

Mr. Robert C. Luckner, President  
Wolverine Pipe Line Company  
ExxonMobil  
Box 2220  
Houston, TX 77252-2220

Re: Wolverine/ExxonMobil CPF No. 3-2002-5001-H

Dear Mr. Luckner:

Enclosed is a Corrective Action Order and Notice Proposing to Amend the Order following an Opportunity for a Hearing issued by the Associate Administrator for Pipeline Safety in the above-referenced case. The Order portion of the document places a pressure restriction on the line segment from Kennedy Avenue to Freedom Junction. The Notice portion of the document proposes to amend the Order to address the internal inspection of the Kennedy Avenue to Niles loop line and the Kennedy Avenue to Vicksburg mainline.

Service is being made by certified mail and facsimile. Your receipt of the enclosed document constitutes service of that document. The terms and conditions of this Corrective Action Order are effective upon receipt.

Sincerely,

Gwendolyn M. Hill  
Pipeline Compliance Registry  
Office of Pipeline Safety

cc: Leslie Cole, Vice-President of Wolverine

Enclosure

**VIA CERTIFIED MAIL (RETURN RECEIPT REQUESTED) AND TELECOPY**

**DEPARTMENT OF TRANSPORTATION  
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION  
WASHINGTON, DC 20590**

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In the Matter of )  
Wolverine Pipe Line Company/ )  
ExxonMobil )  
Respondent. )  
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CPF No. 3-2002-5001-H

**CORRECTIVE ACTION ORDER**

**Purpose and Background**

This Corrective Action Order is being issued, under authority of 49 U.S.C. § 60112, to require Wolverine Pipe Line Company/ExxonMobil (Respondent) to take the necessary corrective action to protect the public and environment from potential hazards associated with Respondent's 16-inch mainline which extends from the Kennedy Avenue pump station in Indiana to the Freedom Junction pump and metering station in Michigan. On January 8, 2002, Wolverine reported that, due to safety-related conditions, it lowered the maximum operating pressure of the Vicksburg to Freedom Junction segment of the pipeline in Michigan, lowered the maximum discharge pressure of the upstream Kennedy Avenue Pump Station in Indiana, and adjusted the discharge pressure shutdown at all the pump stations.

On January 2, 2002, Respondent received the results of an internal inspection that was conducted using an ultrasonic internal inspection tool on August 14, 2001. The internal inspection revealed approximately 715 anomalies on the pipeline that were pressure rated less than the maximum operating pressure (MOP) of 1250 psig, with the most critical location as calculated to have a remaining strength of 561 psig. On January 8, 2002, Respondent filed Safety-Related Condition Report No. 2002-0001 with the Office of Pipeline Safety(OPS).

Pursuant to 49 U.S.C. § 60117, the Central Region, OPS, initiated an investigation of the safety-related conditions.

**Preliminary Findings**

1. On August 14, 2001, an internal inspection was performed on Respondent's 16-inch mainline between Vicksburg, MI pump station (MP 117.1) and the Freedom Junction pump and meter station (198.5) near Manchester, MI.

2. On January 2, 2002, Respondent received the results of the internal inspection, which revealed approximately 715 anomalies that required a maximum operating pressure (MOP) reduction.
3. On January 3, 2002, Respondent’s personnel reduced the maximum discharge pressure to 560 psig at the Michigan City (MP 38.1) and Dailey (MP 79.4) pump stations, upstream of the affected pipeline segment. The discharge pressure of the two pump stations in the affected pipeline segment, Vicksburg (MP 117.1) and Albion (MP 156.9) pump stations, was lowered to 560 psig, and the discharge shutdown pressure at all the pump stations was lowered to 600 psig.
4. On January 8, 2002, Respondent filed Safety-Related Condition Report #2002-0001. The report provided information about the unsafe condition and the lowering of the MOP of the Vicksburg to Freedom Junction segment in Michigan from 1250 psig to 560 psig, the lowering of the maximum discharge pressure of the upstream Kennedy Avenue Pump Station in Indiana to 660 psig, and the adjustment of the discharge pressure shutdown to 600 psig at Michigan City, Dailey, Vicksburg, and Albion pump stations, and to 700 psig at Kennedy Avenue.
5. On January 25, 2002, Respondent adjusted the maximum discharge pressure at the Kennedy Avenue Station and Michigan City Station to 750 psig and adjusted the discharge pressure shutdown to 800 psig.
6. The length of the affected segment of the pipeline, Vicksburg to Freedom Junction, is approximately 81 miles.
7. The 715 anomalies on the pipeline were pressure rated less than the MOP of 1250 psig, with the most critical location as calculated to have a remaining strength of 561 psig.
8. Calculations for remaining pipe strength were made using ASME/ANSI B31G. As a result of these calculations, the following table shows the number of anomalies associated with specific maximum operating pressure ranges.

<u>Number of anomalies</u>	<u>New MOP range (psig)</u>
14	561 - 750
17	751 - 850
78	851 - 960
171	961 - 1050
186	1051 - 1150
<u>249</u>	1151 - 1250
Total number of anomalies	715

9. Respondent plans to recalculate remaining pipe strength using RSTRENG, (AGA Pipeline Research Committee Project PR-3-805). RSTRENG calculations are considered to be an accurate but less conservative means of determining pipe remaining strength. The 100 most severe anomalies are to be recalculated using RSTRENG by January 21, 2002, with the remaining anomalies to be recalculated by February 4, 2002.

10. Wolverine is headquartered in Houston, TX and operates 1,100 miles of petroleum products pipeline in the Midwest.
11. The mainline originates in Joliet, IL moves east into northwest Indiana at the Kennedy Avenue pump station and enters southwest Michigan. The line moves in a northeasterly direction to Jackson, MI then continues east to Detroit. The affected segment lies between the Vicksburg station and the Freedom Junction station.
12. The 16-inch mainline transports gasoline, diesel fuel and jet fuel.
13. The 16-inch mainline is routed through both rural and urban areas. The affected line segment passes through several small communities, as well as crossing numerous state and interstate highways, rivers, streams, and a railroad line.
14. The pipeline was installed in 1953 and is constructed of 16-inch x 0.312-inch w.t., X-48, primarily seamless pipe manufactured by U.S. Steel Corporation. Original construction records indicate that both ERW (electric resistance welded) and seamless pipes were installed. The original line was installed bare with no protective coating. Somastic coating and concrete coating were applied to pipe that was installed in wetlands.
15. Since 1953, numerous segments of the line have been replaced by ERW pipe due to reroute and refurbishment. The replacement pipe consisted of 0.312-inch and 0.375-inch w.t., X-52 coated pipe.
16. Cathodic protection of the 16-inch mainline is provided by rectifiers and anodes.
17. For cathodic protection purposes, this line section is essentially bare. In 1992, a close interval survey was conducted, and Respondent reported that pipe-to-soil potentials were considered adequate at that time.
18. In 1992, Respondent internally inspected this pipeline with a low resolution, magnetic flux leakage (MFL) internal inspection tool. The Vicksburg to Freedom Junction line segment was graded by joints, based on anomaly severity. Fifteen (15) pipe joints were graded as severe and five-hundred and thirty (530) pipe joints were graded as moderate. The grading criteria used was light corrosion (15 to 29% wall loss), moderate corrosion (30 to 49% wall loss) and severe corrosion (50% and greater wall loss). Full sole repairs were made on all fifteen (15) pipe joints graded as severe and two (2) of the pipe joints graded as moderate.
19. In 1990, Respondent internally inspected the Kennedy Station to Niles Station loop line (1953 pipe) with a low resolution, magnetic flux leakage (MFL) internal inspection tool and reconditioning was done with plans to run an ultrasonic and caliper internal inspection tool in 2002.

20. In 1992, Respondent internally inspected the Kennedy Station to Vicksburg mainline with a low resolution, MFL internal inspection tool and reconditioning was done with plans to run an ultrasonic and caliper internal inspection tool in 2002.
21. In 1992, Respondent internally inspected the Freedom Junction to Detroit mainline with a low resolution, MFL internal inspection tool. As a result of this survey, several miles of pipeline was replaced in the mid-1990's. In 1999, an ultrasonic and caliper internal inspection tool was run and repairs were made in 2000 and 2001. Although a pressure reduction was taken as a result of this survey, no Safety-Related Condition Reports were filed.
22. No non-reportable leaks have resulted due to corrosion, mill defects or mechanical damage.
23. Two reportable leaks have occurred on the Vicksburg to Freedom Junction line segment:
  - < On January 20, 1994, a densitometer leaked at the Jackson meter station, causing a 52-barrel leak.
  - < On June 7, 2000, a stopple fitting weld failed at the Jackson meter station causing a rupture releasing 75,000 gallons of gasoline into the environment and causing the evacuation of more than 500 homes in Blackman Township, Michigan. The failure caused the shutdown of 30% of Michigan's gasoline supplies for nine days, contaminated a creek which flows into the Grand River, and a railroad track near the failure site was shut down for a week.
24. Respondent is currently developing a short-term and long-term reconditioning program to bring the line back to the original MOP of 1250 psig, with plans to increase the operating pressure in several stages.
25. Respondent is currently maintaining a pressure reduction on the segment.

### **Determination of Necessity for Corrective Action Order and Right to Hearing**

Section 60112 of Title 49, United States Code, provides for the issuance of a Corrective Action Order, after reasonable notice and the opportunity for a hearing, requiring corrective action, which may include the suspended or restricted use of a pipeline facility, physical inspection, testing, repair, replacement, or other action as appropriate. The basis for making the determination that a pipeline facility is hazardous, requiring corrective action, is set forth both in the above referenced statute and 49 C.F.R. §190.233, a copy of which is enclosed.

Section 60112, and the regulations promulgated thereunder, provides for the issuance of a Corrective Action Order without prior opportunity for notice and hearing upon a finding that failure to issue the Order expeditiously will result in likely serious harm to life, property or the environment. In such cases, an opportunity for a hearing will be provided as soon as practicable after the issuance of the Order.

After evaluating the foregoing preliminary findings of fact, I find that the continued operation of this pipeline without corrective measures would be hazardous to life, property and the environment. Additionally, after considering the circumstances surrounding the 715 anomalies found by internal inspection, the proximity of the pipeline to populated areas, the line's proximity to public highways and railway, the proximity of the pipeline to rivers and streams and areas in which people may gather, the highly combustible product the pipeline transports, the pressure required for transporting the material, and the uncertainties as to the cause of the anomalies, I find that a failure to issue expeditiously this Order, requiring immediate corrective action, would result in likely serious harm to life, property, and the environment.

Accordingly, this Corrective Action Order mandating needed immediate corrective action is issued without prior notice and opportunity for a hearing. The terms and conditions of this Order are effective upon receipt.

Within 10 days of receipt of this Order, Wolverine may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator for Pipeline Safety in writing, delivered personally, by mail or by telecopy at (202) 366-4566. The hearing will be held in Kansas City, Missouri or Washington, DC on a date that is mutually convenient to OPS and Respondent.

After receiving and analyzing additional data in the course of this investigation, OPS may identify other longer term measures that need to be taken. Wolverine will be notified of any additional measures required and amendment of this Order will be considered. To the extent consistent with safety, Wolverine will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

### **Required Corrective Action**

Pursuant to 49 U.S.C. § 60112, I hereby order Wolverine to immediately take the following corrective actions with respect to its 16-inch mainline pipeline, between the Vicksburg pump station (Vicksburg) and Freedom Junction pump and metering station (Freedom Junction) in Michigan:

1. Maintain the pressure reduction on the line segment, between Vicksburg and Freedom Junction. Maximum operating pressure from Vicksburg to Freedom Junction is not to exceed 560 psig and the maximum discharge pressure at the Kennedy Pump Station and the Michigan City Pump Station is not to exceed 750 psig. This restriction shall remain in place until written approval is obtained from the Director, Central Region.
2. Develop a written repair plan to ensure the integrity of the line segment which includes provisions for:
  - a) Identification and evaluation of anomalies that could threaten pipeline integrity and require repair.
  - b) Criteria and method for evaluation of anomalies detected by the internal inspection tool;

- c) Criteria and method for repair and removal of anomalies;
  - d) Testing to be conducted to confirm the soundness of repairs, and
  - e) Provisions for evaluation and remediation in High Consequence Areas (HCA's), as identified in Section 195.450, in accordance with the provisions of Section 195.452.
3. Develop a written plan for remedial action to mitigate the continuing growth and occurrence of anomalies identified by the internal inspection tool and by any other means during execution of the repair program. The written plan should include provisions for:
- a) Determination of the cause and contributing factors to the occurrence and continuing growth of anomalies.
  - b) Determination of the cause and contributing factors for any additional anomalies detected by means other than the internal inspection tool, i.e. visual observation.
  - c) Performance of appropriate survey and/or testing programs to be used in regard to Items 3(a) and 3(b) above.
  - d) Performance of close-interval, current interrupted, pipe-to-soil potential surveys and other appropriate testing to determine the adequacy of the corrosion control applied to the pipeline after repairs have been made.
4. Submit the written plans for Items 2 & 3, addressing repair and remedial action, to the Director, Central Region, for review.
5. Each element of the plan must be approved by the Director, Central Region, who may provide approvals incrementally. Implement the plan as approved.
6. Provide detailed reports to the Director, Central Region, of findings and actions taken to repair the pipeline identifying the anomalies detected and evaluated, their location circumferentially on the pipe, the coating status of the pipe, the characterization of the anomalies (type and size of defect), the severity of the anomaly, and the repair action taken, including the size predicted by the internal inspection tool and the actual size. Additionally, provide a summary by type of defect of the number of anomalies identified by the tool, the number of actual anomalies found, and number repaired.
7. Respondent may request approval from the Director, Central Region to remove or modify the pressure restriction of the line segment between the Kennedy Avenue pump station in Indiana to the Freedom Junction pump and metering station in Michigan based on showing that the hazard has been abated and that a higher pressure is justified based on an analysis showing that the pressure increase is safe considering all known defects, anomalies and operating parameters of the pipeline. The request should include a justification to modify the pressure restriction of

the line with consideration given to the final results of all testing and activities conducted pursuant to Items 2 through 4 and Item 6 of this Order. The Regional Director's determination will be based on satisfactory completion of these requirements and evidence that mitigative actions taken by the operator provide for the safe operation of the pipeline.

8. The Director, Central Region, may grant an extension of time for compliance with any of the terms of this order for good cause. A request for an extension must be in writing.
9. Respondent may appeal any decision of the Director, Central Region to the Associate Administrator for Pipeline Safety. Decisions of the Associate Administrator shall be final.

The procedures for the issuance of this Order are described in Part 190, Title 49, Code of Federal Regulations, § 190.233, a copy of which is enclosed, is made part of this Order and describes the Respondents' procedural rights relative to this Order.

Failure to comply with this Order may result in the assessment of civil penalties of not more than \$25,000 per day and in referral to the Attorney General for appropriate relief in United States District Court.

**Proposed Amendment to this Order to Address Integrity - Proposed Corrective Measures;  
Wolverine's Right to a Hearing**

For the foregoing preliminary findings of fact, I also propose to find that the continued operation of the original construction 16-inch loop line from Kennedy Avenue to Niles and the 16-inch mainline from Kennedy Avenue to Vicksburg without corrective measures to address pipe installed during 1953 is hazardous to life, property, and the environment. Although some segments of the line have been replaced by ERW, 0.312-inch and 0.375-inch w.t., X-52 coated pipe due to rerouting and refurbishment, the 1953 original line was installed bare with no protective coating which increases safety concerns about the integrity of the pipeline from Niles (MP 67.5) to Vicksburg (MP 117.1) and Vicksburg to Freedom Junction (MP198.5) and the loop line from Kennedy(MP 0) to Niles (MP 67.5). Concern for the continued safe operation of this pipe is heightened by the large number of pressure reducing anomalies detected by the internal inspection tool survey from Vicksburg to Freedom Junction segment of the pipeline. The 16-inch mainline from Niles to Freedom Junction and the loop line from Kennedy Avenue to Niles consist of original 1953 bare pipe. Further, the same corrosion control practices were used on these pipeline segments. The loop line transports the same product as the 16-inch mainline. The loop line follows the mainline route from Kennedy to Niles where it turns northward and extends to Grand Haven, Michigan. The pipe from Niles to Grand Haven was installed in 1973.

Accordingly, I propose to amend the Corrective Action Order to require Wolverine to take the following actions with respect to its original construction 16-inch loop line and 16-inch mainline for the portions containing 1953 pipe:

10. Following the completion of required corrective actions and approval by the Director, Central Region to increase pressure from Vicksburg to Freedom Junction, maintain a pressure reduction on the line segment, between Kennedy Avenue and Vicksburg, of 30% of the 1250 psig MOP, or 30% of the normal operating pressure, whichever is less.
11. Maintain a pressure reduction on the loop line segment, between Kennedy Avenue and Niles, of 30% of the MOP, or 30% of the normal operating pressure, whichever is less.
12. The pressure restrictions required in Items 10 and 11 shall remain in place until written approval is obtained from the Director, Central Region, to increase the pressure. This approval will be based on a showing by Respondent that an appropriate integrity plan, as required for the Vicksburg to Freedom Junction segment, has been established and conducted, and that any remedial measures necessary to be taken provide assurance that anomalies and defects that threaten the integrity of the pipeline have been repaired or removed, including mitigative corrosion control actions. The plan for this work must be submitted to the Director, Central Region, within 60 days of receipt of this proposed amendment to the Order.
13. Schedule and conduct internal inspection tests using the same or similar technology which identified the 715 anomalies requiring pressure reduction in the Vicksburg to Freedom Junction pipeline segment. The internal inspection tool surveys must be performed by August 2002.
14. For all anomalies identified on the segments that could affect high consequence areas as defined in Section 195.450, remedial measures must be taken in accordance with the provisions of Section 195.452. The remedial actions required must be completed within 365 days of your receipt of the internal inspection tool results.
15. For all anomalies identified, remedial measures must be taken in accordance with accepted written industry practices and 49 C.F.R. Part 195.
16. Submit a report to the Director, Central Region, on all internal inspection surveys and other integrity testing that have been conducted on Respondent's loop line from Kennedy Avenue to Niles, on the 16-inch mainline from Kennedy Avenue to Vicksburg since 1990, including the 16-inch mainline segment from Freedom Junction to Detroit, within 60 days of receipt of this proposed amendment to the Order. The report shall include:
  - (A) The final results of all inspections and tests, as performed by Respondent or as submitted to Respondent by persons or firms paid under contract to perform internal inspection tests. The final results should include a summary of anomalies which indicate the type of pipe in which they occurred and indicate whether the pipe was coated or uncoated.
  - (B) Established repair criteria for each internal inspection survey conducted.
  - (C) All other information relevant to the repairs made in response to information revealed by internal inspection surveys.

Within 10 days of receipt of this Proposed Amendment, Wolverine may request a hearing, to be held as soon as practicable, by notifying the Associate Administrator of Pipeline Safety in writing, delivered personally, by mail or by telecopy at (202) 366-4566. Any hearing will be held in Kansas City, MO or Washington, DC on a date that is mutually convenient to OPS and Wolverine.

If, after receiving and analyzing additional data in the course of this investigation, long-term corrective action is needed, Wolverine will be notified of any additional measures required and amendment of this Order will be considered. To the extent consistent with safety, Wolverine will be afforded notice and an opportunity for a hearing prior to the imposition of any additional corrective measures.

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Stacey Gerard  
Associate Administrator  
for Pipeline Safety

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Date Issued