



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628
609.771.7800

VIA ELECTRONIC MAIL TO: cbaker@equitransmidstream.com

August 11, 2023

Cliff Baker
Senior Vice President
Commercial Development & Operations
Equitrans Midstream Corporation
2200 Energy Drive,
Canonsburg, PA 15317

CPF No. 1-2023-053-NOPSO

Dear Mr. Baker:

Enclosed is a Notice of Proposed Safety Order (Notice) issued in the above-referenced case. The Notice proposes that you take certain measures with respect to your Mountain Valley Pipeline to ensure pipeline safety. Your options for responding are set forth in the Notice. Your receipt of the Notice constitutes service of that document under 49 C.F.R. § 190.5.

We look forward to a successful resolution to ensure pipeline safety. Please direct any questions on this matter to me at 609-771-7809.

Sincerely,

Robert Burrough
Director, Eastern Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

Enclosures: Notice of Proposed Safety Order
49 C.F.R. § 190.239

Cc: Linda Daugherty, Deputy Associate Administrator for Field Operations, Office of Pipeline
Safety <linda.daugherty@dot.gov>
Keith Coyle, Esq. Babst Calland <kcoyle@babstcalland.com>

CONFIRMATION OF RECEIPT REQUESTED

**DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY
EASTERN REGION
WEST TRENTON, NJ 08628**

In the Matter of)	
)	
Equitrans Midstream Corporation,)	CPF No. 1-2023-053-NOPSO
)	
Respondent)	
)	

NOTICE OF PROPOSED SAFETY ORDER

Background and Purpose

This Notice of Proposed Safety Order (NOPSO or Notice) is being issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), under the authority of 49 U.S.C. § 60117. Pursuant to § 60117, PHMSA has initiated an investigation and on-site inspections of the safety of Equitrans Midstream Corporation’s (ETRN) Mountain Valley Pipeline, LLC in West Virginia and Virginia.

PHMSA’s ongoing investigation indicates that conditions may exist on ETRN’s Mountain Valley Pipeline (MVP) facilities that pose a pipeline integrity risk to public safety, property, or the environment. The conditions potentially exist on the MVP system and may present immediate risk if the pipeline is commissioned without remediation.¹ Pursuant to 49 U.S.C. § 60117(m), PHMSA is issuing this Notice to notify you of the preliminary findings of the investigation and propose you take measures to ensure that the public, property, and the environment are protected from the potential risks.

Preliminary Findings

A. General Preliminary Findings

- The MVP construction project encompasses the proposed and partially constructed MVP interstate natural gas transmission system in its entirety, which will be comprised of approximately 303 miles of 42-inch diameter coated steel pipe (Affected Facility). The Affected Facility traverses the states of West Virginia and Virginia, commencing at mile

¹ See, e.g., *In the Matter of Occidental Chemical Corporation*, PHMSA CPF No. 4-2011-5009S (June 28, 2011); available online at: https://primis.phmsa.dot.gov/comm/reports/enforce/documents/420115009S/420115009S_NOPSO_06282011.pdf.

post (MP) 0.0 in Wetzel County, West Virginia, and ending at MP 303.0 in Pittsylvania County, Virginia, at the Transcontinental Gas Pipeline Company's (Transco) compressor station (CS) 165. The Affected Facility also incorporates construction of three new greenfield compressor stations located in Wetzel, Braxton, and Greenbrier Counties in West Virginia. The MVP mainline will be constructed mainly of 42-inch diameter, ranging from 0.500 to 0.888-inch thickness, X70M, Type SAWL pipe. The pipe was manufactured by Welspun Corporation, Limited.

- The Affected Facility is an interstate natural gas pipeline that has been under construction since 2018. The Affected Facility is mostly completed, except for a few miles of pipeline yet to be installed in the Jefferson National Forest in Virginia and numerous water and other crossings.
- The Affected Facility is subject to Federal pipeline safety laws and regulations, including the natural gas pipeline design and construction safety regulations in 49 C.F.R. Part 192. PHMSA has conducted pipeline construction safety oversight activities of MVP construction project since 2018.
- The MVP construction project has been halted for long periods of time while pipe segments have been buried without cathodic protection (CP) installed, and without other corrosion control processes and inspections at different junctures.²
- The construction delays have caused the coated steel pipe staged along the Affected Facility right-of-way to be exposed to the elements and ultraviolet (UV) radiation for long periods of time.³
- The Affected Facility traverses karst and mountainous topography, making the pipeline environment susceptible to land movement.
- Recent PHMSA inspections of the Affected Facility in West Virginia and Virginia have focused on all construction activity—in particular, pipe coating remediation and installed CP systems. PHMSA has recently observed active CP systems in Spreads A and B of the MVP construction project. CP installation in the remaining spreads are currently being observed to evaluate their efficacy.
- During recent inspections of the Affected Facility, PHMSA has observed coating remediation data and the documentation of coating inspections. Some data was being recorded on an outdated form that does not represent current processes and procedures governing such coating remediation work.

² See January 23, 2020, letter from ETRN to FERC requesting to perform additional supplemental activities, Docket No. CP16-10-000, Accession Number 20200123-5084; available online at: https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20200123-5084.

³ *Id.* See *infra* note 14.

- Recent legislative, construction approval, and litigation-related developments unrelated to PHMSA’s safety oversight authorities have taken place, which temporarily allowed ETRN to resume construction activities on the MVP construction project.⁴ While those activities were delayed again,⁵ recent developments indicate ETRN may imminently complete and commission the Affected Facility.⁶
- The identified risk conditions described further below are associated with external corrosion control requirements prescribed under Part 192 (*see, e.g.*, §§ 192.455 and 192.461). This NOPSO is intended to ensure an effective corrosion assessment and control system is carried out. The details associated with each condition are listed below.

B. Cathodic Protection Systems Preliminary Findings

- The objective of cathodic protection is to mitigate pipeline corrosion, which can naturally occur once steel pipe is buried. PHMSA requires operators to comply with § 192.455(a)(2) by protecting pipeline facilities from corrosion during construction phases; monitoring for conditions that could pose a threat to the integrity of the pipeline; and remediating identified conditions, if necessary.
- ETRN provided PHMSA construction notification for the Affected Facility on January 3, 2018. During the construction and maintenance phases that have taken place since that date, PHMSA has been conducting ongoing safety regulatory compliance activities to ensure compliance with the relevant pipeline safety laws and regulations. Welding began in Spread G on May 25, 2018, with additional construction activities initiating in multiple spreads shortly thereafter. On October 15, 2019, the Federal Energy Regulatory Commission (FERC)—the Federal agency responsible for authorizing gas pipeline construction and operation activities in the U.S.—issued an order entitled “Cessation of Certain Activities” in Docket No. CP16-10-000 (Cessation Order).⁷ In the Cessation Order, FERC ordered ETRN to cease all construction activity with the exception of restoration and stabilization.

⁴ See Section 324 of the Fiscal Responsibility Act of 2023, Pub. L. No. 118-5, 137 Stat. 10 (June 2023). *See also* June 28, 2023 FERC *Order Authorizing All Construction Activities*, Docket No. 16-10-000, Accession Number: 20230628-3041, available online at: https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230628-3041&optimized=false.

⁵ *See, e.g., Appalachian Voices v. Dep’t of the Interior*, No. 23-1384 (4th Cir.).

⁶ *See* Supreme Court of the United States *Order Vacating Stays, Mountain Valley Pipeline, LLC v. Wilderness Society, et al.* (No. 23A35, July 27, 2023); available online at https://www.supremecourt.gov/orders/courtorders/072723zr_j4ek.pdf.

⁷ *See* October 15, 2019, FERC letter *Cessation of Certain Activities*, Docket No. CP16-10-000, Accession Number: 20191015-3030, available online at: https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20191015-3030). This followed an October 11, 2019, ~~decision~~ decision by the United States Court of Appeals for the Fourth Circuit to grant a stay of the November 2017 Biological Opinion and Incidental Take Statement for MVP (*Wild Va. v. U.S. Dep’t of the Interior*, No. 19-1866 (4th Cir., Oct. 11, 2019)).

- When the Cessation Order was issued, MVP project construction was occurring in multiple spreads throughout West Virginia and Virginia. Numerous pipeline segments of 42-inch diameter pipe were installed in non-contiguous fashion, including many incomplete stream crossings. This resulted in numerous pipeline segments that were essentially orphaned from mechanical and electrical connection to MVP's originally designed corrosion control systems. By the fourth quarter of 2019, approximately 235 miles of pipe had been installed and buried across nine construction spreads (spreads A thru I).
- ETRN reviewed CP test station readings along the Affected Facility in late 2019 and early 2020, noting the need for additional monitoring in areas where higher than expected potential readings were observed during initial testing. ETRN reported to PHMSA that the late 2019 and early 2020 readings revealed no areas that required immediate response.
- ETRN approached FERC in January of 2020 to address the Cessation Order, seeking permission to perform additional activities, including slip repair and mitigation and the installation of temporary cathodic protection on installed pipe segments.⁸ ETRN's request discussed the potential corrosion concerns for the uncompleted pipeline at that time, noting some segments would have been installed for more than two years prior to the pipeline possibly being placed into operation.
- PHMSA, FERC, and ETRN had ongoing discussions thereafter pertinent to adequacy of the CP system on the Affected Facility and mitigation efforts to be pursued in the event right-of-way access and resumption of construction activities were further delayed. Results of those meetings culminated with ETRN providing an MVP "Integrity Update" on July 8, 2020, referencing proactive approaches to CP and corrosion mitigation taken by ETRN both prior to and after FERC's issuance of the Cessation Order.
- Prior to March 2020, a corrosion specialist firm conducted three prior direct current voltage gradient (DCVG⁹) coatings surveys on all continuous sections of pipe greater than three miles in Spreads A and B. As of July 2020, approximately 38 miles of pipe had undergone a coating survey and ETRN indicated the surveys resulted in coating remediation activities. Results of the surveys indicated that further investigation would be required once construction was resumed. In the interim, ETRN planned to continue surveying coating on pipe segments greater than three miles in length and presently those surveys have continued.
- According to ETRN, at present, 14 of 31 permanent ground bed CP systems have been installed on the Affected Facility's approximately 270 miles of buried pipe, of which ETRN reports three are energized. In the case of pipe segments that are not cathodically protected by the permanent ground bed CP systems, ETRN indicates it has installed 470 temporary CP "groundbed systems that are protecting the pipeline until these segments can

⁸ See *supra* note 2.

⁹ DCVG (direct current voltage gradient) is a survey technique used for assessing the effectiveness of corrosion protection, particularly on buried steel structures.

be connected to permanent ground beds after Mountain Valley fills the construction gaps.”¹⁰

- During PHMSA’s ongoing inspections of the Affected Facility, PHMSA discussed with ETRN concerns that pipes installed without CP for extended periods of time could corrode. Specifically, PHMSA underscored to ETRN the extent of corrosion that could potentially exist in the absence of an effective CP system and emphasized the uncertainty that develops once buried pipe is without effective CP (see PHMSA Advisory Bulletin (ADB) 03-06).¹¹ PHMSA ADB 03-06 was issued after “the discovery of substantial external corrosion on a newly constructed gas transmission pipeline. The pipeline had been in service a little over two years when this unexpected corrosion was revealed by a high-resolution, inline inspection tool. The pipe wall pitting was consistent with that caused by underground stray electrical current before a cathodic protection system is installed.”¹²
- PHMSA acknowledges ETRN has taken several measures to address the cathodic protection system deficiencies on the MVP construction project,¹³ but some buried pipeline was installed without effective CP for periods of at least two years. This necessitates extensive documentation of efforts to prevent corrosion and support the level of effectiveness of the temporary CP systems, and how any potential corrosion has been addressed to ensure compliance with safety standards.
- The MVP currently traverses one high consequence area (HCA) in a Class 3 location as defined in Part 192, and will routinely be required to have an ILI tool run with assessments within 10 years of commissioning. At present, ETRN indicated to PHMSA it is considering conducting an in-line inspection (ILI) tool run with assessments in conjunction with commissioning of the pipeline.

C. Protective Coating Preliminary Findings

- The MVP construction project has been subject to multiple construction delays. These delays have resulted in the fusion bonded epoxy (FBE) coating on much of the pipe left staged on the project right-of-way (ROW) exposed to potential maleffects (solar oxidation) from the sun’s UV radiation.¹⁴ FBE coating on pipe is not intended to be left exposed to

¹⁰ See June 29, 2023, letter from ETRN to FERC addressing pipeline integrity concerns on MVP, Docket No. 16-10-000, Accession Number 20230629-5164, available online at https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20230629-5164.

¹¹ 68 Fed. Reg. 64,189 (Nov. 12, 2003). After discovery of substantial external corrosion on a newly constructed gas transmission pipeline, PHMSA encouraged operators to have qualified corrosion personnel identify, mitigate, and monitor any detrimental stray currents prior to and during construction.

¹² *Id.*

¹³ *Supra* note 10.

¹⁴ See, e.g., January 12, 2018, testimony of ETRN project manager Robert Cooper (*Mountain Valley Pipeline, LLC v. Easements, et al.*, No. 7:17CV492 (W.D. Va.)), “[t]here are some other things that are kind of unique to this project, one of which is the pipeline material. The pipeline is coated with a protective material. It’s an epoxy. As it sits in the sun, it ages or oxidizes and actually becomes thinner. And so we have to continue to monitor that and

UV radiation for extended periods of time prior to being buried.¹⁵ PHMSA is aware that in some instances this exposure to environmental conditions—such as UV radiation and adverse seasonal weather conditions—may have facilitated potential degradation of the FBE coating on the MVP pipe. This degradation may have placed portions of pipe coating below acceptable effective coating thresholds. ETRN’s present activities to test and rehabilitate degraded coating indicate this risk condition exists.

- During recent inspections of the Affected Facility, PHMSA observed coating rehabilitation activities and data, and the documentation of such. During an on-site inspection on July 12–13, 2023, in Spreads A and B, PHMSA staff reviewed records of coating analysis on pipe with coating that was determined to not require remediation. This analysis was recorded on the “Holiday Detector Inspection Form.” During the inspection, records for pipe joint #J16009085D were assessed. The assessment was recorded on the Holiday Detector Inspection Form, and the pipe coating was determined to not require remediation. A single millage reading was required to be recorded on the Holiday Detector Inspection Form; however, the process that ETRN has developed and implemented involves three readings on five random locations for a joint of pipe.
- PHMSA has discussed the coating-related concerns described above with ETRN throughout the delays in construction and has recently observed coating-related activities along the MVP right-of-way and evaluated ETRN’s applicable procedures. PHMSA understands ETRN has developed a process to assess and remediate potential coating damage, which includes referencing applicable National Association of Corrosion Engineers (NACE) standards and assessing the coating and remediating damage found, potentially by applying additional coating on-site. The proposed corrective measures below would require additional surveys of the pipe coating prior to commissioning and independent third party review of the processes (and implementation of such) ETRN has adopted to analyze and remediate any pipe coating damage, which will help resolve potential integrity concerns.

D. Installation Preliminary Findings

- During its inspection of MVP Spread C, conducted from August 6–8, 2019, PHMSA observed the placement of pipe within ditches off Mudlick Run Road and Camp Creek Road in West Virginia was not performed in a manner consistent with ETRN’s procedures prescribed by § 192.303.
- During the August 2019 PHMSA inspection at Mudlick Run Road, PHMSA observed a 42-inch diameter pipe was placed within a rock-laden trench without adequate support padding and/or backfill material to protect the pipe coating from damage due to protruding rocks and spoils within the trench. PHMSA observed that pipe installed at this location may have been susceptible to stresses and/or damage that could result from movement or settlement that is typical during required post-installation hydrostatic testing. Specifically,

inspect it. And prior to it becoming—there’s some margin when you coat it, but prior to it becoming too thin to use, you have to protect it from the sun.” *Id.* at 134.

¹⁵ See, e.g., National Association of Pipe Coating Applicators (NAPCA) Bulletin 12-78-04.

preparation of trench, padding height, and clear spacing requirements between rock and pipe wall were inconsistent with the required minimum stipulated in ETRN's 10.2 Standard, Sections 9.1, 14.1, 14.2 and 15.3. ETRN's response to an inquiry by PHMSA noted that the installation was a proposed tie-in location that was incomplete at the time of inspection. ETRN subsequently remediated the identified condition at this location and provided supporting evidence of such to PHMSA.

- At Camp Creek Road, PHMSA observed 42-inch diameter pipe being placed within a rock-laden trench inconsistent with ETRN's construction requirements. Specifically, clear spacing requirements between pipe and rock wall, rock, and/or rock fragments were inconsistent with the required minimum stipulated in ETRN's 10.2 Standard, Sections 9.1, 14.1, 14.2 and 15.3. PHMSA observed that pipe installed at this location may be susceptible to stresses and/or damage that may incur as a result of movement or settlement that is typical during required post-installation hydrostatic testing.
- On April 14, 2020, PHMSA Eastern Region issued a Warning Letter to ETRN under CPF No. 1-2020-1012W.¹⁶ The Warning Letter placed ETRN on notice regarding these pipe installation issues for the remainder of the project. PHMSA's concerns regarding compliance with § 192.319 may be detrimental to pipeline integrity and be identified during future pipe coating surveys and/or ILI caliper tool runs. The full inspections proposed in the Corrective Measures below will ensure areas of potential integrity risk are identified and remediated.

E. Land Movement and Strain Preliminary Findings

- The Affected Facility traverses areas of karst topography and steep slopes, making the pipeline environment susceptible to land movement. Land movement has been a causal factor in recent pipeline failures in the general vicinity of the route of the Affected Facility.¹⁷ Further, the Affected Facility axially traverses many steep hillside and valley combinations that require sag bends and tie-in welds. Axial stresses on girth welds in sag-bend and over-bend locations, and areas where tie-in welds may be susceptible to excessive external stress during and/or soon after construction, have also been a causal factor in recent pipeline failures in the general vicinity of the pipeline route.¹⁸ PHMSA has issued advisory bulletins due to the prevalence of land movement issues affecting pipeline safety in recent years to recommend operators take certain actions to prevent damage to pipeline

¹⁶https://primis.phmsa.dot.gov/comm/reports/enforce/documents/120201012W/120201012W_Warning%20Letter_04142020.pdf. A warning letter was issued pursuant to PHMSA's enforcement guidelines available online here: <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2020-09/Section%203%20Selection%20of%20Administrative%20Enforcement%20Actions%20%20%289%2015%202020%29.pdf>.

¹⁷ See, e.g., Leach XPress pipeline failure near Moundsville, West Virginia (June 7, 2018); See also PHMSA CPF No. 1-2018-1016S; available online at <https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/docs/news/58376/columbia-gas-npso-july-2018.pdf>.

¹⁸ See, e.g., Enterprise Products ATEX-1 pipeline failure near Follansbee, West Virginia (2015); Energy Transfer, Rover Pipeline hydrotest near Wilbur, West Virginia (2018).

facilities caused by earth movement in variable, steep, and rugged terrain, and in terrain varied or subject to changing subsurface geological conditions.¹⁹ Such circumstances necessitate close attention to adopting assessment and mitigating measures, especially in light of the extensive attention to land movement and slip mitigation issues that was necessary as part of the MVP pipeline construction processes to date, and ETRN actions taken to address subsidence along the right of way. The sag and ILI assessments in the proposals below will assist in identifying and remediating any related conditions.

Proposed Issuance of Safety Order

Section 60117(m) of Title 49, United States Code, provides for the issuance of a safety order—after reasonable notice and the opportunity for a hearing—requiring corrective measures, which may include physical inspection, testing, repair, or other action, as appropriate. The basis for making the determination that a pipeline facility has a condition or conditions that pose a pipeline integrity risk to public safety, property, or the environment is set forth both in the above-referenced statute and 49 C.F.R. § 190.239, a copy of which is enclosed.

After evaluating the foregoing preliminary findings of fact, and based on the unique aspects of the MVP construction, including: (1) the amount of time that significant portions of the pipeline were buried in the ground without being in operation or subject to corrosion prevention and inspection requirements, and uncertainty of conditions that could develop or exist on the Affected Facility in the absence of a timely and effective (and adequately documented) corrosion control program; (2) the amount of time the pipe has been exposed to the environment and UV radiation, and the uncertainty of conditions that could develop on the Affected Facility in the absence of adequate coating remediation; (3) the potential existence of integrity issues due to observed installation practices conveyed in previous PHMSA actions;²⁰ (4) the steep topography the project traverses and karst-related land movement risks; (5) the coating evaluation and remediation process issues noted during recent PHMSA observations of on-site activities; as well as the hazardous nature of the product transported to persons and the environment when operations commence and the pressure required for transporting such product, the commissioning and operation of the MVP pipeline without appropriate inspection and corresponding corrective measures first being undertaken would pose a pipeline integrity risk to public safety, property, and the environment. The conditions described above require a comprehensive evaluation to identify and remediate integrity issues, mitigate the risk, and protect public safety, property, and the environment.²¹

¹⁹ See PHMSA advisory bulletins addressing “Potential for Damage to Pipeline Facilities Caused by Earth Movement and Other Geological Hazards”; 84 Fed. Reg. 18,919 (May 2, 2019); 87 Fed. Reg. 33,576 (June 2, 2022).

²⁰ See CPF No. 1-2020-1012W discussed in the Installation Preliminary Findings section above. See also PHMSA CPF No. 1-2021-063-NOA, alleging ETRN had inadequate procedures under 49 C.F.R. § 192.303 as related to coating and remediation-related issues; available online at [https://primis.phmsa.dot.gov/comm/reports/enforce/documents/12021063NOA/12021063NOA_Notice%20of%20Amendment_11182021_\(20-172495\)_text.pdf/](https://primis.phmsa.dot.gov/comm/reports/enforce/documents/12021063NOA/12021063NOA_Notice%20of%20Amendment_11182021_(20-172495)_text.pdf/).

²¹ See, e.g., *In the Matter of Algonquin Gas Transmission, LLC*, PHMSA CPF No. 1-2020-014-CAO (addressing release of 169,000 cubic feet of natural gas that occurred during commissioning activities of a compressor station), available online at [https://primis.phmsa.dot.gov/comm/reports/enforce/documents/12020014CAO/12020014CAO_Amended%20Corrective%20Action%20Order_10302020_\(20-172418\).pdf](https://primis.phmsa.dot.gov/comm/reports/enforce/documents/12020014CAO/12020014CAO_Amended%20Corrective%20Action%20Order_10302020_(20-172418).pdf). See also, *In the Matter of Kinder Morgan Energy Partners*,

Accordingly, PHMSA issues this Notice to notify Respondent of the proposed issuance of a safety order and to propose that Respondent take measures specified herein to address the potential risks.

Proposed Corrective Measures

Pursuant to 49 U.S.C. § 60117(m) and 49 C.F.R. § 190.239, PHMSA proposes to issue a safety order to ETRN incorporating the following remedial requirements with respect to the Affected Facility:

1. **Definitions.** For the purpose of this Notice, the following terms are defined as:
 - (A) “Director” is the Director, Eastern Region, Office of Pipeline Safety (OPS), Pipeline and Hazardous Materials Safety Administration (PHMSA);
 - (B) “Effective Date” is the date a safety order is issued; and
 - (C) “Affected Facility” means the approximately 303-mile MVP pipeline traversing the states of West Virginia and Virginia, commencing at mile post (MP) 0.0 in Wetzel County, West Virginia, and ending at MP 303.0 in Pittsylvania County, Virginia, and includes all associated compressor stations and facilities.
2. **Reports/Results.** Within 15 days of completion of the required inspection, testing, analysis, and/or surveys in Corrective Measures 4 through 7 below, ETRN must provide the written results of the required inspection, testing, analysis and/or surveys to the Director.
3. **Remedial Work Plan.** Within 30 days of completion of the required inspection, testing, analysis, and/or surveys in Corrective Measures 4 through 7 below, ETRN must develop and submit a written remedial work plan (Work Plan or RWP) to the Director that includes the necessary corrective measures. The Plan must include provisions to:
 - (A) Remediate any identified safety conditions to include the specific remedial actions described in Corrective Measures 4 through 7 below, including identification of location and type of any necessary remediation activities;
 - (B) Include a proposed timeline for completion of the corrective measures;
 - (C) Revise the Plan as necessary to incorporate new information obtained during the evaluations and associated remedial activities. Submit any such Plan revisions to the Director for prior approval;
 - (D) Accept the Director may approve Plan elements incrementally. Once approved, the Plan shall become incorporated into the Safety Order; and,

- (E) Implement the Plan as it is approved by the Director, including any revisions to the Plan. Results of actions taken in accordance with the approved Plan must be available for review by PHMSA or its representative.
4. Prior to commissioning, ETRN must conduct alternating current voltage gradient (ACVG), direct current voltage gradient (DCVG), or other comparable inspection, testing, or surveys capable of locating and assessing pipeline coating conditions indicative of potential corrosion threats or anomalies, on all installed pipe segments except for those installed and tested after January 1, 2023:
- (A) A minimum of two (2) coating survey assessment classifications for survey calibration must be excavated, classified, and/or remediated per each survey crew per each time a survey is performed; and,
 - (B) Remediate any damaged coating indications found during the assessments required in Condition 2 that are classified as:
 - i. Severe moderate (voltage (IR) drop greater than 60 percent for DCVG or 70 dB μ V for ACVG) (i.e., 35% IR and above for DCVG or 50 dB μ V and above for ACVG), or;
 - ii. Severe based on NACE International Standard Practice 0502-2010, "Pipeline External Corrosion Direct Assessment Methodology," (NACE SP 0502-2010).
5. Prior to installation, ETRN must conduct an analysis on all pipe that is intended to be installed on the Affected Facility and that is currently stored on the MVP right-of-way (including in the Bradley, West Virginia Yard, or at any other location outdoors) to assess the level of any potential damage to the coating and to ensure the pipe is safe to be installed:
- (A) The process used for the analysis must be evaluated by an independent third-party approved by the Director in advance and with expertise and experience in assessing the coating type being utilized on the Affected Facility, and must address and evaluate coating performance to include adhesion tests. The third party shall audit the pipe analysis and remediation processes at all spreads where rehabilitation activities are conducted. The plan to conduct the analysis must also be approved by the Director; and,
 - (B) As part of the RWP, ETRN must provide to the Director for approval a plan to remediate (prior to installation), or to replace with new coated pipe segments, any defective segments with damaged or defective coating identified during the analysis.
6. Within six months after commissioning, ETRN must assess the effectiveness of the Affected Facility's permanent CP system via a close interval survey (CIS) to ensure MVP's CP systems, including AC mitigation or interferences measures, are operating as designed per National Association of Corrosion Engineers (NACE) specified standards:
- (A) The CIS must be conducted at a maximum 5-foot spacing and with interrupted on/off current to meet the requirements in §§ 192.463 and 192.465; and
 - (B) ETRN must remediate any identified locations as necessary.

7. ILI/Tool Runs.

- (A) Within 90 days of commissioning of the Affected Facility, ETRN must run a high-resolution caliper/deformation ILI tool with incorporated IMU capability, and analyze areas on the Affected Facility susceptible to excessive external stresses, including, but not limited, to all sag locations and tie-in welds.²² Any identified imperfection or damage shall be remediated per the requirements of § 192.309 and run data retained for further analysis. The tools under this Corrective Measure 7 must have the highest resolution presently available for sensor spacing and sampling rate, and capability of multiple readings per sensor on the mechanical arm/sensor carrier (*e.g.*, capable of additional readings such as "stand-off" at the sensor carrier), with a required sensitivity of measurements that enables repeatability in characterization and prioritization based upon anomaly size. Preliminary and final analysis reports shall be provided within 90 and 180 days of completion of the tool run, respectively. The analysis of susceptible areas on the Affected Facility must commence immediately following the Effective Date; and,
- (B) Within one year of the completion of the tool run in 7(A), ETRN shall run a high-resolution ILI tool consisting of a longitudinal magnetic flux leakage (MFL) tool with incorporated IMU and high-resolution caliper/deformation capabilities to assess for and identify potential external and internal corrosion-related or other anomalies. ETRN must perform a comparative stress/strain analysis (tensile and compressive) utilizing the high-resolution deformation/caliper tool run data attained in 7(A) and 7(B) to more accurately identify potential areas of stress that may warrant further investigation. If any segments of pipe are determined to be subject to excessive external stress under this Corrective Measure 7(A)-(B), those segments must be remediated under the RWP. ETRN will consult appropriate subject matter experts and determine appropriate acceptable action levels for geohazards and other conditions, as agreed upon by the Director. In the absence of an acceptable action level determination as agreed upon with the Director, the default values of two (2) percent strain for pipe and 0.5 percent strain for girth welds will be utilized. After appropriate determination of the action levels, any identified locations above the specified thresholds shall be remediated as required under Part 192.
8. After receiving and analyzing additional data during this proceeding and implementation of the Corrective Measures described above, the Director may identify other safety measures that need to be taken on the Affected Facility. In that event, Respondent will be notified of any proposed additional measures and, if necessary, amendments to the RWP or safety order.
9. ETRN must submit quarterly reports to the Director that: (1) include available data and results of the testing and evaluations required by the Safety Order; and (2) describe the

²² PHMSA acknowledges the availability of ILI tools may affect the exact timing of completion of this proposed Corrective Measure 7. Requests for any time extensions based on documented tool availability concerns must be approved by the Director as required under Corrective Measure 11 below.

progress of the repairs and other remedial actions being undertaken. The first quarterly report shall be due 90 days from the date of the Safety Order.

10. A final summary report of work performed on the above items must be submitted to the Director within 30 days of the completion of the last action performed by ETRN that is set forth in the Safety Order.
11. The Director may grant an extension of time for compliance with any of the terms of the Safety Order upon a written request, timely submitted, demonstrating good cause for an extension.
12. ETRN may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.
13. It is requested that ETRN maintain documentation of the safety improvement costs associated with fulfilling this Safety Order and submit the total to the Director. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies, and analyses; and 2) total cost associated with replacements, additions, and other changes to pipeline infrastructure.

PHMSA believes that the above Corrective Measures will provide a level of safety equivalent to that provided for in Part 192 and will ensure that ETRN performs inspections, testing, and surveys necessary to identify any corrosion and other safety issues that may have taken place during the delayed construction phase, and to ensure the integrity and safety of the pipeline.

The actions proposed by this Notice are in addition to and do not waive any requirements that apply to Respondent's facility under 49 C.F.R. Parts 190 through 199, under any other order issued to Respondent under authority of 49 U.S.C. § 60101 et seq., or under any other provision of Federal or state law.

Respondent may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.

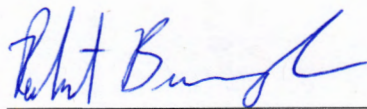
Response to this Notice

In accordance with 49 C.F.R. § 190.239, ETRN has 30 days following receipt of this Notice to submit a written response to the official who issued the Notice. If ETRN does not respond within 30 days, this constitutes a waiver of ETRN's right to contest this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to ETRN and to issue a safety order. In ETRN's response, ETRN may notify that official that it intends to comply with the terms of the Notice as proposed, or ETRN may request that an informal consultation be scheduled. (ETRN will also have the opportunity to request an administrative hearing before a safety order is issued.) Informal consultation provides ETRN with the opportunity to explain the circumstances associated with the risk conditions alleged in the notice and, as appropriate, to present a proposal for a work plan or other remedial measures, without prejudice to ETRN's position in any subsequent hearing.

If ETRN and PHMSA agree within 30 days of informal consultation on a plan and schedule for you to address each identified risk condition, we may enter into a written consent agreement (PHMSA would then issue an administrative consent order incorporating the terms of the agreement). If a consent agreement is not reached, or if ETRN has elected not to request informal consultation, ETRN may request an administrative hearing in writing within 30 days following receipt of the Notice or within 10 days following the conclusion of an informal consultation that did not result in a consent agreement, as applicable. Following a hearing, if the Associate Administrator finds the facility to have a condition that poses a pipeline integrity risk to the public, property, or the environment in accordance with § 190.239, the Associate Administrator may issue a final safety order.

Be advised that all material ETRN submits in response to this enforcement action is subject to being made publicly available. If ETRN believes that any portion of its responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document ETRN must also provide a second copy of the document with the portions ETRN believes qualify for confidential treatment redacted and an explanation of why ETRN believes the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

In ETRN's correspondence on this matter, please refer to **CPF No. 1-2023-053-NOPSO** for each document it submits, and please provide a copy in electronic format whenever possible.



Robert Burrough
Director, Eastern Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

August 14, 2023
Date issued