U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

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

OVERNIGHT EXPRESS DELIVERY

December 5, 2019

Mr. Carl Ostach
VP, Domestic Operations
Buckeye Partners, LP
9999 Hamilton Blvd, Suite 260
Breinigsville, PA 18031

CPF 1-2019-5012S

Dear Mr. Ostach:

Enclosed is a Notice of Proposed Safety Order (Notice) issued by the Pipeline and Hazardous Materials Safety Administration (PHMSA) in the above-referenced case. The Notice proposes that you take certain measures with respect to Buckeye Partners, LP's (Buckeye) MU720DT (Line 720) pipeline near Marklesburg, PA. Your options for responding are set forth in the Notice. Your receipt of the Notice constitutes service of that document under § 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.

Thank you for your cooperation in this matter.

Sincerely,

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

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

cc: Ms. Linda Daugherty, Deputy Associate Administrator for Field Operations, PHMSA
Mr. Robert A Malecky, President, Domestic Pipelines and Terminals, Buckeye Partners, LP; 9999 Hamilton Blvd, Suite 260 Breinigsville, PA 18031

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

In the Matter of	)	
Buckeye Partners, LP,	)	
a subsidiary of IFM Investors,	)	**CPF No. 1-2019-5012S**
Respondent.	)	

NOTICE OF PROPOSED SAFETY ORDER

Background and Purpose:

Pursuant to Chapter 601 of Title 49, United States Code, the Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation, has initiated an investigation and information review of the safety of Buckeye Partners, LP's (Buckeye) 20-inch MU720DT (Line 720) hazardous liquids pipeline system.

The investigation was prompted after PHMSA was notified on November 18, 2019, by the National Response Center of a reportable accident that occurred on Buckeye's 20-inch Line 720 pipeline, which resulted in the release of approximately 650 barrels (bbl) of gasoline (the Failure). The Failure occurred in a remote location and there were no reported injuries, fatalities or evacuations and no product ignition occurred. The cause of the Failure has not yet been determined.

As a result of the preliminary investigation, it appears conditions exist on your pipeline system that pose an integrity risk to public safety, property, or the environment. Pursuant to 49 U.S.C. § 60117(l), PHMSA, Office of Pipeline Safety (OPS), issues this Notice of Proposed Safety Order (Notice), notifying you of the preliminary findings of the investigation, and proposing that you take certain measures to ensure that the public, property, and the environment are protected from this integrity risk.

For the purposes of this Notice:

"Affected Segment" means the approximately 77 miles of Buckeye's 20-inch Line 720 pipeline from the upstream Mechanicsburg Pump Station (Mile Post 107.4) near Mechanicsburg in Cumberland County, Pennsylvania, through the downstream Duncansville Pump Station (MP 184.7) near Duncansville in Blair County, Pennsylvania. The "*Affected Segment*" generally runs westerly through portions of Cumberland, Perry, Juniata, Huntingdon, and Blair Counties in Pennsylvania.

"Isolated Segment" means the approximately 2.8-mile segment of Buckeye's 20-inch Line 720 pipeline from the Clover Creek Road motor-operated valve (CCMOV) at pipeline station number 9085+61 (downstream of the Failure) to the Redstone Ridge Road manually-operated gate valve (RRV) at pipeline station number 8939+22 (upstream of the Failure). It is the portion of the "*Affected Segment*" that was shut-in after the Failure on November 18, 2019.

"Director" means the Director, Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety, Eastern Region. The Director's address is 840 Bear Tavern Road, Suite 300, West Trenton, NJ 08628

Preliminary Findings:

- Buckeye operates approximately 6,000 miles of pipeline located primarily in the northeastern and upper Midwestern portions of the United States, and services over 100 delivery locations. These pipelines primarily transport liquid petroleum products, including gasoline, jet fuel and a variety of distillates, from major supply sources to terminals and airports located within end-use markets. Buckeye has 110 active terminals that provide bulk storage and throughput services with respect to liquid petroleum products and renewable fuels, including ethanol, and have an aggregate tank capacity of over 56 million barrels. [1]

- Buckeye is a wholly-owned subsidiary of IFM Investors, an investment management company.[2]

- On August 23, 2019, Buckeye submitted a Safety-Related Condition Report to PHMSA for Line 720. The report indicated that the line was assessed with a combination Geometry (GEO) and Axial Magnetic Flux Leakage (AMFL) in-line inspection (ILI) tool run on July 12, 2019. Upon receipt of the preliminary ILI report, Buckeye discovered 33 features meeting Buckeye's immediate condition criteria under its integrity management program

[1] Buckeye Partners Website, *available at* https://www.buckeye.com/BusinessOperations/PipelineTransportationOperations/tabid/584/Default.aspx/ (last accessed November 25, 2019).

[2] IFM acquired Buckeye on November 1, 2019. Buckeye Partners website, *available at* https://www.buckeye.com/LinkClick.aspx?fileticket=hMppeiwfjnw%3d&tabid=36 (last accessed November 25, 2019).

required in 49 C.F.R. § 195.452.

- The failed pipeline, Line 720, is a 20-inch diameter line which transports refined liquid petroleum products and runs approximately 77 miles from Mechanicsburg, PA, to Duncansville, PA. The line is part of a 175-mile pipeline system which runs from Reading, PA to Altoona, PA. The Failure occurred one mile northwest of Marklesburg, PA, along a steep slope of Tussey Mountain. The nearest road is Mountain Rd in Huntingdon County.

- The section of the *Affected Segment* near the Failure site was constructed in 1958. The pipeline at the Failure site section consists of grade X-52, 20" seamless steel pipe manufactured by National Tube, with a wall thickness of 0.281". The pipeline is protected by an impressed current cathodic protection system. In the area of the Failure site, the pipeline has a coal tar enamel coating.

- The maximum operating pressure (MOP) of the *Affected Segment* is 1045 psig. At the time of the Failure, the actual operating pressure for Line 720 at the top of the slope near the Failure site was 70 psig, and 500 psig at the bottom of the slope.

- At approximately 7:05 a.m. EST on November 18, 2019, a work crew returning to the site where they had been conducting ILI-based repairs on Line 720 in the weeks prior noticed the smell of gasoline and began implementing Buckeye's emergency response protocol. The loss of pressure and product caused by the Failure was not identified by Buckeye's SCADA system alarms. The Failure is in a remote location on the side of a steep hill. There were no reported injuries, fatalities, or evacuations, and the gasoline did not ignite.

- Buckeye's Control Center was notified and immediately shut down Line 720. The *Isolated Segment* was shut-in via the CCMOV and RRV, and currently remains out of service. The CCMOV was closed at 7:10 a.m. EST, and the RRV was closed shortly after. Mountain road was closed at approximately 8:00 a.m. EST by the local Fire Department.

- Initial calculations indicated a release volume of 650-barrels from the site of a recent repair. Containment of the release was difficult due to the product flowing between the cracked clay soil and rocky subsoil. As of 7:00 a.m. EST on November 25, 2019, 221-barrels of product were reported to have been recovered.

- Buckeye indicated that the low flow rate of the leak was below the detectable limit for Line 720's LeakWarn leak detection system, and thus the leak was not discovered by its control room.

- The PHMSA investigation is ongoing and the cause of the Failure is unknown at this time. The leak has been determined to originate from beneath an approximately 11.5-foot Type-

A steel repair sleeve installed during the week of November 5 to November 8, 2019. The sleeve was installed to repair 2 top side dents with associated metal loss which met Buckeye's criteria for immediate conditions outside of High Consequence Areas (HCAs).

- On November 25, 2019, 160 feet of pipe containing multiple recent and legacy repairs were cut out from the pipeline. The cutout section included 13 recently repaired Buckeye immediate conditions for topside dents with metal loss in non-HCAs. This included the pipe joint at the Failure site with the 11.5-foot Type-A sleeve in place and unaltered. This specimen will be taken to the DNV GL lab in Dublin, Ohio for metallurgical analysis.

- Buckeye completed repair of the pipe segment using three (3) joints of pre-tested pipe on November 26, 2019. Buckeye provided a refill and restart plan, which included conducting a 1-hour pressure hold test to verify integrity. The line was returned to service at 80% of the maximum pressure experienced in the 60 days prior to the ILI tool trap date from Buckeye's July 12, 2019 assessment of Line 720.

Proposed Issuance of Safety Order:

Section 60117(1) 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 action, which may include physical inspection, testing, repair, replacement, 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 considering the location of the Failure site, the characteristics of the geographical areas where the pipeline is located, the safety related condition report submitted to PHMSA on August 23, 2019, which identified 33 features meeting Buckeye's immediate repair condition criteria along the Affected Segment, indications that the Failure occurred at the site of a recent repair, the inability for Line 720's leak detection system to detect the low-flow leak, the hazardous nature of the gasoline transported, the age of the pipe, and the ongoing investigation to determine the cause of the Failure, it appears that the continued operation of the *Affected Segment*, without corrective measures, poses a pipeline integrity risk to public safety, property, and the environment.

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

Proposed Corrective Actions:

Pursuant to 49 U.S.C. § 60117(l) and 49 C.F.R. § 190.239, PHMSA proposes to issue to Buckeye Corporation a safety order incorporating the following remedial requirements with respect to the

Affected Segment and *Isolated Segment*:

1. ***Pressure Reduction.*** Buckeye shall maintain the existing operating pressure reduction for the Affected Segment of Line 720 that was initiated at the time of filing of the August 23, 2019 Safety Related Condition Report with PHMSA, which was based on 80% of the maximum pressure experienced in the 60 days prior to the ILI tool trap date from the July 12, 2019 assessment.

2. ***Removal of Pressure Restriction.*** The Director may allow the removal or modification of the pressure restriction upon a written request from Respondent demonstrating that restoring the pipeline to its normal operating pressure is justified based on a reliable engineering analysis showing that the pressure increase is safe considering all known defects, anomalies, and operating parameters of the pipeline. The Director may also consider a demonstration that temporary mitigative and preventive measures are implemented prior to and during the temporary removal or modification of the pressure restriction. The Director's determination will be based on the cause of the failure and evidence of the analyses and measures taken.

3. ***Review of Affected Segment.*** Buckeye must review and inspect the *Affected Segment* for conditions similar to those of the Failure or other Buckeye immediate conditions discovered, including a review of construction, operating and maintenance (O&M), and integrity management records such as in-line inspection (ILI) results, hydrostatic tests, root cause failure analysis of the Failure, aerial and ground patrols, cathodic protection, excavations and pipe replacements. Respondent must address any findings that require remedial measures to be implemented within 30 days of discovery.

4. ***Enhanced surveillance and monitoring.*** Buckeye must provide for enhanced patrolling and surveillance of the *Isolated Segment* until the cause of the Failure is determined.

5. ***Hydrostatic Testing.*** Buckeye must provide for hydrostatic pressure testing of any pipe installed in the *Isolated Segment.* Respondent must submit documentation of the testing of the installed pipe to the Director within 30 days of receipt of the final Safety Order.

6. ***Records Verification***. As recommended in PHMSA Advisory Bulletin 2012-06, Buckeye must verify the records for the *Affected Segment* to confirm the MOP. Buckeye must submit documentation of this record verification to the Director within 45 days of receipt of the final Safety Order.

7. ***Review of Prior Inline Inspection (ILI) Results.*** Within 30 days of receipt of the final Safety Order, Buckeye must conduct a review of the previous five (5) inline inspection (ILI) run results of the *Affected Segment.* Buckeye must re-evaluate all ILI results, including a review of the ILI vendors' raw data and analysis. Buckeye must determine whether any features were present in the failed pipe joint and any other pipe removed. Also, Buckeye must determine if any features with similar characteristics are present

elsewhere on the *Affected Segment.* Buckeye must submit documentation of this ILI review to the Director within 45 days of receipt of the final Safety Order as follows:

A. List all ILI tool runs, tool types, and the calendar years of the tool runs.

B. List, describe (type, size, wall loss, etc.), and identify the specific location of all ILI features present in the failed joint and/or other pipe removed.

C. List, describe (type, size, wall loss, etc.), and identify the specific location of all ILI features with similar characteristics present elsewhere on the *Affected Segment.*

D. Explain the process used to review the ILI results and the results of the reevaluation.

8. ***Mechanical and Metallurgical Testing***. Within 45 days of receipt of the final Safety Order, Buckeye must arrange for third-party mechanical and metallurgical testing and failure analysis of the failed pipe, including an analysis of soil samples and any foreign materials. Buckeye must complete the testing and analysis as follows:

   A. Document the chain-of-custody when handling and transporting the failed pipe section and other evidence from the Failure site.

   B. Within 10 days of receipt of the final Safety Order, develop and submit the testing protocol and the proposed testing laboratory to the Director for prior approval.

   C. At least five days 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.

   D. 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 Buckeye.

9. ***Root Cause Failure Analysis.*** Within 90 days following receipt of the final Safety Order, Buckeye must complete a root cause failure analysis (RCFA) and submit a final report of this RCFA to the Director. The RCFA must be supplemented and facilitated by an independent third party with prior written approval of the Director, and must document the decision-making process used in the analysis and all factors contributing to the Failure. The final report must include findings, any lessons learned, and whether the findings and any lessons learned are applicable to other locations within Buckeye pipeline system.

10. ***Remedial Work Plan.*** Within 90 days following receipt of the final Safety Order, Buckeye must submit a Remedial Work Plan (RWP) to the Director for approval. The Director may approve the RWP incrementally without approving the entire RWP. Buckeye 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 the final Safety Order, and to incorporate modifications required by the Director. Buckeye must submit any such plan revisions to the Director for

prior approval. The Director may approve plan revisions incrementally. Once approved by the Director, the RWP, and any revisions, will be incorporated by reference into the final Safety Order. Buckeye must implement the RWP as approved by the Director, including any revisions to the plan. The RWP must:

A. Specify the tests, inspections, assessments, evaluations, and remedial measures Buckeye will use to verify the integrity of the *Affected Segment*. It must address all known or suspected factors and causes of the Failure. Buckeye should consider both the risk of another failure and the consequence of another failure to develop a prioritized schedule for RWP-related work along the *Affected Segment*.

B. Include a procedure or process to identify pipe in the *Affected Segment* with characteristics similar to the contributing factors identified for the Failure.

C. Include a procedure or process to gather all data necessary to review the failure history (in service and pressure test failures) of the *Affected Segment* and to prepare a written report containing all the available information such as the locations, dates, and causes of leaks and failures.

D. Include a procedure or process to integrate the results of the metallurgical testing, RCFA, and other corrective actions required by the final Safety Order with all relevant pre-existing operational and assessment data for the *Affected Segment*. Pre-existing operational data includes, but is not limited to, 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.

E. Include a procedure or process to determine if conditions similar to those contributing to the Failure are likely to exist elsewhere on the *Affected Segment*.

F. Include a procedure or process to conduct additional field tests, inspections, assessments, and/or evaluations to determine whether, and to what extent, the conditions associated with the Failure or any other integrity threats are present elsewhere on the *Affected Segment*. At a minimum, this process must consider all failure causes and specify the use of one or more of the following:

   i. Inline inspection (ILI) tools that are technically appropriate for assessing the pipeline system based on the cause of the Failure , and that can reliably detect and identify anomalies,

   ii. Hydrostatic pressure testing,

   iii. Close-interval surveys,

   iv. Cathodic protection surveys, to include interference surveys in coordination with other utilities (*e.g.* underground utilities, overhead power lines, etc.) in

the area,

v. Coating surveys,

vi. Stress corrosion cracking surveys,

vii. Selective seam corrosion surveys; and,

viii. Other tests, inspections, assessments, and evaluations appropriate for the Failure causes.

Note: Buckeye 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 Failure.

G. Describe the inspection and repair criteria Buckeye 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.

H. Based on the known history and condition of the *Affected Segment,* describe the methods Buckeye will use to repair, replace, or take other corrective measures to remediate the conditions associated with the Failure, and to address other known integrity threats along the *Affected Segment*. The repair, replacement, or other corrective measures must meet the criteria specified in paragraph G, above.

I. Include a procedure or process to implement continuing long-term periodic testing and integrity verification measures to ensure the ongoing safe operation of the *Affected Segment* considering the results of the analyses, inspections, evaluations, and corrective measures undertaken pursuant to the final Safety Order.

J. Include a proposed schedule for completion of the RWP.

11. ***Monthly Reports.*** Buckeye must submit monthly reports to the Director that: (1) include analysis of all available data and results of the testing and evaluations required by the final Safety Order; (2) describe the progress of repairs and other remedial actions being undertaken; and (3) document all mandated actions and management of change plans to ensure that all procedural modifications are incorporated into Buckeye's operations and maintenance procedures manual. The first report will be due 30 days from issuance of the final Safety Order.

12. ***Safety Order Documentation Report (SODR***). When Buckeye has completed all the items in the final Safety Order it will submit a final SODR in its entirety to the Director. This will allow the Director to conduct a thorough review of all actions taken by Buckeye with regards to the final Safety Order prior to approving the closure of the final Safety Order. The intent is for the SODR to summarize all activities and documentation associated with the final Safety Order in one document.

A. The Director may approve the SODR incrementally without approving the entire SODR.

B. Once approved by the Director, the SODR ***will*** be incorporated by reference into the final Safety Order.

C. The SODR must include but is not limited to:

1. Table of Contents;
2. Summary of the Failure, and the response activities;
3. Summary of pipe data/properties and all prior assessments of the *Affected Segment*;
4. Summary of all tests, inspections, assessments, evaluations, and analysis required by the final Safety Order;
5. Summary of the Mechanical and Metallurgical Testing as required by the final Safety Order;
6. Summary of the RCFA with all root causes as required by the final Safety Order;
7. Documentation of all actions taken by Buckeye to implement the RWP, the results of those actions, and the inspection and repair criteria used;
8. Documentation of any revisions to the RWP including those necessary to incorporate the results of actions undertaken pursuant to the final Safety Order and whenever necessary to incorporate new information obtained during the failure investigation and remedial activities;
9. Lessons learned while completing the final Safety Order;
10. A path forward describing specific actions Buckeye will take on its entire pipeline system as a result of the lessons learned from work on the final Safety Order; and
11. Appendices (if required).

With respect to each submission under the final Safety 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 take all required actions in the submission as approved or modified by the Director. If the Director disapproves all or any portion of the submission, Respondent shall correct all deficiencies within the time specified by the Director, and resubmit it for approval. If a resubmitted item is disapproved in whole or in part, the Director may again require Respondent to correct the deficiencies in accordance with the foregoing procedure, and the Director may otherwise proceed to enforce the terms of the final Safety Order.

The Director may grant an extension of time for compliance with any of the terms of the final Safety Order upon a written request timely submitted demonstrating good cause for an extension. Buckeye may appeal any decision of the Director to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.

The actions proposed by this Notice are in addition to and do not waive any requirements that apply to Respondent's pipeline system 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.

After receiving and analyzing additional data in the course of this investigation, PHMSA may identify other corrective measures that need to be taken. In that event, Respondent will be notified of any additional measures required and amendment of the final Safety Order will be considered. 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.

Response to this Notice:

In accordance with § 190.239, you have 30 days following receipt of this Notice to submit a written response to the Director. If you do not respond within 30 days, this constitutes a waiver of your rights to contest 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 Safety Order. In your response, you may indicate that you intend to comply with the terms of the Notice as proposed, or you may request that an informal consultation be scheduled (you will also have the opportunity to request an administrative hearing before a final Safety Order is issued). Informal consultation provides you with an 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 your position in any subsequent hearing.

If you and PHMSA agree within 30 days of informal consultation on a plan and schedule for you to address each identified risk condition, the parties may enter into a written consent agreement, in which case PHMSA would then issue an administrative Consent Order incorporating the terms of the agreement. If a consent agreement is not reached, or if you have elected not to request informal consultation, you 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 submitted in response to this enforcement action is subject to public availability. 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. 1-2019-5012S** and for each

document you submit, please provide a copy in electronic format whenever possible.

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

12/5/2019
Date issued