

April 11, 2025

VIA ELECTRONIC MAIL TO: richard.prior@southbow.com

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

Re: CPF No. 3-2025-018-CAO

Dear Mr. Prior,

Enclosed please find a Corrective Action Order (CAO or Order) issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS). The CAO requires South Bow Infrastructure Operations, Inc., to take certain corrective actions with respect to the pipeline failure that occurred on April 8, 2025, on the 30-inch South Bow Keystone Pipeline approximately thirty-two miles south of Valley City, North Dakota.

Service of the CAO by electronic mail is effective upon the date of transmission and acknowledgment of receipt as provided under 49 CFR § 190.5. The terms and conditions of this Order are effective upon completion of service.

Sincerely,

On behalf of
Alan K. Mayberry
Associate Administrator
for Pipeline Safety

Enclosure: CAO

cc: Mr. Gregory Ochs, Director, Central Region, OPS, PHMSA

CONFIRMATION OF RECEIPT REQUESTED

**U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION
OFFICE OF PIPELINE SAFETY
WASHINGTON, D.C. 20590**

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In the Matter of	)	
	)	
South Bow Infrastructure	)	
Operations, Inc.,	)	CPF No. 3-
2025-018-CAO		
	)	
Respondent.	)	
	)	
	)	

CORRECTIVE ACTION ORDER

Purpose and Background

This Corrective Action Order (CAO or Order) is being issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), pursuant to the authority provided in 49 U.S.C. § 60112. The CAO requires South Bow Infrastructure Operations, Inc. (South Bow or Respondent), to take certain necessary corrective actions to protect the public, property, and the environment from the potential hazards associated with the continued operation of the South Bow Keystone Pipeline, which recently ruptured at a location approximately thirty-two miles south of Valley City, North Dakota (Failure). The Failure resulted in the release of approximately 3,500 barrels of crude oil in a rural area.

The South Bow Keystone Pipeline is a 1,025-mile, 30-inch diameter hazardous liquid pipeline system, formerly known as Phase 1 of TC Oil Pipeline Operations, Inc.'s (TC Oil) Keystone pipeline.¹ The South Bow Keystone Pipeline runs from the US-Canadian border at Cavalier County, North Dakota, through the States of South Dakota, Nebraska, Kansas, and Missouri, to Wood River, Illinois. The maximum operating pressure (MOP) of the South Bow Keystone Pipeline is 1,440 pounds per square inch gauge (psig).

The Failure appears to have occurred shortly before 07:44 AM CDT, when a technician at a nearby pump station heard a loud noise indicative of a potential rupture. The technician responded by immediately performing an emergency shut down of the pump station. South Bow's control center in Calgary, Canada, also shortly thereafter by shutting down the pipeline and remotely closing the valves necessary to isolate the site of the Failure.

¹ South Bow became the designated operator of the pipeline on March 22, 2024.

On April 10, 2025, South Bow sent a letter to PHMSA addressing the Failure. In that letter, South Bow “committed to performing a complete investigation into the root cause of the release and developing a corresponding comprehensive program to verify the safe and reliable operation of the pipeline.”² As part of that commitment, South Bow identified a series of voluntary actions that would be implemented to ensure the safe and reliable operation of the Keystone Pipeline.

Pursuant to 49 U.S.C. § 60117, PHMSA has initiated an investigation of the Failure. The preliminary findings of PHMSA’s ongoing investigation are as follows:

Preliminary Findings

April 8, 2025 Accident

- On April 8, 2025, shortly before 07:44 AM CDT, a South Bow technician working at the Fort Ransom Pump Station heard a loud noise indicative of a potential rupture. The technician responded by initiating an emergency shutdown locally at the pump station. The Fort Ransom Pump Station is approximately 32 miles south of Valley City, North Dakota.
- South Bow’s control center in Calgary, Canada, received alarms following the Failure and responded by initiating a shutdown of the pipeline. The control center also actuated remotely controlled valves to isolate the pipeline on either side of the spill site.
- After the Failure, Respondent initiated spill response efforts to contain the release and began recovery of spilled crude oil. South Bow has recovered approximately 1,170 barrels of crude oil to date.
- The Failure occurred in a rural area, did not impact any surface waterways, and did not result in any fatalities, injuries, or fires.
- South Bow notified the National Response Center (NRC) of the Failure on April 8, 2025, at approximately 08:46 AM CDT (NRC Incident Report # 1428025). South Bow submitted a supplemental notification to the NRC on April 10, 2025, reporting an estimated spill volume of 3,500 barrels of crude oil (NRC Incident Report # 148221).
- PHMSA launched an onsite investigation and investigators arrived at the site of the Failure on April 8, 2025. PHMSA also deployed investigators to South Bow’s control room in Calgary, Canada, on that same date.
- South Bow’s spill response crew exposed the Failure location on April 10, 2025. PHMSA investigators at the site saw the ruptured pipeline. The rupture has the appearance of a fish-mouth opening and is approximately 45-inches long by 8-inches wide. The axis of the fish-mouth rupture aligns with the pipe’s longitudinal seam.

² <https://www.phmsa.dot.gov/news/april-10-2025-south-bow-keystone-letter-commitment>.

- The failed pipe is 30-inch diameter with API 5L X70 double-submerged arc welded (DSAW) longitudinal seam manufactured by the Berg Steel Pipe Corporation.
- Multiple wall thicknesses of pipe were used in the construction the Keystone pipeline, including, but not limited to, 0.386-inch, 0.437-inch, 0.515-inch, and 0.622-inch pipe.
- Approximately 211.18 miles of 30-inch diameter, Berg Steel Pipe Corporation manufactured pipe is installed in the South Bow Keystone Pipeline.
- On October 29, 2019, pipe manufactured by Berg Steel Pipe Corporation in the Keystone pipeline experienced a rupture at the longitudinal seam. The rupture occurred downstream of South Bow's Edinburg Pump Station (MP 34.3) in North Dakota and resulted in the release of approximately 4,515 barrels of crude oil. PHMSA issued a CAO in response to the release (CPF No. 3-2019-5023H).
- Visual examination of the ruptured pipe at the Failure location is similar in appearance to the pipe that ruptured in October 2019. Metallurgical testing of the pipe will determine if the failure mechanisms are the same.
- The pipeline at the Failure location was previously assessed using in-line inspection (ILI), including an ultrasonic metal loss tool and an ultrasonic crack detection tool.
- The pipeline at the Failure location was hydrostatically tested prior to commencement of pipeline operations in 2010.
- The design pressure of the South Bow Keystone Pipeline is 1,800 psig, and the maximum operating pressure (MOP) is 1,440 psig. The operating pressure of the pipeline at the time of the Failure was operating at 1,251 psig as recorded at the Fort Ransom Pump Station, which is 69.5% of SMYS. Flow rate at the time of Failure was 17,844 barrels per hour.
- The South Bow Keystone Pipeline traverses several high consequence areas (HCAs), could affect HCA areas, and navigable rivers. According to the most recent annual report submitted by South Bow, the number of miles that could affect HCAs is as follows: Illinois – 22.52 miles, Kansas – 79.88 miles, Missouri – 56.15 miles, Nebraska – 100.56 miles, North Dakota – 14.3 miles, and South Dakota – 14.11 miles.

Special Permit

- On April 30, 2007, PHMSA issued a special permit to TC Oil for the construction and operation of Phase 1 and Phase 2 of the Keystone pipeline.³ The special permit waived the design pressure requirements in 49 CFR § 195.106 and authorized the Keystone

³ PHMSA Special Permit Docket Number: PHMSA-2006-26617 (April 30, 2007).

pipeline to be operated at a stress level of up to 80 percent of specified minimum yield strength (SMYS). Without a special permit, the operating stress level of the pipeline could not exceed 72 percent of SMYS. To provide an equivalent or greater level of safety, PHMSA included 51 conditions in the special permit for the design, construction, testing, operation, maintenance of the Keystone pipeline.

Prior Operation

- The 1,025 miles of the South Bow Keystone Pipeline was previously known as Phase 1 of TC Oil's Keystone pipeline. South Bow became the operator of the pipeline on March 22, 2024.

Prior Accidents

- On April 2, 2016, a reportable accident due to a leak in a cracked tie-in weld occurred on the Phase 1 Keystone pipeline on the 48.1-mile segment between Freeman (Pump Station 23) and Hartington (Pump Station 24). Per the "Accident Report – Hazardous Liquid Pipeline Systems, Form PHMSA F 7000-1" submitted by TC Oil, approximately 20,400 tons of solid materials were removed from the spill site, and 1,170 tons of liquid wastes were disposed. On April 9, 2016, PHMSA issued a CAO requiring Respondent to take certain corrective actions (CPF No. 3-2016-5002H). The CAO was closed on March 30, 2017, after TC Oil completed the required corrective actions.
- On November 16, 2017, an incident occurred on Phase 1 due to a fracture that initiated at an area of previous mechanical damage, resulting in a crude oil release. On November 28, 2017, PHMSA issued a CAO (CPF No. 3-2017-5008H) to TC Oil that required certain corrective actions. This CAO was closed on January 29, 2019, after Respondent completed the required corrective actions.
- On October 30, 2019, a reportable non-girth weld accident occurred on the 41.9-mile Phase 1 Keystone pipeline segment that runs between the Edinburg Pump Station and the Niagara Pump Station, near Niagara, North Dakota. This failure exhibited characteristics of fatigue from pressure cycles and manufacturing defects in the longitudinal weld seam. The failure mechanism in this event appears to be similar to the failure mechanism that caused the current Failure. On November 5, 2019, PHMSA issued a CAO requiring Respondent to take certain corrective actions (CPF No. 3-2019-5023H). The CAO was closed on February 3, 2022, after TC Oil completed the required corrective actions.
- On October 14, 2022, PHMSA issued a Notice of Probable Violation, Proposed Civil Penalty, and Proposed Compliance Order (CPF No. 3-2022-025-NOPV) to TC Oil based on the results of a special inspection of its Lucas delivery facility in Beaumont, Texas. The special inspection followed a crude oil spill that occurred on the Keystone Gulf Coast system on May 7, 2020. The case was closed on May 2, 2023, after TC Oil completed the required compliance actions.
- On December 7, 2022, a failure occurred on the 36-inch diameter Phase 2 of the Keystone pipeline due to failed girth welds, resulting in the release of 12,937 barrels of

crude oil. PHMSA issued a CAO in response to the release (CPF 3-2022-074-CAO), requiring TC Oil to take certain corrective actions. PHMSA issued an amended CAO shortly thereafter, expanding the scope of the required corrective actions to include a reduction of the MOP to 72% of SMYS (1,296 psig), and extending them to other portions of the Keystone pipeline. The CAO remains in effect at this time.

- The spills of 2016, 2017, 2019, 2020, and 2022, which resulted in reported releases of 400, 6,592, 4,515, 442, 12,937 barrels of crude oil, respectively, show a tendency or pattern in recent years of increasingly frequent incidents resulting in larger releases.

Determination of Necessity for Corrective Action Order and Right to Hearing

Section 60112 of title 49, United States Code, authorizes PHMSA to determine that a pipeline facility is or would be hazardous to life, property, or the environment and if there is a likelihood of serious harm, to expeditiously order the operator of the facility to take necessary corrective action, including suspended or restricted use of the facility, physical inspection, testing, repair, replacement, or other appropriate action. An order issued expeditiously must provide an opportunity for a hearing as soon as practicable after the order is issued.

In deciding whether to issue an order, PHMSA must consider the following, if relevant: (1) the characteristics of the pipe and other equipment used in the pipeline facility, including the age, manufacture, physical properties, and method of manufacturing, constructing, or assembling the equipment; (2) the nature of the material the pipeline facility transports, the corrosive and deteriorative qualities of the material, the sequence in which the material is transported, and the pressure required for transporting the material; (3) the aspects of the area in which the pipeline facility is located, including climatic and geologic conditions and soil characteristics; (4) the proximity of the area in which the hazardous liquid pipeline facility is located to environmentally sensitive areas; (5) the population density and population and growth patterns of the area in which the pipeline facility is located; (6) any recommendation of the National Transportation Safety Board made under another law; and (7) any other factors PHMSA may consider as appropriate.

After evaluating the foregoing preliminary findings of fact, and having considered the characteristics of the pipeline, including the prior and most current failures of the pipeline; the hazardous nature of the material (crude oil) transported; the existing and potential additional impacts to property, the environment, and wildlife; the indications that South Bow's operating, maintenance, and/or integrity management programs may be inadequate to address the repetitious pattern of seam weld and girth weld failures related to the original design, manufacture, and construction of the pipeline; the tendency of flaws to grow from operating pressure cycles; the occurrence of girth weld in-service leaks and seam ruptures at pressures below 72 percent SMYS, suggesting issues with girth weld quality; the increasing severity of spills in recent years; the prior failures of Berg Steel Pipe Corporation manufactured pipe; the possibility of future failures caused by a combination of factors similar to those involved in the April 8, 2025 and prior failures, including transition welds and the potential for earth movement; and the possibility that the same condition(s) that may have caused the failure remain present and could lead to additional failures in the South Bow Keystone Pipeline; it is hereby determined that continued operation of the *Accident Segment* and *Affected Pipeline* of the South Bow Keystone

Pipeline, as defined below, without corrective measures is or would be hazardous to life, property, or the environment, and that failure to issue this Order expeditiously would result in the likelihood of serious harm.

Accordingly, this Order mandating immediate corrective action is issued expeditiously without prior notice and opportunity for a hearing. The terms and conditions of this Order are effective upon completion of service.

Within 10 days of receipt of this Order, Respondent may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator for Pipeline Safety in writing, with a copy to the Director, PHMSA, OPS Central Region. If a hearing is requested, it will be held in accordance with 49 CFR § 190.211.

After receiving and analyzing additional data in the course of this investigation, PHMSA may identify other corrective measures that need to be taken. Respondent will be notified of any additional measures required and, if appropriate, PHMSA will consider a further amended order. To the extent consistent with safety, Respondent will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

Definitions

Affected Pipeline – The “*Affected Pipeline*” means the 30-inch diameter, 1,025-mile hazardous liquid South Bow Keystone Pipeline, formerly known as Phase 1 of TC Oil’s Keystone pipeline, that runs from the U.S.-Canada border in North Dakota (M.P. 0.0) to the Steel City, Nebraska Station (MP 639.8) and on to the Patoka Delivery Station (M.P. 1084.7) in Illinois.

Accident Segment – The “*Accident Segment*” means the 30-inch diameter South Bow Keystone Pipeline, formerly known as Phase 1 of TC Oil’s Keystone pipeline, that runs from Fort Ransom Pump Station (approximately MP 171.0) to Ludden Pump Station (approximately MP 216.7).

Director – The “Director” means the Director, PHMSA, OPS Central Region.

Required Corrective Actions

Pursuant to 49 U.S.C. § 60112, I hereby order South Bow to take the following corrective actions:

1. ***Shutdown of the Accident Segment.*** The *Accident Segment* must remain shut-in and may not be operated until authorized in writing to be restarted by the Director in accordance with the terms of this Order.
 - a. Prior to restarting the pipeline, South Bow must provide the Director the planned pressure set-points at all pump stations and facilities necessary to limit the operation of the South Bow Keystone Pipeline on sections of the pipeline containing pipe manufactured by Berg Steel Pipe Corporation installed in the United States.
 - b. Prior to restart of the *Accident Segment*, South Bow must provide the Director documentation that all set-points to maintain the maximum operating pressure limits specified below have been implemented, including any necessary updates

or changes to controls and protective equipment.

2. ***Operating Pressure Restriction.*** After receiving authorization from the Director for restart of the *Accident Segment*, discharge pressure at Fort Ransome Pump Station on the *Accident Segment* shall be limited to no more than 80% of the pressure at the time of failure, *i.e.*, 1,000 psig, until otherwise authorized by the Director. On the remainder of the *Affected Pipeline*, where pipe manufactured by Berg Steel Pipe Corporation has been installed, the discharge pressure for each pump station section containing Berg Steel pipe must be reduced to no more than 80% of the highest steady state pressure experienced in the 60-day period prior to April 8, 2025. This pressure restriction is to remain in effect until written approval to increase the pressure is obtained from the director.
 - a. This pressure restriction requires any relevant remote or local alarm limits, software programming set-points or control points, and mechanical over-pressure devices to be adjusted accordingly.
 - b. When determining the pressure restriction set-points, South Bow must take into account any ILI features or anomalies present in the South Bow Keystone Pipeline to provide for the continued safe operations of the pipeline, as required by 49 CFR § 195.401 and the anomaly evaluation and repair requirements of special permit PHMSA-2006-26617.
 - c. Adequate controls and protective equipment must be in place to maintain pressure within the limit required by 49 CFR § 195.406(b) during surges and other variations from normal operations.
 - d. South Bow must review the pressure restriction monthly by analyzing the operating pressure data, taking into account any ILI features or anomalies present in *Affected Pipeline*. South Bow must immediately reduce the operating pressure further to maintain the safe operations of the *Affected Pipeline*, if warranted by the monthly review. Further, South Bow must submit the results of the monthly review to the Director including, at a minimum, the current discharge set-points (including any additional pressure reductions), and any pressure exceedance at discharge set-points. Submittals may be made quarterly, in accordance with paragraph 13 below.
 - e. South Bow may request approval from the Director to increase the operating pressure on individual segments on the *Affected Pipeline* based on an engineering analysis or other justification that the segment does not pose a safety risk.
3. ***Review of Prior In-Line Inspection (ILI) Results.*** Within 30 days of receipt of the CAO, South Bow must conduct a review of any previous ILI results of the failed pipe and adjacent pipe joints. In its review, South Bow must re-evaluate all ILI results from the past 10 calendar years, including a review of the ILI vendors' raw data and analysis. South Bow must determine whether any features or abnormalities were present in the failed pipe and adjacent joints from the April 8, 2025 failure. South Bow must determine if any features with similar characteristics are present elsewhere on the *Accident Segment*. South Bow must submit documentation of this ILI review to the Director within 45 days of receipt of the CAO, as follows:
 - i. List all ILI tool runs, tool types, and the calendar years of the tool runs.

- ii. List, describe (type, size, wall loss, etc.), and identify the specific location of all ILI features present in the failed joint and other pipe removed.
 - iii. List, describe (type, size, wall loss, etc.), and identify the specific location of all ILI features with similar characteristics present elsewhere on the *Accident Segment*.
 - iv. Explain the process used to review the ILI results and the results of the reevaluation.
4. ***Mechanical and Metallurgical Testing.*** Within 45 days of receipt of the CAO, South Bow must complete mechanical and metallurgical testing and failure analysis of the failed pipe, including an analysis of the soil samples and any foreign materials. Mechanical and metallurgical testing must be conducted by an independent third-party acceptable to the Director and must document the decision-making process and all factors contributing to the failure. South Bow must complete the testing and analysis as follows:
- i. Document the chain-of-custody when handling and transporting the failed pipe section and other evidence from the failure site.
 - ii. Within 10 days of receipt of the CAO, develop and submit the testing protocol and the proposed testing laboratory to the Director for prior approval.
 - iii. Prior to beginning the mechanical and metallurgical testing, provide the Director with the scheduled date, time, and location of the testing to allow for a PHMSA representative to witness the testing.
 - iv. Ensure the testing laboratory distributes all reports whether draft or final in their entirety to the Director at the same time they are made available to South Bow.
5. ***Root Cause Failure Analysis.*** Within 90 days following receipt of the CAO, complete a root cause failure analysis (RCFA) and submit a final report of the RCFA to the Director. The RCFA must be supplemented or facilitated by an independent third-party acceptable to the Director and must document the decision-making process and all factors contributing to the failure. The final report must include findings and any lessons learned and whether the findings and lessons learned are applicable to other locations within South Bow's pipeline system. South Bow must ensure that all RCFA reports whether draft or final in their entirety are made available to the Director at the same time they are made available to South Bow.
6. ***Special Permit Evaluation.*** Within 90 days following receipt of the CAO, South Bow must complete an evaluation of its adherence with PHMSA special permit PHMSA-2006-26617. The evaluation must include whether additional, modified, or more stringent conditions should be incorporated into the special permit to prevent incidents similar to the April 8, 2025 failure, or any other reportable accident that has occurred since the Keystone Pipeline went into service. This evaluation must be supplemented or facilitated by an independent third-party acceptable to the Director and must document the decision-making process and all factors taken into consideration. All reports from the evaluation whether draft or final in their entirety must be provided to

the Director at the same time they are made available to South Bow.

7. Remedial Work Plan (RWP). Within 90 days following receipt of the CAO, South Bow must submit a remedial work plan (RWP) to the Director for approval.

- a. The Director may approve the RWP incrementally without approving the entire RWP.
- b. Once approved by the Director, the RWP will be incorporated by reference into this Order.
- c. The RWP must specify the tests, inspections, assessments, evaluations, and remedial measures South Bow will use to verify the integrity of the *Affected Pipeline*. It must address all known or suspected factors and causes of the April 8, 2025 failure. South Bow must consider the risks and consequences of another failure to develop a prioritized schedule for RWP- related work along the *Affected Pipeline*.
- d. The RWP must include a procedure or process to:
 - i. Identify pipe in the *Affected Pipeline* with characteristics similar to the contributing factors identified for the April 8, 2025 failure, including the age and manufacture of the entire length of the *Affected Pipeline*.
 - ii. Gather all data necessary to review the failure history (in service and pressure test failures) of the *Affected Pipeline* and to prepare a written report containing all the available information such as the locations, dates, and causes of leaks and failures.
 - iii. Integrate the results of the metallurgical testing, root cause failure analysis, and other corrective actions required by this Order with all relevant pre-existing operational and assessment data for the *Affected Pipeline*. Pre-existing operational data includes, but is not limited to, design, construction, operations, maintenance, testing, repairs, prior metallurgical analyses, and any third-party consultation information. Pre-existing assessment data includes, but is not limited to, ILI tool runs, hydrostatic pressure testing, direct assessments, close interval surveys, and DCVG/ACVG surveys.
 - iv. Determine if conditions similar to those contributing to the failure on April 8, 2025, are likely to exist elsewhere on the *Affected Pipeline*.
 - v. Conduct additional field tests, inspections, assessments, and evaluations to determine whether, and to what extent, the conditions associated with the failure on April 8, 2025, and other failures from the failure history or any other integrity threats are present elsewhere on the *Affected Pipeline*. At a minimum, this process must consider all failure causes and specify the use of one or more of the following:
 1. ILI tools that are technically appropriate for assessing the pipeline system based on the cause of failure on April 8, 2025, and that can reliably detect and identify anomalies;
 2. Hydrostatic pressure testing;
 3. Close-interval surveys;

4. Cathodic protection surveys, to include interference surveys in coordination with other utilities (e.g., underground utilities, overhead power lines, etc.) in the area;
 5. Coating surveys;
 6. Stress corrosion cracking surveys;
 7. Selective seam corrosion surveys; and
 8. Other tests, inspections, assessments, and evaluations appropriate for the failure causes, including hydrostatic pressure testing or other measures to confirm the effectiveness of the remedial work plan.
- vi. South Bow may use the results of previous tests, inspections, assessments, and evaluations if approved by the Director, provided the results of the tests, inspections, assessments, and evaluations are analyzed with regard to the factors known or suspected to have caused the April 8, 2025 failure.
 - vii. Describe the inspection and repair criteria South Bow will use to prioritize, excavate, evaluate, and repair anomalies, imperfections, and other identified integrity threats. Include a description of how any defects will be graded and a schedule for repairs or replacement.
 - viii. Based on the known history and condition of the *Affected Pipeline*, describe the methods South Bow will use to repair, replace, or take other corrective measures to remediate the conditions associated with the pipeline failure on April 8, 2025, and address other known integrity threats along the *Affected Pipeline*. The repair, replacement, or other corrective measures must meet the criteria specified in above.
 - ix. Implement continuing long-term periodic testing and integrity verification measures to ensure the ongoing safe operation of the *Affected Pipeline* considering the results of the analyses, inspections, evaluations, and corrective measures undertaken pursuant to the Order.
 - x. Include a proposed schedule for completion of the RWP.
- e. South Bow must revise the RWP as necessary to incorporate new information obtained during the failure investigation and remedial activities, to incorporate the results of actions undertaken pursuant to this Order, and to incorporate modifications required by the Director.
 - i. Submit any plan revisions to the Director for prior approval.
 - ii. The Director may approve plan revisions incrementally.
 - iii. All revisions to the RWP after it has been approved and incorporated by reference into this Order will be fully described and documented in the CAO Documentation Report.
 - f. Implement the RWP as it is approved by the Director, including any revisions to the plan.
8. **CAO Documentation Report (CDR).** South Bow must create and revise, as necessary, a CDR. When South Bow has concluded all the items in this Order it will submit the final

CDR in its entirety to the Director. This will allow the Director to complete a thorough review of all actions taken by South Bow with regards to this Order prior to approving the closure of this Order. The intent is for the CDR to summarize all activities and documentation associated with this Order in one document.

- a. The Director may approve the CDR incrementally without approving the entire CDR.
 - b. Once approved by the Director, the CDR will be incorporated by reference into this Order.
 - c. The CDR must include, but is not necessarily limited to, the following:
 - i. Table of Contents;
 - ii. Summary of the pipeline failure of April 8, 2025, and the response activities;
 - iii. Summary of pipe data, material properties, and all prior assessments of the *Affected Pipeline*;
 - iv. Summary of all tests, inspections, assessments, evaluations, and analysis required by the Order;
 - v. Summary of the mechanical and metallurgical testing as required by the Order;
 - vi. Summary of the RCFA with all root causes as required by the Order;
 - vii. Summary of the special permit evaluation as required by the Order
 - viii. Documentation of all actions taken by South Bow to implement the RWP, the results of those actions, and the inspection and repair criteria used;
 - ix. Documentation of any revisions to the RWP including those necessary to incorporate the results of actions undertaken pursuant to this Order and whenever necessary to incorporate new information obtained during the failure investigation and remedial activities;
 - x. Lessons learned while completing this Order;
 - xi. A path forward describing specific actions South Bow will take on its entire pipeline system as a result of the lessons learned from work on this Order; and
 - xii. Appendices (if required).
9. ***Restart Plan.*** Prior to resuming operation of the *Affected Pipeline*, develop and submit a written Restart Plan to the Director for prior approval.
- a. The Director may approve the Restart Plan incrementally without approving the entire plan, but the *Accident Segment* cannot resume operation until the Restart Plan is approved in its entirety.
 - b. Once approved by the Director, the Restart Plan will be incorporated by reference into this Order.
 - c. The Restart Plan must provide for adequate patrolling of the *Accident Segment* during the restart process and must include incremental pressure increases during start up, with each increment to be held for at least 2 hours.

- d. The Restart Plan must include sufficient surveillance of the pipeline during each pressure increment to ensure that no leaks are present when operation of the line resumes.
- e. The Restart Plan must specify a daylight restart and include advance communications with local emergency response officials and adjacent landowners.
- f. The Restart Plan must provide for a review of the *Accident Segment* for conditions similar to those of the failure including a review of construction, operating and maintenance (O&M) and integrity management records such as ILI results, hydrostatic tests, root cause failure analysis of prior failures, aerial and ground patrols, corrosion, cathodic protection, excavations, and pipe replacements. South Bow must address any findings that require remedial measures to be implemented prior to restart.
- g. The Restart Plan must also include documentation of the completion of all mandated actions, and a management of change plan to ensure that all procedural modifications are incorporated into South Bow's O&M procedures manual.

10. ***Return to Service.*** After the Director approves the Restart Plan, South Bow may resume operation of the *Affected Pipeline* according to the terms of the Restart Plan, but the operating pressure must not exceed the limit in accordance with paragraph 2 above.

Other Requirements:

- 11. ***Approvals.*** With respect to each submission under this Order that requires the approval of the Director, the Director may: (a) approve, in whole or part, the submission; (b) approve the submission on specified conditions; (c) modify the submission to cure any deficiencies; (d) disapprove in whole or in part, the submission, directing that Respondent modify the submission, or (e) any combination of the above. In the event of approval, approval upon conditions, or modification by the Director, Respondent shall proceed to take all action required by the submission as approved or modified by the Director. If the Director disapproves all or any portion of the submission, Respondent must correct all deficiencies within the time specified by the Director and resubmit it for approval.
- 12. ***Extensions of Time.*** The Director may grant an extension of time for compliance with any of the terms of this Order upon a written request timely submitted demonstrating good cause for an extension.
- 13. ***Reporting.*** Submit quarterly reports to the Director that: (1) include all available data and results of the testing and evaluations required by this Order; and (2) describe the progress of the repairs or other remedial actions being undertaken. The first quarterly report is due on July 18, 2025, covering the period through June 30, 2025. The Director may change the interval for the submission of these reports.
- 14. ***Documentation of the Costs.*** It is requested that Respondent maintain documentation of the costs associated with implementation of this CAO. Include in each monthly report

submitted, the to-date total costs associated with: (1) preparation and revision of procedures, studies, and analyses; (2) physical changes to pipeline infrastructure, including repairs, replacements, and other modifications; and (3) environmental remediation, if applicable.

Be advised that all material submitted in response to this enforcement action is subject to being 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).

In your correspondence on this matter, please refer to “CPF No. 3-2025-018-CAO” and for each document you submit, please provide a copy in electronic format whenever possible. The actions required by this Order are in addition to and do not waive any requirements that apply to Respondent’s pipeline system under 49 CFR Parts 190 through 199, under any other order issued to Respondent under authority of 49 U.S.C. Chapter 601, 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.

Failure to comply with this Order may result in the assessment of civil penalties and in referral to the Attorney General for appropriate relief in United States District Court pursuant to 49 U.S.C. § 60120.

The terms and conditions of this Order are effective upon service in accordance with 49 CFR § 190.5.

April 11, 2025

On behalf of
Alan K. Mayberry
Associate Administrator
for Pipeline Safety

Date Issued