



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

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609.771.7800

NOTICE OF PROBABLE VIOLATION and PROPOSED COMPLIANCE ORDER

OVERNIGHT EXPRESS DELIVERY

November 6, 2024

Mr. Justin Trettel
Vice President
EQT Production Company
2200 Energy Drive
Canonsburg, Pennsylvania 15317

CPF 1-2024-039-NOPV

Dear Mr. Trettel:

From October 31, 2022 through March 27, 2023, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code (U.S.C.), inspected EQT Production Company's (EQT))¹ procedures and records for compliance with PHMSA's gas pipeline integrity regulations² in Canonsburg, Pennsylvania.

As a result of the inspection, it is alleged that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violations are:

¹ At the time of the inspection, the operator of the pipeline facilities being inspected for compliance with Part 192 was Equitrans Midstream Corporation (PHMSA Operator Identification No. (OPID) 31604). However, Equitrans Midstream Corporation and its pipeline facilities that were the subject of the inspection have since been acquired by EQT Corporation (*see, e.g.*, <https://ir.eqt.com/investor-relations/news/news-release-details/2024/EQT-Completes-Acquisition-of-Equitrans-Midstream/default.aspx>), and the pipeline facilities are presently operated by EQT Corporation's subsidiary, EQT Production Company (PHMSA OPID 39491).

² *See, e.g.*, the requirements established in PHMSA final rule titled "Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments" (84 Fed. Reg. 52,180 (Oct 1, 2019)) as codified in 49 C.F.R. Part 192. Docket No. PHMSA-2011-0023.

1. § 192.605 Procedural manual for operations, maintenance, and emergencies.

(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted...

EQT failed to follow its manual of written procedures for conducting operations and maintenance activities and for emergency response. Specifically, EQT failed to follow Section 14 of its Integrity Management Plan (IMP), Revised 10/15/22, titled “MCA Identification and Assessment (192.3)”, which required identification of Moderate Consequence Areas (MCAs)³ and other pipeline segments subject to § 192.710.⁴

Section 14.7 of EQT’s IMP indicated that EQT had completed the initial MCA identification process for all pipeline segments prior to July 1, 2021, and Section 14.4 states that the identification of structures and qualified roads and review of aerial photography will be conducted annually to identify MCAs. Section 14.9 of the IMP also described items that may trigger a new MCA segment or the modification of one, which included new construction that impacts the number of structures identified for human occupancy or qualified roads.

³ § 192.3 defines an MCA as an:

- (1) An onshore area that is within a potential impact circle, as defined in § 192.903, containing either:
 - (i) Five or more buildings intended for human occupancy; or
 - (ii) Any portion of the paved surface, including shoulders, of a designated interstate, other freeway, or expressway, as well as any other principal arterial roadway with 4 or more lanes, as defined in the Federal Highway Administration's Highway Functional Classification Concepts, Criteria and Procedures, Section 3.1 (see: https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/fcauab.pdf), and that does not meet the definition of high consequence area, as defined in § 192.903.
- (2) The length of the moderate consequence area extends axially along the length of the pipeline from the outermost edge of the first potential impact circle containing either 5 or more buildings intended for human occupancy; or any portion of the paved surface, including shoulders, of any designated interstate, freeway, or expressway, as well as any other principal arterial roadway with 4 or more lanes, to the outermost edge of the last contiguous potential impact circle that contains either 5 or more buildings intended for human occupancy, or any portion of the paved surface, including shoulders, of any designated interstate, freeway, or expressway, as well as any other principal arterial roadway with 4 or more lanes.

⁴ § 192.710 Transmission lines: Assessments outside of high consequence areas.

- (a) Applicability: This section applies to onshore steel transmission pipeline segments with a maximum allowable operating pressure of greater than or equal to 30% of the specified minimum yield strength and are located in:
 - (1) A Class 3 or Class 4 location; or
 - (2) A moderate consequence area as defined in § 192.3, if the pipeline segment can accommodate inspection by means of an instrumented inline inspection tool (i.e., “smart pig”).
 - (3) This section does not apply to a pipeline segment located in a high consequence area as defined in § 192.903.

During the inspection, EQT provided records (KMZ files) for review that depicted identified MCA locations. In three instances, GIS mapping failed to appropriately identify the boundaries of the identified MCA segments, which warranted extension of the MCAs due to structure additions and/or new construction within the potential impact circle⁵ of the pipeline. These additional structures were all associated with new housing developments. The three instances where identification of MCA segment boundaries that were not adequately identified are as follows:

- 1) MCA P7575396 on 20-inch transmission line TP7575 was created 7/8/2021. The existing MCA does not extend far enough south to capture all of the structures at the location that are within the potential impact circle. Digital imagery confirmed the structure count met the definition of MCA on 7/8/2021 and 6/30/2021.
- 2) MCA P7676426 on 20-inch transmission line TP7676 was created 7/8/2021. The existing MCA does not extend far enough south to capture all of the structures at the location that are within the potential impact circle. Digital imagery confirmed the structure count met the definition of MCA on 7/8/2021 and new housing development construction activity on 6/30/2021.
- 3) MCA P7676427 on 20-inch transmission line TP7676 was created 7/8/2021. The existing MCA does not extend far enough north to capture all of the structures at the location that are within the potential impact circle. Digital imagery confirmed the structure count met the definition of MCA on 7/8/2021 and new housing development construction activity on 6/30/2021.

Therefore, by not identifying these MCAs EQT failed to follow Section 14 of its IMP as required by § 192.605(a).

2. § 192.605 Procedural manual for operations, maintenance, and emergencies.

(a) ...

(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(1) Operating, maintaining, and repairing the pipeline in accordance with each of the requirements of this subpart and subpart M of this part.

EQT written procedures failed to address the requirements of § 192.605 as it applies to § 192.712.⁶ Specifically, EQT's manual of written procedures failed to incorporate the requirements of

⁵ The three locations identified below contain structures within the potential impact circle such that they are considered MCAs, as evidenced by the exhibits accompanying the violation report in this enforcement case. Section 192.903 establishes that the potential impact circle "... is a circle of radius equal to the potential impact radius (PIR)." PIR means "... the radius of a circle within which the potential failure of a pipeline could have significant impact on people or property. PIR is determined by the formula $r = 0.69 * (\text{square root of } (p * d^2))$, where 'r' is the radius of a circular area in feet surrounding the point of failure, 'p' is the maximum allowable operating pressure (MAOP) in the pipeline segment in pounds per square inch and 'd' is the nominal diameter of the pipeline in inches."

⁶ Specifically, § 192.712(a), (b), (d), (e), (f), and (g) as described below:
§ 192.712 Analysis of predicted failure pressure and critical strain level.

(a) Applicability. Whenever required by this part, operators of onshore steel transmission pipelines must analyze anomalies or defects to determine the predicted failure pressure at the location of the anomaly or defect, and the remaining life of the pipeline segment at the location of the anomaly or defect, in accordance with this section.

(b) Corrosion metal loss. When analyzing corrosion metal loss under this section, an operator must use a suitable remaining strength calculation method including, ASME/ANSI B31G (incorporated by reference, see § 192.7); R-STRENG (incorporated by reference, see § 192.7); or an alternative equivalent method of remaining strength calculation that will provide an equally conservative result.

(1) If an operator would choose to use a remaining strength calculation method that could provide a less conservative result than the methods listed in paragraph (b) introductory text, the operator must notify PHMSA in advance in accordance with § 192.18(c).

(2) The notification provided for by paragraph (b)(1) of this section must include a comparison of its predicted failure pressures to R-STRENG or ASME/ANSI B31G, all burst pressure tests used, and any other technical reviews used to qualify the calculation method(s) for varying corrosion profiles.

....

(d) Cracks and crack-like defects —

(1) Crack analysis models. When analyzing cracks and crack-like defects under this section, an operator must determine predicted failure pressure, failure stress pressure, and crack growth using a technically proven fracture mechanics model appropriate to the failure mode (ductile, brittle or both), material properties (pipe and weld properties), and boundary condition used (pressure test, ILI, or other).

(2) Analysis for crack growth and remaining life. If the pipeline segment is susceptible to cyclic fatigue or other loading conditions that could lead to fatigue crack growth, fatigue analysis must be performed using an applicable fatigue crack growth law (for example, Paris Law) or other technically appropriate engineering methodology. For other degradation processes that can cause crack growth, appropriate engineering analysis must be used. The above methodologies must be validated by a subject matter expert to determine conservative predictions of flaw growth and remaining life at the maximum allowable operating pressure. The operator must calculate the remaining life of the pipeline by determining the amount of time required for the crack to grow to a size that would fail at maximum allowable operating pressure.

(i) When calculating crack size that would fail at MAOP, and the material toughness is not documented in traceable, verifiable, and complete records, the same Charpy v-notch toughness value established in paragraph (e)(2) of this section must be used.

(ii) Initial and final flaw size must be determined using a fracture mechanics model appropriate to the failure mode (ductile, brittle or both) and boundary condition used (pressure test, ILI, or other).

(iii) An operator must re-evaluate the remaining life of the pipeline before 50% of the remaining life calculated by this analysis has expired. The operator must determine and document if further pressure tests or use of other assessment methods are required at that time. The operator must continue to re-evaluate the remaining life of the pipeline before 50% of the remaining life calculated in the most recent evaluation has expired.

(3) Cracks that survive pressure testing. For cases in which the operator does not have in-line inspection crack anomaly data and is analyzing potential crack defects that could have survived a pressure test, the operator must calculate the largest potential crack defect sizes using the methods in paragraph (d)(1) of this section. If pipe material toughness is not documented in traceable, verifiable, and complete records, the operator must use one of the following for Charpy v-notch toughness values based upon minimum operational temperature and equivalent to a full-size specimen value:

(i) Charpy v-notch toughness values from comparable pipe with known properties of the same vintage and from the same steel and pipe manufacturer;

(ii) A conservative Charpy v-notch toughness value to determine the toughness based upon the material properties verification process specified in § 192.607;

(iii) A full size equivalent Charpy v-notch upper-shelf toughness level of 120 ft.-lbs.; or

(iv) Other appropriate values that an operator demonstrates can provide conservative Charpy v-notch toughness values of the crack-related conditions of the pipeline segment. Operators using an assumed Charpy v-notch toughness value must notify PHMSA in accordance with § 192.18.

(e) Data. In performing the analyses of predicted or assumed anomalies or defects in accordance with this section, an operator must use data as follows.

(1) An operator must explicitly analyze and account for uncertainties in reported assessment results (including tool tolerance, detection threshold, probability of detection, probability of identification, sizing accuracy, conservative anomaly interaction criteria, location accuracy, anomaly findings, and unity chart plots or equivalent for determining

uncertainties and verifying tool performance) in identifying and characterizing the type and dimensions of anomalies or defects used in the analyses, unless the defect dimensions have been verified using in situ direct measurements.

(2) The analyses performed in accordance with this section must utilize pipe and material properties that are documented in traceable, verifiable, and complete records. If documented data required for any analysis is not available, an operator must obtain the undocumented data through § 192.607. Until documented material properties are available, the operator shall use conservative assumptions as follows:

(i) Material toughness. An operator must use one of the following for material toughness:

(A) Charpy v-notch toughness values from comparable pipe with known properties of the same vintage and from the same steel and pipe manufacturer;

(B) A conservative Charpy v-notch toughness value to determine the toughness based upon the ongoing material properties verification process specified in § 192.607;

(C) If the pipeline segment does not have a history of reportable incidents caused by cracking or crack-like defects, maximum Charpy v-notch toughness values of 13.0 ft.-lbs. for body cracks and 4.0 ft.-lbs. for cold weld, lack of fusion, and selective seam weld corrosion defects;

(D) If the pipeline segment has a history of reportable incidents caused by cracking or crack-like defects, maximum Charpy v-notch toughness values of 5.0 ft.-lbs. for body cracks and 1.0 ft.-lbs. for cold weld, lack of fusion, and selective seam weld corrosion; or

(E) Other appropriate values that an operator demonstrates can provide conservative Charpy v-notch toughness values of crack-related conditions of the pipeline segment. Operators using an assumed Charpy v-notch toughness value must notify PHMSA in advance in accordance with § 192.18 and include in the notification the bases for demonstrating that the Charpy v-notch toughness values proposed are appropriate and conservative for use in analysis of crack-related conditions.

(ii) Material strength. An operator must assume one of the following for material strength:

(A) Grade A pipe (30,000 psi), or

(B) The specified minimum yield strength that is the basis for the current maximum allowable operating pressure.

(iii) Pipe dimensions and other data. Until pipe wall thickness, diameter, or other data are determined and documented in accordance with § 192.607, the operator must use values upon which the current MAOP is based.

(f) Review. Analyses conducted in accordance with this section must be reviewed and confirmed by a subject matter expert.

(g) Records. An operator must keep for the life of the pipeline records of the investigations, analyses, and other actions taken in accordance with the requirements of this section. Records must document justifications, deviations, and determinations made for the following, as applicable:

(1) The technical approach used for the analysis;

(2) All data used and analyzed;

(3) Pipe and weld properties;

(4) Procedures used;

(5) Evaluation methodology used;

(6) Models used;

(7) Direct in situ examination data;

(8) In-line inspection tool run information evaluated, including any multiple in-line inspection tool runs;

(9) Pressure test data and results;

(10) In-the-ditch assessments;

(11) All measurement tool, assessment, and evaluation accuracy specifications and tolerances used in technical and operational results;

(12) All finite element analysis results;

(13) The number of pressure cycles to failure, the equivalent number of annual pressure cycles, and the pressure cycle counting method;

(14) The predicted fatigue life and predicted failure pressure from the required fatigue life models and fracture mechanics evaluation methods;

(15) Safety factors used for fatigue life and/or predicted failure pressure calculations;

(16) Reassessment time interval and safety factors;

(17) The date of the review;

(18) Confirmation of the results by qualified technical subject matter experts; and

(19) Approval by responsible operator management personnel . . .

§ 192.712 of Subpart M of Part 192 in its entirety, including sections addressing applicability, analysis of corrosion metal loss, analysis of cracks and crack-like defects, data analysis, review of analysis conducted, and documentation and retention of applicable records.

During the inspection, PHMSA reviewed EQT's Operations and Maintenance Manual (O&M Manual) Revision 15 (10/17/2022) and noted the following omissions:

- No incorporation of, or reference to, procedures covering addressing analysis of predicted failure pressure and its applicability under § 192.712(a).
- No incorporation of, or reference to, procedures covering corrosion metal loss under § 192.712(b) which requires use of a suitable remaining strength calculation method when analyzing corrosion metal loss anomalies.
- No incorporation of, or reference to, procedures covering cracks and crack-like defects under § 192.712(d). EQT cites no susceptibility to cracking, specifically no history of SCC and no cyclic loading. However, dents with stress concentrators (cracks) susceptible to environmental conditions were noted during in-line inspection (ILI) anomaly reviews. Procedures must address other present and/or future potential crack growth mechanisms caused by other degradation processes such as loading conditions caused by improper construction practices, land movement, seismic activity, thermal expansion, transit fatigue (due to improper transportation of pipe) and manufacturing defects such as hook cracks, which can all contribute to fatigue crack growth.
- No incorporation of, or reference to, procedures covering § 192.712(d)(1) pertaining to the use of crack analysis models when analyzing cracks and crack like defects to determine predicted failure pressure, stress pressure, and crack growth.
- No incorporation of, or reference to, procedures covering § 192.712(d)(2) pertaining to required analysis for to crack growth and remaining life for segments susceptible to cyclic fatigue or other loading conditions that could lead to fatigue crack growth.
- No incorporation of, or reference to, procedures covering § 192.712(d)(3) for cracks that survive pressure testing. Procedures should detail the use of ILI, hydrostatic testing, or other method to determine critical flaw sizes, and their remaining life in order to establish conservative reassessment intervals. No reference to API RP 1176 was noted.
- No incorporation of, or reference to, procedures covering § 192.712(e) regarding the use of data when performing analysis of predicted or assumed anomalies.
- No incorporation of, or reference to procedures covering § 192.712(f) regarding analyses being reviewed and confirmed by a subject matter expert.
- No incorporation of, or reference to, procedures covering § 192.712(g) regarding documentation and retention of applicable records.

Therefore, EQT failed to comply with the requirements of § 192.605(b)(1) by not establishing procedures for maintaining the pipeline in accordance with Subpart M, specifically the omission of procedures addressing § 192.712.

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed \$266,015 per violation per day the violation persists, up to a maximum of \$2,660,135 for a related series of violations. For violation occurring on or after January 6, 2023 and before December 28, 2023, the maximum penalty may not exceed \$257,664 per violation per day the violation persists, up to a maximum of \$2,576,627 for a related series of violations. For violation occurring on or after March 21, 2022 and before January 6, 2023, the maximum penalty may not exceed \$239,142 per violation per day the violation persists, up to a maximum of \$2,391,412 for a related series of violations. For violation occurring on or after May 3, 2021 and before March 21, 2022, the maximum penalty may not exceed \$225,134 per violation per day the violation persists, up to a maximum of \$2,251,334 for a related series of violations. For violation occurring on or after January 11, 2021 and before May 3, 2021, the maximum penalty may not exceed \$222,504 per violation per day the violation persists, up to a maximum of \$2,225,034 for a related series of violations. For violation occurring on or after July 31, 2019 and before January 11, 2021, the maximum penalty may not exceed \$218,647 per violation per day the violation persists, up to a maximum of \$2,186,465 for a related series of violations. For violation occurring on or after November 27, 2018 and before July 31, 2019, the maximum penalty may not exceed \$213,268 per violation per day, with a maximum penalty not to exceed \$2,132,679.

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to propose a civil penalty assessment at this time.

Proposed Compliance Order

With respect to Items 1 and 2, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to EQT. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Enforcement Proceedings*. Please refer to this document and note the response options. All material you submit in response to this enforcement action may be made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. § 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. § 552(b).

Following your receipt of this Notice, you have 30 days to respond as described in the enclosed *Response Options*. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to

you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. The Region Director may extend the period for responding upon a written request timely submitted demonstrating good cause for an extension.

In your correspondence on this matter, please refer to **CPF 1-2024-039-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

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

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to EQT Production Company (EQT) a Compliance Order incorporating the following remedial requirements to ensure the compliance of EQT with the pipeline safety regulations:

- A. In regard to Item 1 of the Notice pertaining to the failure to identify all Moderate Consequence Areas (MCA), EQT must evaluate all aerial imagery platforms, software, processes, training, and methods of communication amongst work groups associated with the identification of MCAs to determine why existing structure and roadway MCAs were not properly identified or extended. Upon completion of the review, EQT must submit their findings, to include cause for the omissions and update their current “Assessment Schedule” required under § 192.710 with all MCAs included. Newly identified MCAs resulting from compliance with this Compliance Order must be noted within the updated assessment schedule which shall be submitted to the Eastern Region Director for review no later than **90** days from receipt of the Final Order.
- B. In regard to Item 2 of the Notice pertaining to EQT’s failure to incorporate procedures to address the requirements of § 192.712, EQT must develop procedures covering § 192.712 in its entirety and submit to the Eastern Region Director for review within **60** days of receipt of the Final Order.
- C. It is requested (not mandated) that EQT maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Robert Burrough, Director, Eastern Region, Pipeline and Hazardous Materials Safety Administration. 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.