which, under frozen or other adverse soil conditions, would likely migrate to the outside wall of a building;
 - (i) Any reading of 40% LEL, or greater, under a sidewalk in a wall-to-wall paved area that does not qualify as a Grade 1 leak;
 - (j) Any reading of 100% LEL, or greater, under a street in a wall-to-wall paved area that has significant gas migration and does not qualify as a Grade 1 leak;
 - (k) Any reading less than 80% LEL in small substructures (other than gas associated substructures) from which gas would likely migrate creating a probable future hazard;
 - (l) Any reading between 20% LEL and 80% LEL in a confined space;
 - (m) Any reading on a pipeline operating at 30% SMYS or greater, in a class 3 or 4 location, which does not qualify as a Grade 1 leak;
 - (n) Any reading of 80% LEL, or greater, in gas associated substructures; or
 - (o) Any leak which, in the judgement of operating personnel at the scene, is of sufficient magnitude to justify schedule repair.
- (3) A Grade 3 leak must be reevaluated at the next scheduled survey, or within 7½ months of the date discovered, whichever occurs first, until the leak is cleared, re-graded, or remediated. Remediation of Grade 3 leaks must be completed within 24 months of discovery of the leak. A Grade 3 leak is defined as any of the following:
- (p) Any reading of less than 80% LEL in small gas associated structures;
 - (q) Any reading in areas without wall-to-wall paving where it is unlikely the gas could migrate to the outside wall of a building; or
 - (r) Any reading of less than 20% LEL in a confined space.
- iii) When a pressure limiting device or relief valve allows a gas release to the atmosphere that is located along the *special permit inspection area*, CGT must conduct an O&M procedure assessment of the pilot, springs, pressure gauges, and other pressure limiting equipment to ensure these items are properly functioning,

sensing, and retaining set pressures. If a pressure limiting device or relief valve deficiency cannot be remediated, the pressure limiting device or relief valve must be replaced or continuously monitored until remediated. CGT cannot extend or change any remediation timing or continuous monitoring requirements in this paragraph without a "no objection" letter received by CGT from the Director, PHMSA Eastern Region.

- iv) CGT may request an extension of the remediation time interval requirements by sending a request to the Director, PHMSA Eastern Region, but must receive a “no objection” letter from the Director, PHMSA Eastern Region, prior to extending the leak remediation timing or continuous monitoring requirements in **Condition 13(k)**.⁷³

- l) **Right-of-Way Patrols:** In addition to the requirements of 49 CFR 192.705, CGT must perform right-of-way patrols as follows:

- i) Aerial flyover patrols or ground patrols by walking or driving of a special permit segment right-of-way once each month, not to exceed 45 days, contingent on weather conditions. Should mechanical availability of the patrol aircraft or weather conditions become an extended issue, the special permit segment pipeline aerial flyover patrol must be completed within 60 days of the last patrol by other methods such as walking or driving the pipeline route, as feasible.
- ii) If the schedule for either ground patrols or aerial flyover patrols cannot be met due to circumstances beyond CGT’s control, CGT must notify the Director, PHMSA Eastern Region, in writing of the reasons the schedule cannot be met and obtain a letter of “No Objection” within three (3) business days of the exceedance.

- m) **Minimization of Gas Released to the Environment:**

- i) CGT must reduce the release of gas to the environment when replacing any pipe between the mainline isolating valves for a *special permit segment*. CGT must use one (1) or more of following methods that will reduce the environmental effects of methane (gas) being released. CGT must calculate the volume of natural gas that

⁷³ Any CGT request for a time interval extension for a 24-month remediation interval must be 90 days prior to the end of the 24-month remediation interval.

will be released by each method or combination of methods and select an option(s) that minimizes the release of gas to the environment and is consistent with pipeline safety.⁷⁴

- (1) Isolate a smaller pipeline segment length by use of valves and/or the installation of control fittings near the pipe being replaced;
 - (2) Flaring the gas released from the pipeline from the nearest isolation valves or control fittings from the pipe being replaced;
 - (3) Pressure reduction in the pipeline segment by use of inline compression;
 - (4) Pressure reduction by use of mobile compression from the nearest isolation valves from the pipe being replaced;
 - (5) Transfer the gas to a lower pressure pipeline system or segment from the nearest isolation valves nearest to the pipe being replaced such as through a lateral delivering gas to another pipeline facility; or
 - (6) An alternative method demonstrated to minimize the release of gas to the environment similar to the other methods listed in the methods (1) through (5) above.
- ii) CGT must document the determination and justification for the reduction method(s) implemented and how the method(s) used minimized the release of natural gas to the environment and was consistent with pipeline safety. CGT must also document and justify, any substantial difference (over 10 percent additional release) between the actual amount of natural gas released and the estimated volume calculated before the replacement.
- iii) CGT must report all mainline blowdowns between the mainline isolating valves for a *special permit segment* due to pipe replacement as detailed in the **Condition 15(i) - Annual Report**.

14) **Condition 14 - Field Activity Notices to PHMSA**

CGT must give a minimum 14-day notice to the Director, PHMSA Eastern Region, to enable PHMSA to observe the excavations relating to **Condition 8 – Anomaly Evaluation and**

⁷⁴ **Condition 13(m)** would not be required for a blowdown due to an immediate repair, as detailed in **Condition 8 - Anomaly Evaluation and Remediation**, or where immediate action is required to ensure public safety.

Remediation and Condition 13(d) – Pipe Properties Testing of field activities in the *special permit inspection area*. Immediate response conditions do not require 14-day notice, but CGT should notify the Director, PHMSA Eastern Region, no later than two (2) business days after the immediate condition is discovered. The Director, PHMSA Eastern Region, may elect not to require a notification for some activities.

15) **Condition 15 - Annual Report**

Annually⁷⁵ after the grant of this special permit, CGT must report the following to the Director, PHMSA Eastern Region, with copies to the Director, PHMSA Engineering and Research Division:⁷⁶

- a) The number of new residences, other structures intended for human occupancy, and public gathering areas built within each *special permit segment* during the previous year. CGT must include a summary of the results of the study conducted to meet **Condition 13(h) - Annual Class Location Study** in the annual report.
- b) Any new integrity threats identified during the previous year and the results of any ILI or direct assessments performed (including any un-remediated anomalies over 30% wall loss; cracking found in the pipe body, weld seam, or girth welds; and dents with metal loss, cracking, or stress riser) and any soil movement (lateral or subsidence) that affects pipeline integrity⁷⁷ during the previous year in the *special permit inspection area*, including their survey station, predicted failure pressure, anomaly depth and length, class location, and whether these threats are in an HCA.
- c) In the 1st, 2nd, and 3rd annual reports CGT must report all *special permit segments* that do not have the following complaint TVC records:

⁷⁵ PHMSA must receive the annual report by the last day of the month in which the special permit is dated. For example, the annual report for a special permit dated January 21, 2020, must be received by PHMSA no later than January 31, each year beginning in 2021.

⁷⁶ CGT must post the annual report to the special permit docket PHMSA-2019-0201 at www.regulations.gov.

⁷⁷ CGT must develop and implement an O&M procedure to review soil movements that could damage the *special permit segment* on a periodic interval so the lateral stresses will not exceed 100% of SMYS (0.5% strain) on girth welds.

- i) A pressure test that meets **Condition 1(b)**. CGT must report the planned or actual completion dates for the *special permit segment* pressure test including test pressure.
 - ii) Material pipe properties tests that meet **Condition 13(d) – Pipe Properties Testing**. CGT must report the planned or actual completion dates for the *special permit segment* material pipe property tests.
- d) Any reportable incident, any leak normally indicated on the DOT Annual Report, and all repairs on the pipeline that occurred during the previous year in a *special permit inspection area*. CGT must include the location by mile post, County/Parish and State, the date of discovery, date of repair, and estimated gas loss (cubic feet) per day and in total for any Grade 1, 2, or 3 gas leak as described in **Condition 13(k) - Gas Leakage Surveys and Remediation**.
- e) Any ongoing DP initiatives affecting a *special permit inspection area* and a discussion of the success of the initiatives, including findings and remediation actions.
- f) CGT must submit annual data integration information, as required in **Condition 13(c) - Data Integration**, beginning with the 2nd annual report which must include an annual overview of any new threats. If requested by PHMSA, CGT must submit a full information package of the requested pipeline attribute and integrity items outlined in the condition.
- g) If CGT uses ASVs for **Condition 12 – Mainline Valve**, CGT must report the set pressure and how it was determined for each year to meet “as soon as practicable but 30 minutes or less.”
- h) CGT must report the diameter and location of the lateral, if any lateral or crossover piping is not included in **Table 6 – Laterals Connecting between Isolation Valves** installed between isolation valves for a *special permit segment*.
- i) CGT must report all mainline blowdowns between the mainline isolating valves for a *special permit segment* due to pipe replacement which includes the date of blowdown, location (milepost/stationing), and the amount of gas released to comply with **Condition 13(m) – Minimization of Gas Released to the Environment**.

- j) Any mergers, acquisitions, transfer of assets, or other events affecting the regulatory responsibility of the company operating the pipeline.
- k) A senior executive officer, vice president, or higher executive of CGT must review for correctness, date, and sign the annual report prior to posting it to the Federal Docket (PHMSA-2019-0201) at www.regulations.gov and submitting a copy to the Director, PHMSA Eastern Region, and the Director, PHMSA Engineering and Research Division.
- l) CGT must schedule a review meeting regarding **Condition 15 - Annual Report** with the Director, PHMSA Eastern Region, prior to or within one (1) month of the filing of each year.⁷⁸ During the annual review meeting, CGT must review the status of implementing the special permit conditions with the Director, PHMSA Eastern Region.

16) **Condition 16 – Documentation:**

CGT must maintain the following records for a *special permit segment* as follows:

- a) CGT must keep documentation of compliance with all conditions of this special permit for the life of the pipe.
- b) Documentation of the mechanical and chemical properties (e.g., mill test reports) that show the pipe in a *special permit segment* meets the wall thickness, yield strength, tensile strength and chemical composition requirements of API Standard 5L, 5LX, or 5LS, “Specification for Line Pipe” (API 5L) incorporated by reference into the 49 CFR Part 192 code at the time of manufacturing, or, if the pipe was manufactured and placed in-service prior to the inception of 49 CFR Part 192, the API 5L standard in use at that time. Any pipe in a *special permit segment* that does not have TVC mill test reports or does not meet **Condition 13(d) – Pipe Properties Testing** and 49 CFR 192.607 cannot be authorized per this special permit.

17) **Condition 17 - Extension of the Special Permit Segment:**

PHMSA may extend a *special permit segment* to include contiguous segments up to the limits of the *special permit inspection area* pursuant to CGT implementing the following conditions:

⁷⁸ The Director, PHMSA Eastern Region, has the authority to waive this meeting.

- a) Within six (6) months after the Class 1 to Class 3 location change, CGT must provide notice to the Director, PHMSA Eastern Region, and Director, PHMSA Engineering and Research Division, of the request for *a special permit segment extension*.
 - i) The notice must include the *special permit segment extension* survey stations, mile posts, additional pipeline footage, pipe attributes (wall thickness, grade, seam type, external coating, and latest pressure test), predicted failure pressure of any anomalies over 30% wall loss, schedule of inspections, and of any anticipated remedial actions.
 - ii) CGT must update the Final Environmental Assessment (FEA) to reflect the *special permit segment extension* and Section IX of the FEA, "Affected Resources and Environmental Consequences" as necessary. CGT must submit the updated FEA with its request for an extension to PHMSA for review and consideration.
 - iii) Any request for a *special permit segment extension* does not become effective until CGT receives a "no objection" response from the Director, PHMSA Engineering and Research Division.

- b) Any proposed *special permit segment extension* must meet the following requirements prior to the class location change or within 12 months of the class location change:
 - i) CGT must remediate all anomalies in accordance with **Condition 8 – Anomaly Evaluation and Remediation**;
 - ii) CGT must have hydrostatically tested⁷⁹ a *special permit segment* and *extension* in accordance with **Condition 1 – Maximum Allowable Operating Pressure**, as applicable; and
 - iii) CGT must complete all required special permit conditions, except **Condition 17(b)** above, for each *special permit segment extension* within two (2) years of the Class 1 to Class 3 location change, unless specified otherwise.

⁷⁹ For all in-service and pressure test failures, CGT must perform a root cause analysis, including the metallurgical examination of the failed pipe, to determine if the failure is caused by a systemic or non-systemic issue. CGT must provide the written results of this root cause analysis to the Director, PHMSA Eastern Region, within 90 days of the failure and must submit a copy of the root cause analysis to the Director, PHMSA Engineering and Research Division.

- c) CGT must apply all the special permit conditions and limitations included herein to all future *special permit segment extensions*.

18) **Condition 18 – Certification**

CGT must meet the following conditions for certification:

- a) A senior executive officer, vice president, or higher executive of CGT must certify in writing the following:
 - i) Each *special permit inspection area* and *special permit segment* meet the conditions described in this special permit;
 - ii) CGT has updated its O&M, IM program, and DP procedures required by **Condition 2 – Procedure Updates** to require the implementation of the special permit conditions for each *special permit segment* and *special permit inspection area*;
 - iii) CGT has prepared an uprating plan in accordance with **Condition 1(c)**, if applicable; and
 - iv) CGT has implemented all conditions as required by this special permit.
- b) CGT must send the certifications required in **Condition 18(a)**, with special permit condition status, completion date, compliance documentation summary, and the required senior executive signature and date of signature to the PHMSA Associate Administrator for Pipeline Safety with copies to the Director, PHMSA Eastern Region; the Director, PHMSA Engineering and Research Division; and the Federal Register Docket (PHMSA-2019-0201) at www.regulations.gov within one (1) year of the issuance date of this special permit.

Limitations

This special permit is subject to the limitations set forth in 49 CFR 190.341 as well as the following limitations:

- 1) PHMSA has the sole authority to make all determinations on whether CGT has complied with the specified conditions of this special permit. Failure to comply with any condition of this special permit may result in revocation of the permit.

- 2) Any work plans and associated schedules for a *special permit segment* and *special permit inspection area* are automatically incorporated into this special permit and are enforceable in the same manner.
- 3) Failure by CGT to submit the certifications required by **Condition 18 - Certification** within the time frames specified may result in revocation of this special permit.
- 4) As provided in 49 CFR 190.341, PHMSA may issue an enforcement action for failure to comply with this special permit. 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.
- 5) If CGT sells, merges, transfers, or otherwise disposes of all or part of the assets known as a *special permit segment* or *special permit inspection area*, CGT must provide PHMSA with written notice of the change within 30 days of the consummation date. In the event of such transfer, PHMSA reserves the right to revoke, suspend, or modify the special permit if the transfer constitutes a material change in conditions or circumstances underlying the permit.
- 6) PHMSA grants this special permit limited to a term of no more than 10 years from the date of issuance. If CGT elects to seek renewal of this special permit, CGT must submit its renewal request at least 180 days prior to expiration of the 10-year period to the PHMSA Associate Administrator for Pipeline Safety with copies to the Director, PHMSA Eastern Region, and to the Director, PHMSA Engineering and Research Division. All requests for a renewal must include a summary report in accordance with the requirements in **Condition 15 - Annual Report** above and must demonstrate that the special permit is still consistent with pipeline safety. PHMSA may seek additional information from CGT prior to granting any request for special permit renewal.

AUTHORITY: 49 U.S.C. 60118 (c)(1) and 49 CFR 1.97.

Issued in Washington, DC on March 31, 2022.

Signed copy of the special permit with tables, figures, and attachments is available as noted below.

Alan K. Mayberry,

Associate Administrator for Pipeline Safety

The granted special permit with conditions granted to CGT for Docket No. PHMSA-2019-0201 can be found the Federal Dockets Management System located on the internet at www.regulations.gov or on the PHMSA website for special permits issued at <https://www.phmsa.dot.gov/pipeline/special-permits-state-waivers/special-permits-issued>.

Last Page of the FEA and FONSI