



U.S. Department of Transportation
Pipeline and Hazardous
Materials Safety Administration

1100 Main Street, Suite 800
Kansas City, MO 64105
(816) 329-3800

**NOTICE OF PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER**

**VIA ELECTRONIC MAIL TO: richard.prior@southbow.com;
erik.hughes@southbow.com; art.grell@southbow.com**

July 1, 2026

Mr. Richard Prior
President, Liquids Pipelines
South Bow Infrastructure Operations, Inc.
920 Memorial City Way, Suite 800
Houston, TX 77024

CPF 3-2026-008-NOPV

Dear Mr. Prior:

From April 8, 2025 to May 10, 2026, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), pursuant to Chapter 601 of 49 United States Code (U.S.C.) investigated a failure that occurred on South Bow Infrastructure Operations Inc's (South Bow) 30-inch diameter Keystone pipeline near Kathryn, North Dakota.

On April 8, 2025, South Bow's 30-inch diameter pipeline ruptured in the vicinity of Milepost 171 (MP 171) near Kathryn, North Dakota, approximately 1,648 feet downstream of the Fort Ransom pump station. The failure location was within the pipe section known as KS-6 (Fort Ransom pump station to Freeman pump station). In response, PHMSA launched an on-scene investigation. PHMSA issued a Corrective Action Order, CPF 3-2025-018-CAO on April 11, 2025. According to the final 30-day written Accident Report (PHMSA Form F7000-1) submitted by South Bow on January 8, 2026, an estimated 3,500 barrels of crude oil was released resulting in property damages totaling over \$52 million.

South Bow reported that the failed pipe was manufactured in 2008 by the Berg Steel Pipe Corporation (Berg) with a double submerged arc welded (DSAW) longitudinal seam. The apparent cause of the rupture was a crack at the longitudinal seam where angular misalignment (aka "roof-topping") of the seam was present. The April 8, 2025, rupture was similar to a previous failure that

occurred downstream of the Edinburg pump station in 2019: both involved fatigue crack growth, an anomalous seam weld geometry (roof-topping), and the inability of prior inline inspection (ILI) tools to detect cracks at the longitudinal seam. The elapsed time between the previous ILI for seam cracking and the rupture on April 8, 2025, was less than five years.

As a result of the investigation, it is alleged that South Bow has committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items investigated and the probable violations are:

1. § 195.416 Pipeline assessments.

(a)

(c) *Method.* Except as specified in paragraph (d) of this section, an operator must perform the integrity assessment for the range of relevant threats to the pipeline segment by the use of an appropriate in-line inspection tool(s). When performing an assessment using an in-line inspection tool, an operator must comply with § 195.591. An operator must explicitly consider uncertainties in reported results (including tool tolerance, anomaly findings, and unity chart plots or other equivalent methods for determining uncertainties) in identifying anomalies. If this is impracticable based on operational limits, including operating pressure, low flow, and pipeline length or availability of in-line inspection tool technology for the pipe diameter, then the operator must perform the assessment using the appropriate method(s) in paragraphs (c)(1), (2), or (3) of this section for the range of relevant threats being assessed. The methods an operator selects to assess low-frequency electric resistance welded pipe, pipe with a seam factor less than 1.0 as defined in § 195.106(e) or lap-welded pipe susceptible to longitudinal seam failure must be capable of assessing seam integrity, cracking, and of detecting corrosion and deformation anomalies. The following alternative assessment methods may be used as specified in this paragraph:

- (1) A pressure test conducted in accordance with subpart E of this part;**
- (2) External corrosion direct assessment in accordance with § 195.588; or**
- (3) Other technology in accordance with paragraph (d).**

South Bow failed to use an appropriate ILI tool for the 2020 pipeline integrity assessment, in violation of the requirements of § 195.416(c). Specifically, South Bow failed to use an ILI tool that could reliably assess pertinent threats to the pipeline segment – longitudinal seams exhibiting angular misalignment (e.g., roof-topping). In addition, South Bow did not use any of the alternative assessment methods specified paragraphs (c)(1), (2), or (3).

If an operator has identified a pipeline segment with identified or probable anomalies, then the operator must assess that segment with a tool capable of detecting those anomalies.¹ An operator cannot properly maintain its pipeline if it does not know the threats to its pipeline's integrity, to include threats stemming from manufacturing defects. When promulgating § 195.416(c), PHMSA

¹ See 84 Fed. Reg. 52260, 52281 (October 1, 2019) (the Final Rule promulgating 49 CFR § 195.416(c)).

stated that an integrity assessment must be performed for the range of relevant threats to the pipeline segment using an appropriate ILI tool.²

South Bow performed the 2020 ILI tool run required by § 195.416 with a shear wave ultrasonic crack detection ILI tool. This ILI tool was not appropriate because it was incapable of reliably detecting cracks where roof-topping exists at the long seam of the 30-inch pipeline. The vendor's description of the ILI's capability said the tool provided the possibility of identifying cracks at "typical DSAW seams;" however, the tool specification in 2020 indicated that performance may be reduced in geometric abnormalities and other deformations.

South Bow was aware that seam cracking coincident with roof-topping was a relevant threat on its 30-inch pipeline constructed with pipe made by Berg. A previous October 29, 2019, Berg 2008-manufactured pipe longitudinal seam failure occurred downstream of the Edinburg pump station in North Dakota, approximately 137 miles north of the MP 171 failure in 2025. Because ILI technology used during the 2020 assessment could not reliably assess the seam and detect cracking on the 30-inch diameter pipeline, it was not an appropriate ILI tool to use. South Bow, instead, could have used a pressure test conducted in accordance with Part E of 195. This assessment method would have assessed all threats. By failing to use an appropriate ILI tool, South Bow failed to comply with § 195.416(c).

2. § 195.452 Pipeline integrity management in high consequence areas.

(a)

(g) *What is an information analysis?* In periodically evaluating the integrity of each pipeline segment (see paragraph (j) of this section), an operator must analyze all available information about the integrity of its entire pipeline and the consequences of a possible failure along the pipeline. Operators must continue to comply with the data integration elements specified in § 195.452(g) that were in effect on October 1, 2018, until October 1, 2022. Operators must begin to integrate all the data elements specified in this section starting October 1, 2020, with all attributes integrated by October 1, 2022. This analysis must:

- (1) Integrate information and attributes about the pipeline that include, but are not limited to:**
 - (i) Pipe diameter, wall thickness, grade, and seam type;**
 - (ii) Pipe coating, including girth weld coating;**
 - (iii) Maximum operating pressure (MOP) and temperature;**
 - (iv) Endpoints of segments that could affect high consequence areas (HCAs);**
 - (v) Hydrostatic test pressure including any test failures or leaks—if known;**
 - (vi) Location of casings and if shorted;**
 - (vii) Any in-service ruptures or leaks—including identified causes;**
 - (viii) Data gathered through integrity assessments required under this section;**
 - (ix) Close interval survey (CIS) survey results;**
 - (x) Depth of cover surveys;**

² *Id.* at 52287.

- (xi) Corrosion protection (CP) rectifier readings;
- (xii) CP test point survey readings and locations;
- (xiii) AC/DC and foreign structure interference surveys;
- (xiv) Pipe coating surveys and cathodic protection surveys.
- (xv) Results of examinations of exposed portions of buried pipelines (i.e., pipe and pipe coating condition, see § 195.569);
- (xvi) Stress corrosion cracking (SCC) and other cracking (pipe body or weld) excavations and findings, including in-situ non-destructive examinations and analysis results for failure stress pressures and cyclic fatigue crack growth analysis to estimate the remaining life of the pipeline;
- (xvii) Aerial photography;
- (xviii) Location of foreign line crossings;
- (xix) Pipe exposures resulting from repairs and encroachments;
- (xx) Seismicity of the area; and
- (xxi) Other pertinent information derived from operations and maintenance activities and any additional tests, inspections, surveys, patrols, or monitoring required under this part.

South Bow did not analyze all available information about the integrity of its entire pipeline, as required by § 195.452(g). Specifically, when performing evaluations of the KS-6 and KS-9 pipeline segments integrity in 2022, 2023, and 2024, South Bow did not analyze (1) available information obtained after analysis of the October 2019 rupture immediately downstream of the Edinburg pump station (within the KS-5 segment of the 30-inch Keystone pipeline), (2) information from other integrity assessments along the pipeline, (3) and information derived from operations and maintenance activities required by Part 195.

Following the October 2019 Edinburg failure, South Bow analyzed certain ILI tool results to understand where roof-topping may be present on the KS-5 segment of the 30-inch Keystone pipeline. Roof-topping was apparent in the October 2019 Edinburg failure. The analysis identified Berg pipe joints along the pipeline as locations where roof-topping may be present. Based on this evaluation, South Bow excavated some Berg pipe joints identified by the analysis. The excavations confirmed the presence of roof-topping.

The KS-6 segment of the 30-inch Keystone pipeline had 9.39 miles of Berg pipe within a could-affect HCA area. The KS-9 segment had 0.5 miles of Berg pipe within a could-affect HCA area. Because of these could-affect HCA segments, South Bow was required to carry out the requirements of § 195.452(g) for the KS-6 and KS-9 pipeline segments in these areas. Due to the integrity issues that South Bow was aware of concerning Berg pipe joints and the possibility that they could have roof-topping issues, South Bow was required to analyze this information when evaluating the integrity of the pipeline segments. However, prior to the April 8, 2025 rupture at MP 171, South Bow did not perform this analysis. Despite having ILI data available to perform this analysis, South Bow did not analyze the possibility of roof-topping on Berg pipe joints for the KS-6 and KS-9 segments in the could-affect HCA areas. As documented in its response to a PHMSA Request for Information following the April 8, 2025 rupture, South Bow acknowledged

it had decided not to perform a roof-topping analysis for the KS-6 and KS-9 pipe sections. By not performing this analysis, South Bow did not comply with the requirements of § 195.452(g).

3. § 195.452 Pipeline integrity management in high consequence areas.

(a)

(j) **What is a continual process of evaluation and assessment to maintain a pipeline's integrity? —**

(1) ...

(3) ***Assessment intervals.* An operator must establish five-year intervals, not to exceed 68 months, for continually assessing the line pipe's integrity. An operator must base the assessment intervals on the risk the line pipe poses to the high consequence area to determine the priority for assessing the pipeline segments. An operator must establish the assessment intervals based on the factors specified in paragraph (e) of this section, the analysis of the results from the last integrity assessment, and the information analysis required by paragraph (g) of this section.**

South Bow's assessment intervals for the 30-inch Keystone pipe segments KS-5 through KS-9 that could affect HCAs were not based on all the risk factors specified in paragraph (e) of § 195.452 and the information analysis required by paragraph (g) of § 195.452. The assessment intervals must be based on risk factors specific in paragraph (e) that include the results of the previous integrity assessment, defect type and size that the assessment method can detect, pipe attributes such as manufacturing information and seam type, and pipeline leak history. Paragraph (g) states that an information analysis must include pertinent information derived from operations and maintenance activities and any additional tests, inspections, surveys, patrols, or monitoring required by Part 195, any in-service ruptures or leaks – including identified causes, and results of examinations of exposed portions of buried pipelines, among other information.

There are five trap-to-trap pipeline sections (KS-5 through KS-9) that are part of South Bow's integrity management program for the 30-inch pipeline. These sections contain Berg 2008-manufactured pipe that could affect HCAs. As part of integrity verification efforts following the October 2019 Edinburg failure, South Bow analyzed certain ILI tool results to understand where roof-topping may be present on the KS-5 segment of the 30-inch Keystone pipeline. The October 2019 Edinburg seam failure in the KS-5 pipe section occurred within 22 months of a 2017 crack detection ILI that had not detected a crack defect prior.

The short timeframe between the 2017 ILI and the 2019 Edinburg failure, the leak history of the pipeline, and the identified cause were factors that needed to be considered when establishing the assessment intervals for the approximate 17.1 miles of the 30-inch Keystone pipeline in segments KS-5 through KS-9 that could affect HCAs. South Bow was aware of the causes and contributing factors of the 2019 failure as described in a post-Edinburg RCFA. The activities following the 2019 Edinburg failure confirmed the presence of Berg pipe attributes (e.g., roof-topping) that increased the stress concentration for accelerated fatigue growth of cracks where intervals would need to be shortened so that assessment and necessary remediation occur prior to seam failures. Per § 195.452(e), the reduced ILI performance in areas of roof-topping was also a risk condition on the 30-inch pipeline that assessment intervals would need to be based on. A four-year interval

was initially chosen in some pipe sections (e.g., KS-6) per previous Baseline and Reassessment Plans (BARP); however, South Bow reverted to a five-year interval beginning with the 2023 BARP.

In its annual BARP for 2023 and 2024, South Bow scheduled the KS-6 seam cracking assessment for 2025, i.e., a five-year interval. The MP 171 pipe rupture on April 8, 2025, within the KS-6 section, happened approximately 55 months after the previous seam cracking assessment. Like the KS-6 pipe section, the assessment intervals for pipe sections KS-5, KS-7, KS-8, and KS-9, were not based on all the risk factors in §195.452(e) and had been scheduled for a five-year interval. There is no indication that South Bow took into account all the risk factors when it established the five-year interval. Thus, South Bow failed to comply with the requirements of § 195.452(j)(3).

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed \$272,926 per violation per day the violation persists, up to a maximum of \$2,729,245 for a related series of violations. For violations occurring on or after December 28, 2023, and before December 30, 2024, the maximum penalty may not 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 violations 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 violations 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 violations 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 violations 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 violations 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.

We have reviewed the circumstances and supporting documentation involved for the above probable violations and recommend that you be preliminarily assessed a civil penalty of \$228,200 as follows:

<u>Item number</u>	<u>PENALTY</u>
2	\$143,300
3	\$ 84,900

Proposed Compliance Order

With respect to Items 2 and 3, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration propose to issue a Compliance Order to South Bow Infrastructure Operations, Inc. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Warning Item

With respect to item 1 we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct this item. Failure to do so may result in additional enforcement action.

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 3-2026-008-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

AJ McKean
Director, Central Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

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

cc: Erik Hughes, Director, Pipeline Integrity, South Bow, erik.hughes@southbow.com
Art Grell, Compliance Specialist, South Bow, art.grell@southbow.com

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) propose to issue to South Bow Infrastructure Operations, Inc. (South Bow) a Compliance Order incorporating the following remedial requirements to ensure the compliance of South Bow Infrastructure Operations, Inc. (South Bow) with the pipeline safety regulations:

- A. In regard to Item 2 of the Notice pertaining to failure to analyze all available information about the integrity of its entire pipeline, South Bow must within **24** months of receipt of the Final Order determine the locations and sizing of roof-topping that exists on the 30-inch diameter Keystone pipeline at longitudinal seams of pipe manufactured by Berg. Within **90** days of receipt of the Final Order South Bow must propose, for the Central Region Director's review and approval, the method(s) it proposes to use to gather and determine the population of existing roof-topping on the 30-inch diameter Keystone pipeline. The proposed method(s) must be supported by documented technical justification that is provided with the written proposal. As this item is implemented, all information about roof-topping (e.g., size and locations) at longitudinal seams must be maintained (for example, in a database) so that it is available for South Bow to analyze and identify spatial relationships among anomalous information in accordance with § 195.452(g)(4). Prior to closure of the Final Order, South Bow must furnish written certification to the Central Region Director that the roof-topping data has been gathered, is stored in South Bow's data systems, and is readily available for ongoing information analysis in accordance with § 195.452(g)(4).
- B. In regard to Item 3 of the Notice pertaining to failure to base integrity assessment intervals for longitudinal seam cracking on all the risk factors specified in paragraph (e) of § 195.452 and the information analysis required by paragraph (g) of § 195.452, South Bow must within **90** days of receipt of the Final Order evaluate the risk factors specified in paragraph (e) of § 195.452 and the information analysis required by paragraph (g) of § 195.452 and evaluate whether shorter assessment intervals for each section of the 30-inch Keystone pipeline with Berg pipe regardless of wall thickness are warranted. Within **120** days of receipt of the Final Order, South Bow must furnish to the Central Region Director for review and approval the proposed assessment interval for each section along with supporting technical justification. The assessment interval for each pipe section must be reviewed by South Bow at least once each calendar year and a report with supporting documentation sent to the Central Region Director annually. The annual report must describe why the established interval(s) and assessment methods remain technically appropriate or explain why assessment interval(s) were further reduced to provide safety. The Compliance Order for Item 3 shall remain in place until two successive seam assessments for each pipe section (KS-5, KS-6, KS-7, KS-8, and KS-9) are completed without seam failures occurring on the 30-inch Keystone pipeline.

- C. Following receipt of the Final Order, South Bow must provide a quarterly report on the status of implementing the Compliance Order. The first quarterly report must be submitted to the Director 90 days following receipt of the Final Order, and subsequent reports must be submitted every 90 days thereafter until the Final Order is closed or when the Director ceases requiring a quarterly report, whichever comes first.
- D. The Director may approve extensions of time to complete the required Compliance Order items based on a written request from South Bow justifying the need for a time extension.
- E. It is requested (not mandated) that South Bow maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to AJ McKean, Director, Central 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.