

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

Special Permit Information:

Docket Number: PHMSA- 2009-0390
Pipeline Operator: Colonial Pipeline Company
Operator ID#: 2552
Date Requested: November 17, 2009
Date Granted: November 25, 2019
Code Section(s): 49 CFR 195.310

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides this information to describe the facts of the subject special permit application submitted by Colonial Pipeline Company (Colonial), to discuss any relevant public comments received with respect to the application, to present the engineering and safety analysis of the special permit application, and to make findings regarding whether the requested special permit should be granted and if so under what conditions. Colonial requested that PHMSA waive compliance from 49 Code of Federal Regulations (CFR) 195.310 for two (2) *special permit segments* which includes 74.684 miles of 40-inch diameter hazardous liquid pipeline.

Special Permit Request:

On November 17, 2009, Colonial applied to PHMSA for a special permit seeking relief from the Federal pipeline safety regulations in 49 CFR 195.310 for two (2) segments of the Colonial Line 01 hazardous liquid pipeline system, where Colonial has failed to retain certain hydrostatic pressure test records. The application for a special permit is to waive the requirement to have retained the pressure recording charts and certain other pressure test data. The two (2) hazardous liquid pipeline *special permit segments* of Colonial's 40-inch diameter Line 01 were constructed and placed in operation between 1976 and 1978. Line 01 is an interstate pipeline that consists of

1,049 miles of 40-inch and 36-inch diameter steel pipeline that primarily transports gasoline from refineries in Houston, Texas to Greensboro, North Carolina.

Special Permit Segments:

- **Special permit segment 1** – 64.45 miles¹ of 40-inch diameter Line 01 from Church Point Station to Baton Rouge Junction in Louisiana. 27.949 miles of the 64.45-mile ***special permit segment 1*** is a pipeline segment that could affect a high consequence area (HCA). ***Special permit segment 1*** begins at Colonial Survey Station (SS) 4976+11 and ends at SS 5+32 (equation involved) located in Acadia, St. Landry, Point Coupee, and West Feliciana Parishes, Louisiana.
 - Colonial states in the special permit application, “The MOP, established by hydrostatic test pressures for the pipeline segment is 574 pounds per square inch (psi).”
 - Line 01 is comprised of 40-inch diameter API 5L X60, X52, and X42 grades steel pipe with wall thicknesses ranging from 0.312 to 0.500 inches.
- **Special permit segment 2** - 10.234 miles² of 40-inch Line 01 from the Chattahoochee River to the Georgia Highway 141 in Georgia. The entire 10.234-mile ***special permit segment 2*** is a pipeline segment that could affect an HCA. ***Special permit segment 2*** begins at Colonial SS 951+65 and ends at SS 1492+76 located in Fulton, DeKalb, and Gwinnett Counties in Georgia.
 - Colonial states in the Final Environmental Assessment and Finding of No Significant Impact document, “The MOP, established by design test pressures, for this pipeline segment is 743 psi.”
 - Line 01 is comprised of 40-inch diameter API 5L X60 and X42 grade steel pipe with wall thicknesses ranging from 0.344 to 0.500 inches.

¹ Colonial’s special permit application referenced 66.372 miles of Line 01 from Church Point Station to Baton Rouge Junction in Louisiana. Colonial maintains hydrostatic pressure testing records for 1.922 miles of that pipeline segment. For that reason, Colonial is no longer requesting a special permit for that mileage, but rather is requesting a special permit for 64.45 miles of Line 01 from Church Point to Baton Rouge Junction in Louisiana.

² Within ***special permit segment 2***, one (1) pipe replacement has been completed and Colonial maintains the associated hydrostatic pressure tests records.

Colonial's Integrity Findings:

Special Permit Segment 1:

Special permit segment 1 primarily runs through rural southwest Louisiana, with 27.949 miles located in an area that could affect an HCA in accordance with 49 CFR 195.450 – *Definitions* and 195.452 – *Pipeline Integrity Management in High Consequence Areas*.

Since 1988, Colonial has assessed ***special permit segment 1*** routinely using a variety of inline inspection (ILI) technologies. ILI inspections were performed on ***special permit segment 1*** in 1988, 1993, 1995, 2001, 2004, 2009, 2013 and 2015 using magnetic flux and deformation tools and/or crack tools. These inspections revealed only one (1) immediate anomaly (in 2012) and no 60-day anomalies. All anomalies (including some 180-day and other anomalies) were timely remediated, in accordance with Colonial's integrity management (IM) and maintenance procedures. Since 2010, Colonial has performed annual cathodic protection (CP) surveys of ***special permit segment 1*** to identify deficiencies in CP and confirm adequate corrosion protection. No deficiencies have been identified, with the exception of certain readings in 2010 which were subsequently confirmed to be invalid. In 2017, Colonial employed SmartBall leak detection technology on ***special permit segment 1*** and no acoustical anomalies were detected.

Special permit segment 1 has had no manufacturing related leaks in its history. It has experienced a total of five (5) leaks of which only one was on the pipeline, the remaining four (4) were valve and equipment related. The pipeline leak was found to be located at a buckle with a fatigue crack that survived the original hydrostatic testing.

Special Permit Segment 2:

Special permit segment 2 is in the high population area (HPA) of north metropolitan Atlanta, Georgia. The total segment length of 10.234 miles is located such that it could affect an HCA in accordance with 49 CFR 195.450 – *Definitions* and 195.452 – *Pipeline Integrity Management in High Consequence Areas*.

Since 1988, Colonial has assessed ***special permit segment 2*** routinely using a variety of ILI technologies. Inspections were performed in 1988, 1993, 1998, 2003, 2008, 2012 and 2017 using magnetic flux and deformation tools and/or crack tools. ILI inspections revealed no

immediate anomalies and only four 60-day anomalies. All anomalies (including some 180-day and other anomalies) were timely remediated, in accordance with Colonial's IM and maintenance procedures. Similar to *special permit segment 1*, Colonial has been performing annual CP surveys of *special permit segment 2* to identify deficiencies in CP and confirm adequate corrosion protection since the mid-1990s. No deficiencies have been identified since 2012 and those that were identified have since been addressed. In 2017, Colonial employed SmartBall leak detection technology on *special permit segment 2* and no acoustical anomalies were detected.

Special permit segment 2 has had no manufacturing related leaks in its history. It has experienced two (2) leaks from other causes: one (1) attributable to a buckle (caused by third-party activities) with a fatigue crack that was not present during original hydrostatic testing, and the other was related to a valve fitting.

Colonial's Pressure Test Records:

Colonial has indicated to PHMSA that its historical hydrostatic pressure test records for the *special permit segments 1 and 2* were kept in hard copy, consistent with industry practice in the late 1970s. Certain pressure recording charts and calibration data from the original construction hydrostatic testing of the *special permit segments*, however, were inadvertently lost over time. Upon identifying this potential issue, Colonial stated that it undertook an intensive and exhaustive records review beginning in the 1990s. In 2008, Colonial discussed the pressure test records review results with PHMSA. Colonial followed those discussions with its special permit application in November 2009. Since submitting the special permit application, Colonial has continued to have discussions with PHMSA on this issue.

In its special permit application Colonial states that, *"The Maximum Operating Pressure (MOP) for these line sections [special permit segment 1 and special permit segment 2] were originally determined based on successful pressure tests performed and documented in conformance with all requirements of 49 CFR Part 195, Subpart E – Pressure Testing."* While Colonial can no longer locate the original pressure recording charts and associated data, they have presented documentation (in Colonial's opinion) to support that the pressure tests were completed. Moreover, they have *"... performed engineering and integrity reviews of these two-line segments*

to confirm that they can be safely operated at the current established MOP.” Colonial states the “[...] primary basis for this confirmation is that sufficient evidence has been found to prove that the hydrostatic tests were conducted consistent with Subpart E of Part 195.” In essence, it is Colonial’s position that this is a records retention issue only.

PHMSA’s Findings in Reviewing Colonial’s Application, Documentation, and Past Enforcement History:

- Colonial has known about their lack of test records and non-compliance with 49 CFR §195.310(b) since July 27, 1990, and has waited almost 19 years to rectify the situation through a special permit request to PHMSA.
- ***Special permit segment 1*** document dated May 24, 1977, written by Mr. J.L. Merchant, Colonial’s Manager of Engineering, indicates that a test was conducted at 855 psi which was below design pressure of 882 psi, and eventually used to establish maximum operating pressure (MOP). Colonial did not submit to PHMSA any documentation of a retest.³ The documentation submitted does not confirm that a test was conducted in 1976 or a retest was conducted on the pipeline, and if a re-test was not conducted, why.⁴
- ***Special permit segment 2*** notarized statements by Mr. N. J. Edmonds, Colonials’ Manager of Operations Planning & Pipeline Control during the hydrostatic pressure testing, and Mr. Sam Kelly, an employee of third-party contractor, Michael Curran & Associates, who oversaw the hydrostatic testing, were provided in 1990 and 2008 to Colonial. The notarized statements have conflicting test date intervals, whether there was a rupture in the test section, and one of them would not even have been on the job site based on their statements. The notarized statements of Mr. Kelly and Mr. Edmonds conflict with documentation submitted by Colonial indicating that the test began around July 22, 1978, with a failure on that day.

³ Colonial states in the environmental assessment (EA) submitted to PHMSA in April 2018 – “The MOP, established by hydrostatic test pressures, for the pipeline segment is 574 psi. The upstream pump station discharge control pressure setting is 570 psi with a high line shutdown at 600 psi.”

⁴ In 2018, Colonial replied to PHMSA that the pipeline was apparently never retested and to maintain the overall line segment MOP below 684 psi (80% of 855 psi) the lowest MOP needed to be 574 psi (due to elevation changes) establishing the Church Point Station discharge control pressure to be 570 psi.

- Colonial did not submit any inspection logs showing pressures at the test site, pressure charts, pressure logs, or temperature charts that indicate when tested, the test interval, and the test pressure of a successful test on *special permit segments 1 and 2*.

PHMSA Documentation Reviews:

Representatives from Colonial met with the Director, PHMSA Southern Region, and PHMSA regional staff on several occasions in 2008 and 2009 to discuss and review Colonial's records related to pressure tests on the applicable pipeline *special permit segments*. A summary of documents reviewed by PHMSA's Southern Region staff, as referenced in Colonial's application letter of November 17, 2009, is as follows:

Special permit segment 1 – documents submitted by Colonial:

1. Line 01 hydraulic gradient at current equipment settings for display with MOP for 40-inch diameter Line 01, Church Point to Baton Rouge with injection at Krotz Springs;
2. Payment records for contractor performing the hydrostatic pressure test on 40-inch diameter Line 01, Church Point to Baton Rouge;
3. Memo dated May 24, 1977, identifying a hydrostatic test pressure of 855 psi from J. L. Merchant, Colonial Manager of Engineering at that time;
4. Field notes labeled "Hydro Test 1976" from Hebert Station to Baton Rouge for Spreads 1, 2, and 3;
5. Line No. 01, dated February 15, 1980, from location Church Point Station to location Felixville Station, control engineer's analysis of pipe data, maximum operating pressure, hydrostatic test information and critical elevation checks;
6. Hydrostatic Test Records Team spread sheet listing of test sections with engineering stationing and minimum and maximum test pressures; and
7. Summary of pressure tests performed upstream and downstream of Line 01, Church Point to Baton Rouge.

Special permit segment 2 – documents submitted by Colonial:

1. Line 01 hydraulic gradient at current equipment settings for display with MOP data for 40-inch diameter, Line 01, Atlanta to Dacula;
2. Payment records for contractor performing the hydrostatic test on 40-inch diameter, Line 01, Spread 1A, Chattahoochee River to Georgia Highway 141;
3. Spread 1A, Test Section 4 (Chattahoochee River to Georgia Highway 141), pressure test procedure diagram and test design showing the test pressures, station numbers, and elevations;
4. Detailed water management plan and drawings for the hydrostatic testing inclusive of water chemistry analytical results;
5. Testimonies from N. J. Edmonds, Colonial Manager of Operations Planning & Pipeline Control, and Sam A. Kelly, Supervisor for Michael Curran & Associates (hydrostatic testing contractor), that the hydrostatic test was performed;
6. Hydrostatic Test Records Team spreadsheet listing of test sections with engineering stationing and minimum and maximum test pressure; and
7. Summary of pressure tests performed upstream and downstream of Spread 1A, Test Section 4 (Chattahoochee River to Georgia Highway 141).

General Information for both Special Permit Segments 1 and 2 – documents submitted by Colonial:

1. Construction specifications for each authorization for expenditure (AFE);
2. Hydrostatic test records for the adjacent segments;
3. IM Program (IMP) baseline and reassessments information along with inline inspection (ILI) data prior to the IMP Rule;
4. Pipeline inspection records documenting appropriate repairs for all discovered defects;
5. Pipeline manufacturing data; and
6. Leak history documentation.

Based on PHMSA's review of Colonial's documents, it is unclear whether Colonial performed complete hydrostatic pressure tests of the subject segments and, if so, whether such tests were adequate in pressure, test time interval, and if there were test failures. The hydrostatic pressure tests cannot be confirmed by PHMSA based upon the following:

Special permit segment 1:

1. Line 01 hydraulic gradient at the current equipment settings for display with MOP for 40-inch diameter Line 01, Church Point to Baton Rouge, Louisiana, with injection at Krotz Springs, Louisiana;
 - **PHMSA Review:** This operating and hydraulic gradient data does not confirm that a test was conducted in 1976 on the pipeline, 40-inch diameter Line 01. The document submitted has no test information to confirm that a test was conducted nor does it contain field inspection reports that confirm a test was conducted.
2. Payment records for contractor performing the hydrostatic pressure test on 40-inch diameter Line 01, Church Point to Baton Rouge;
 - **PHMSA Review:** The financial records indicate that the construction contractor, Ford, Bacon & Davis, was paid in 1976 for services which included "testing." While the type of testing is not specified on the invoice, the only testing included in the scope of work was hydrostatic testing. The original invoice was sent to J. L. Merchant, Colonial's Manager of Engineering.
 - The financial records indicate that the construction contractor was paid, but does not confirm that a test was conducted in 1976 on the pipeline.
3. Memo dated May 24, 1977, identifying a hydrostatic test pressure of 855 psi from J. L. Merchant, Colonial Manager of Engineering at that time;
 - **PHMSA Review:** The memo dated May 24, 1977, by Mr. J.L. Merchant, Colonial's Manager of Engineering, indicates that a test was conducted, and states "A review of the Spread 3 hydrostatic test reports..." In addition, the memo states that the pipeline was tested in a certain area at 855 psi (below its required design pressure of 882 psi) and "arrangements are now being made to conduct the new hydrostatic test." The memo noted that until a retest has been completed, the

pipeline in that area will be operated at lower maximum discharge pressure considering the lower test pressure in that area. Colonial did not submit to PHMSA any documentation of a retest. The documentation submitted does not confirm that an original test was conducted in 1976 or that a retest was conducted on the pipeline, and if a retest was not conducted, why.

4. Field notes labeled “Hydro Test 1976” from Hebert Station to Baton Rouge for Spreads 1, 2, and 3;

- **PHMSA Review:** Colonial submitted some rough field pressure notes that have no date or author, and do not include the entire pipeline segment.

5. Line No. 01, dated 2-15-80, from Church Point Station to Felixville Station, control engineer’s analysis of pipe data, maximum operating pressure, hydrostatic test information and critical elevation checks;

- **PHMSA Review:** Colonial’s documentation that was submitted to PHMSA is a control center engineer’s analysis dated February 15, 1980. The document does not contain the author’s name/signature, source of information, and test records.

6. Hydrostatic Test Records Team spread sheet listing of test sections with engineering stationing and minimum and maximum test pressures; and

- **PHMSA Review:** Colonial’s documentation did not include any test records. The documentation was a summary indicating that tests were conducted in the interval of November 6 through December 1, 1976, with a hydrostatic pressure test description and minimum and maximum pressures. For mile posts 4976+55 to 5976+62 (covering *special permit segment 1*), the maximum pressure listed is 859 psi and the minimum pressure is listed as 855 psi. This document does not contain the author’s name/signature, date, source of information, and test records.

7. Summary of pressure tests performed upstream and downstream of Line 01, Church Point to Baton Rouge.

- **PHMSA Review:** The document submitted has no test information to confirm that a test was conducted. There are no document authors with signature, dates, times, pressures logs, charts, stationing, or elevations on this document.

Special permit segment 2:

8. Line 01 hydraulic gradient at current equipment settings for display with MOP data for 40-inch diameter Line 01, Atlanta to Dacula, Georgia;
 - **PHMSA Review:** The documents submitted by Colonial show the “Hydrostatic Test Analysis” for Line 01, Chattahoochee River to GA 141 (which includes the *special permit segment 2*). The documents submitted by Colonial have no test information to confirm that a test was conducted. There are no document authors with signature, dates, times, pressures logs, charts, stationing, or elevations on this document. The documents are dated March 6, 2009, well after the 1978 pipeline installation timing.
9. Payment records for contractor performing the hydrostatic test on 40-inch diameter Line 01, Spread 1A, Chattahoochee River to Georgia Highway 141;
 - **PHMSA Review:** The documents indicate that Colonial paid for services rendered associated with the performance of the hydrostatic testing. The documents submitted have no test information to confirm that a test was conducted. There are no document authors with signature, dates, times, pressures logs, charts, stationing, or elevations on this document.
10. The Spread 1A, Test Section 4 (Chattahoochee River to Georgia Highway 141) pressure test procedure diagram and test design showing the test pressures, station numbers and elevations;
 - **PHMSA Review:** Colonial submitted field notes outlining the hydrostatic test procedure inclusive of design and diagrams showing test pressures, stationing, and elevations. The information was signed and dated, but did not include any test records. The signature date was April 20, 1978.
11. Detailed water management plan and drawings for the hydrostatic testing inclusive of water chemistry analytical results;

- **PHMSA Review:** Colonial submitted water samples of water sources for the hydrostatic test. Water samples were taken at the Chattahoochee River on March 28, 1978, and June 29, 1978.

12. Testimonies from N. J. Edmonds, Colonial Manager of Operations Planning & Pipeline Control, and Sam A. Kelly, Supervisor for Michael Curran & Associates (hydrostatic testing contractor), that the hydrostatic test was performed;

- **PHMSA Review:**

Mr. N. J. Edmonds' signed memo dated July 27, 1990, stated that he was on the pipeline segment construction from March 15, 1978, to July 30, 1978. Mr. Edmonds did not indicate that he conducted the test, nor did he include any test documentation or daily inspector records. Mr. Edmonds did state that he did not recall any failures occurring during the hydrostatic tests on AFE 2333, Spread 1-A.

Mr. Sam Kelly's signed memo dated April 3, 2008, stated that the hydrotesting of Colonial's Spread 1-A (segment from Chattahoochee River to Georgia Highway 141) occurred in early August 1978, and he recalled overseeing the actual testing. Mr. Kelly remembered preparing the test documentation and delivering it to a Colonial inspector for delivery to Mr. N. J. Edmonds. The Colonial inspector inadvertently dropped the records in the mud and Mr. Edmonds returned them to Michael Curran & Associates to clean up the records and prepare a hydrostatic test report.

13. Hydrostatic Test Records Team spreadsheet listing of test sections with engineering stationing and minimum and maximum test pressure; and

- **PHMSA Review:** Colonial's documentation did not include any test records or inspector daily reports to document the test (date of test, test pressure, test duration) and any leaks or failures during the test.

14. Summary of pressure tests performed upstream and downstream of Spread 1A, Test Section 4 (Chattahoochee River to Georgia Highway 141).

- **PHMSA Review:** Colonial submitted a document indicating that the test began around July 22, 1978, with a failure on that day. Colonial's document states that the failure was repaired on July 23, 1978, and a successful test is believed to have been completed sometime after completion of the repair on July 23, 1978, and prior to commencement of the testing of Sections 2 and 3, which began on July 25, 1978. This document conflicts with the statements of Mr. Sam Kelly and Mr. N.J. Edmonds above, Item 12, on the timing of the test and whether there was a failure during the test.

Public Notice:

On January 26, 2010, PHMSA published a notice of this special permit request in the Federal Register (75 FR 4136). The notice provided a thirty (30) day comment period regarding the special permit request, ending February 25, 2010. PHMSA did not receive any comments on Colonial's special permit request.

On August 23, 2019, PHMSA published the special permit request in the Federal Register (84 FR 44350) and the public comment period ended on September 23, 2019, with all comments received through September 26, 2019, being reviewed and considered. PHMSA did not receive any comments on Colonial's special permit request. The special permit application from Colonial, pipeline route maps, public comments, environmental assessment, and special permit conditions are available in Docket No. PHMSA-2009-0390 at: www.regulations.gov.

PHMSA Overall Response and Considerations of Public Safety Concerns:

PHMSA did not receive any public stakeholder comments on the docket, emails sent to PHMSA, or any phone calls received through September 26, 2019, concerning the Colonial 40-inch diameter Line 01 pipeline special permit request.

Analysis:

PHMSA developed the special conditions to achieve an equivalent or higher level of safety by significantly decreasing the likelihood of a release of hazardous liquids in the *special permit segments 1 and 2*. The special permit conditions include: ILI (smart pigging), CP inspections and defined repair criteria (reducing the risk of failure due to mechanical damage and corrosion); increased line of sight markers (reducing the risk of in-service mechanical damage), equipment

and valves for remote monitoring and control to detect and shut off product flow when a large volume leak or rupture is detected.

Past Enforcement History – January 1, 2009 through September 26, 2019:

A review of PHMSA enforcement actions against Colonial from January 1, 2009, through September 26, 2019, shows the following enforcement actions against Colonial. The existence of these actions requires substantial justification to warrant granting this special permit.

Below is a listing of PHMSA closed enforcement matters of all types in all PHMSA Regions for Colonial from January 1, 2009 through September 26, 2019 (excluded withdrawn matters):

- Letters of Concern or Warning - 5 matters
- Notices of Amendment, Probable Violations, or Corrective Action Orders – 14 matters
- Civil Penalties - \$326,700 Proposed, \$146,400 Assessed; \$117,100 Collected

Colonial Pipeline - Total Number of Enforcement Cases – January 1, 2009 through September 26, 2019							Total Number of Cases
Case Status	Corrective Action Orders	Notices of Amendment	Notices of Probable Violation	Safety Orders	Warning Letters	Letters of Concern	
CLOSED	0	3	7	0	5	0	15
OPEN	2	0	2	0	0	0	4
Grand Total	2	3	9	0	5	0	19

Civil Penalty Status				
Proposed	Assessed	Awaiting Order	Withdrawn/Reduced	Collected
\$326,700	\$146,400	\$67,000	\$113,300	\$117,100

Operational Integrity Compliance:

PHMSA has developed special permit conditions to ensure that integrity threats to the pipeline in the *special permit segments 1 and 2* are addressed in the operator's O&M plan (O&M procedures and specifications). PHMSA carefully designed a comprehensive set of conditions that Colonial is required to implement for the special permit to be granted for loss of records to

meet 49 CFR §195.310(b) of *special permit segments 1 and 2* totaling 74.684 miles of 40-inch diameter pipeline. The special permit conditions are to find and mitigate integrity threats to *special permit segments 1 and 2* as summarized below:

Summary of Special Permit Conditions:

- 1) **Maximum Operating Pressure Limitations:** Colonial must continue to operate *special permit segment 1* at or below its existing maximum operating pressure (MOP) of 574 pounds per square inch gauge (psig) and must continue to operate *special permit segment 2* at or below its existing MOP of 743 psig. *Special permit segments 1 and 2* must be pressure tested to meet 49 CFR Part 195, Subpart E within two (2) years of the granting of this special permit and the appropriate records must be retained. If Colonial elects to not pressure test *special permit segments 1 and 2*, then Special Permit Conditions 2 through 19 must be fully implemented within two (2) years of the grant of this special permit.
- 2) **Integrity Management Program:** Within six (6) months of the grant of this special permit, Colonial must incorporate *special permit segments 1 and 2* into its written integrity management program (IMP) as a hazardous liquid pipeline that could affect an HCA in accordance with 49 CFR 195.452. Colonial must follow and implement the requirements of 49 CFR 195.452 and these special permit conditions in evaluating the integrity of *special permit segments 1 and 2*.
- 3) **Close Interval Surveys:** Within one (1) year of the grant of this special permit, Colonial must perform a close interval survey (CIS) on *special permit segments 1 and 2*. A CIS need not be performed if Colonial has performed a CIS on the Line 01 pipeline along the entire length of each *special permit segment* less than five (5) years prior to the grant of this special permit.
- 4) **Close Interval Survey – Reassessment Interval:** Colonial must perform a Close Interval Survey (CIS) and remediate any areas where CP levels are determined not to be adequate per 49 CFR 195, Subpart H within *special permit segments 1 and 2* at least once every five (5) calendar years, not to exceed 68 months.

- 5) **Coating Condition Evaluation:** Within one (1) year of the grant of this special permit, Colonial must perform a detailed evaluation of the pipeline coating system and remediate areas where coating degradation poses a corrosion threat on the pipeline within *special permit segments 1 and 2*.
- 6) **O&M Manual – Reassessment Intervals:** Within six (6) months of the grant of this special permit, Colonial must amend its written O&M manual to require ILI inspection and reassessment intervals of the Line 01 pipeline for *special permit segments 1 and 2* at a frequency consistent with 49 CFR 195.452, but at least once every five (5) calendar years at reassessment intervals not exceeding 68 months.
- 7) **In-Line Inspection Initial Assessment:**
- a. Colonial must perform ILI threat assessments along the entire length of *special permit segments 1 and 2* using ILI tools (high resolution magnetic flux leakage (HR-MFL); HR-geometry or HR-deformation tools; and ultrasonic crack detection) and must remediate discovered conditions in accordance with Condition 16 of this permit.
 - b. If ILI assessments have not been run within five (5) years of this special permit using ILI tools (high resolution magnetic flux leakage (HR-MFL); HR-geometry or HR-deformation tools; and ultrasonic crack detection), Colonial must complete ILI tool inspections on the *special permit segments* within one (1) year of issuance of this special permit.
- 8) **ILI Reassessment Intervals:** Colonial must schedule ILI reassessment dates for the *special permit segments* in accordance with 49 CFR 195.452 by adding the required time interval to the previous assessment date, but may not exceed a “five (5) year not to exceed 68-months” reassessment interval.
- 9) **Damage Prevention Best Practices:** Colonial must incorporate the applicable best practices of the Common Ground Alliance (CGA) into its damage prevention program within the *special permit segments*.
- 10) **Field Activity Notice to PHMSA:** Colonial must give notice to the Director, PHMSA Southern Region, within 14 days of discovery resulting from an ILI to enable PHMSA to

observe the excavations relating to **Conditions 16 - Anomaly Evaluation and Repair, and Condition 18 - Casings**, of field activities in the special permit inspection areas.

- 11) **Annual Reports to PHMSA**: Colonial must report annually on pipeline threat findings to PHMSA.
- 12) **Cathodic Protection Test Station – Location**: At least one (1) cathodic protection (CP) pipe-to-soil test station must be located within each HCA with a maximum spacing between test stations of one (1) mile within the *special permit segments 1 and 2*.
- 13) **Cathodic Protection Test Station - Remediation**: If any annual CP test station reading within the *special permit segments 1 and 2* fall below 49 CFR Part 195, Subpart H requirements, remediation must occur within six (6) months of the test station reading and must include a CIS 100 feet upstream and 100 feet downstream of the test station to verify that the cause of the deficiency has been mitigated.
- 14) **Interference Currents Control**: Colonial must address induced alternating current (AC) from parallel electric transmission lines and other sources that may affect the pipeline in the *special permit segments 1 and 2*.
- 15) **Field Coating**: Colonial currently has the coating data for the pipe in *special permit segments 1 and 2*. If Colonial identifies through subsequent inspections that a different coating exists or is known to shield CP for girth weld joints, then Colonial must take special care to check for cracking.
- 16) **Anomaly Evaluation and Repair**: Anomaly response and repair for the Colonial Line 01 Pipeline within *special permit segments 1 and 2* must be conducted as required by 49 CFR 195.452(h) and the additional evaluation and remediation criteria in the special permit conditions regardless of HCA⁵ status. The required timing for excavation, investigation, and remediation of anomalies based on ILI data or excavation results must be in accordance with 49 CFR 195.452(h), and must incorporate the appropriate design factors and wall loss criteria in the anomaly repair criteria. All cracks over 50% wall

⁵ HCAs in the *special permit segments 1 and 2* must have anomalies evaluated and repaired based upon the most stringent requirements of: this special permit; 49 CFR Part 195.452, or Colonial's Integrity Management Plan.

thickness and less than 1.39 failure pressure ratio must be remediated. All dents over 1% must have an “engineering critical assessment.”

- 17) **Girth Welds**: Colonial must provide records to PHMSA to demonstrate the girth welds on *special permit segments 1 and 2* were non-destructively tested (NDT) at the time of construction or demonstrate the sound of the girth welds through integrity and operational evaluations.
- 18) **Casings**: Colonial must identify all shorted casings (metallic or electrolytic) within *special permit segments 1 and 2* 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, DCVG, ACVG or AC Attenuation. A casing survey and shorted casing assessment need not be performed if Colonial has performed a casing survey and shorted casing assessment on the Line 01 Pipeline along the entire length of *special permit segments 1 and 2* less than one (1) year prior to the grant of this special permit. If factors “beyond Colonial’s control” prevent the completion of shorted casing evaluation and appropriate remediation within six (6) months of the short identification, then the evaluation and appropriate remediation must be completed as soon as practicable and a letter justifying the delay and providing the anticipated date of completion must be submitted to the Director, PHMSA Southern Region.
- 19) **Pipe Seam Evaluations**: Colonial must identify any pipe in *special permit segments 1 and 2* that may be susceptible to pipe seam issues because of the vintage of the pipe, the manufacturing process of the pipe, or other issues.
- 20) **Special Permit Segment Specific Conditions**: Colonial must comply with the following requirements.
 - a. **Depth of Cover**: Colonial must conduct depth of cover surveys in *special permit segments 1 and 2* to confirm that pipeline cover meets 49 CFR 195.248 and remediate based upon findings.
 - b. **Line-of-sight Markers**: Colonial must install and maintain line-of-sight markers on the pipeline in the *special permit segments* except in agricultural areas or large

water crossings such as lakes or swamps where line-of-sight signage may not be practical.

- c. **Data Integration**: Colonial must maintain data integration of special permit condition findings and remediation in *special permit segments 1 and 2*.
- d. **Root Cause Analysis for Failure or Leak**: Colonial must notify the Director, PHMSA Southern Region within five (5) days, if a leak or rupture (accident) occurs on mainline pipe in either of the *special permit segments* for conducting a Root Cause Analysis.
- e. **Pipe Properties Records**: Colonial must mechanically and hydrostatically test pipe in *special permit segments 1 and 2* that does not meet **Condition 21(b)**.
- f. **Pipeline System Flow Reversals**: If a pipeline long-term flow reversal (exceeding 90 days) is planned for *special permit segments 1 or 2*, Colonial must document the flow reversal operational, integrity, and safety processes for the *special permit segments 1 and 2*.
- g. **Remote Closure and Monitoring of Mainline Valves**: Colonial must be able to detect a pipeline rupture within ten (10) minutes of initiation and initiate closing *special permit segments 1 and 2* isolation valves within 30 minutes of a rupture or other high-volume leakage failure (event) as follows:
 - i. A mainline valve on either side of a *special permit segment* must be equipped for remote closure and have motorized operators on the valves for *special permit segment* isolation.

21) **Documentation**: Colonial must maintain documentation for the *special permit segments 1 and 2* as follows:

- a. Colonial must maintain all records required by 49 CFR Part 195, as well as records required in the special permit conditions for *special permit segments 1 and 2*.
- b. Colonial must have material records (pipe, flanges, fittings, etc.) to support the maximum operating pressure (MOP) of Line 01 in accordance with 49 CFR 195.106 and 195.406.

22) **Certification**: A Colonial senior executive officer, vice president or higher must certify in writing the following:

- a. That Colonial's Line 01 Pipeline in *special permit segments 1 and 2* meets the conditions described in this special permit,
- b. That Colonial's written O&M manual has been updated to include all additional O&M requirements of this special permit; and
- c. Colonial has implemented a system to collect and preserve all documentation required by 49 CFR Part 195, including, but not limited to, pressure test documents required in 49 CFR 195.310 for the Colonial Pipeline System.
- d. Within one (1) year of the grant of this special permit, Colonial must complete and send a copy of the certification required in **Condition 22** with the required senior executive signature and date of signature to the PHMSA and to the Federal Register Docket (PHMSA-2009-0390) at www.regulations.gov within one (1) year of the issuance date of this special permit.

The special permit contains conditions to ensure Colonial meets or exceeds the threshold requirements with equivalent safety and to ensure that granting the special permit will not be inconsistent with safety. PHMSA has determined that imposing these conditions (along with the remainder of the conditions set forth in the special permit) will ensure that granting the special permit will not be inconsistent with safety.

Findings:

Based on the information submitted by Colonial, PHMSA's analysis of technical, operational and safety issues, and given the conditions that will be imposed in the special permit, PHMSA finds that granting this special permit with conditions to Colonial to operate *special permit segments 1 and 2* of 40-inch diameter Line 01 in Louisiana and Georgia, where pressure test records have been lost, is not inconsistent with pipeline safety.

Completed in Washington DC on: November 25, 2019

Prepared By: PHMSA – Engineering and Research Division