



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

MAR 17 2008

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Washington, DC 20590

VIA CERTIFIED MAIL AND FACSIMILE TO: (403) 514-6441

David DeVeau, Esq.
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Platte Pipeline
Kinder Morgan Pipelines (USA), Inc.
One Allen Center, Suite 1000
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Re: CPF No. 3-2007-5027H

Dear Mr. DeVeau:

Enclosed is the Post-Hearing Decision Continuing the Corrective Action Order issued in the above-referenced case. This document is being served by certified mail and facsimile. Your receipt of the enclosed document constitutes service of the document, the terms and conditions of which are effective upon receipt.

Thank you for your cooperation in this matter.

Sincerely,

Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

Enclosure

cc: Ivan Huntoon, Director, Central Region, OPS
Robert Hogfoss, Esq., Hunton & Williams

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

In the Matter of)
)
)
Kinder Morgan Pipelines (USA), Inc.,)
(formerly Terasen Pipelines (USA), Inc.))
)
Respondent.)
_____)

CPF No. 3-2007-5027H

**POST-HEARING DECISION CONTINUING
CORRECTIVE ACTION ORDER**

On September 13, 2007, the Associate Administrator for Pipeline Safety, Pipeline & Hazardous Materials Safety Administration (“PHMSA”), issued a Corrective Action Order (“CAO”), under authority of 49 U.S.C. § 60112, finding that continued operation by Terasen Pipelines (USA), Inc. (“Respondent” or “Kinder Morgan”)¹ of certain segments of the Platte Pipeline system containing Kaiser single-submerged arc welded (“SSAW”) pipe between Casper, Wyoming, and Wood River, Illinois, would be hazardous to life, property, and the environment unless certain corrective measures were taken. The CAO specified ten immediate corrective actions that the Respondent was required to take in order to address the hazardous conditions. The CAO further found that the failure to issue the CAO expeditiously would likely result in serious harm to life, property, or the environment.

Background

The CAO in this case was issued in response to a September 6, 2007 failure that resulted in the release of approximately 3,843 barrels of crude oil near the town of Bellflower, Missouri. The crude oil shot high into the air as it leaked from the pipeline; photographs of the release site showed surrounding trees and the surface and banks of a nearby pond coated with oil. Three homes within one-half mile of the site were evacuated as a precautionary measure. The release occurred on one of five segments of the Platte Pipeline consisting of Kaiser SSAW pipe manufactured in 1952.

¹ The Corrective Action Order was issued to Terasen Pipelines (USA), Inc.. Kinder Morgan Pipelines (USA), Inc. responded to the CAO, stating that “Terasen Pipelines (USA) Inc., now known as Kinder Morgan Pipelines (USA), Inc.,” was the operator of the Platte Pipeline system.

Following the issuance of the CAO on September 13, 2007, the Respondent, by letter dated September 24, requested a hearing in order to contest the CAO. On that same date, Respondent submitted two documents entitled, “Response to the Corrective Action Order” and “Statement of the Issues.” In these documents, the Respondent opposed the “hazardous” finding in the CAO on the ground that the Respondent had voluntarily agreed, prior to issuance of the CAO, to reduce the operating pressure of the line and to perform certain testing and failure analysis. The Respondent also argued that PHMSA violated its duty of fairness to the Respondent because it had issued the CAO without formal notice and opportunity for a hearing.

An informal administrative hearing was subsequently held in Kansas City, Missouri, on November 9, 2007, with Ms. Amelia Samaras, Esq., of the Office of Chief Counsel, PHMSA, serving as the presiding official. Both the Respondent and the Central Region, PHMSA, were represented by counsel and presented evidence in support of their respective positions regarding the validity of the issuance of the CAO. At the hearing, the Respondent did not dispute PHMSA’s technical conclusions with regard to the hazardous condition of the Kaiser SSW segments of the Platte Pipeline at the time of the release. However, the Respondent reiterated the arguments presented in its pre-hearing submissions and raised concerns about the implications that a hazardous finding might have for Kinder Morgan outside of its relationship with PHMSA. In lieu of receiving a prompt decision by the presiding official, the Respondent requested permission to file a post-hearing submission. The presiding official granted the request and the Respondent filed a post-hearing submission on December 5, 2007.

In its post-hearing submission, the Respondent reiterated its position that the issuance of the CAO was improper because any potential hazard that may have existed on the Platte Pipeline at the time of the accident on September 6, 2007 had been abated by the time the CAO was issued on September 13 and that no hazardous condition existed as of the November 9 hearing date. Respondent’s counsel stated, “As discussed at the Hearing, Platte respectfully submits that a hazardous condition did not exist at the time of issuance of the CAO, and it clearly does not exist at present.”² The Respondent also argued that PHMSA’s issuance of the CAO conflicted with PHMSA’s performance-based regulatory scheme and that it was fundamentally unfair for PHMSA to issue the CAO without notice and hearing. The following decision is divided into three sections: Part I discusses the initial hazardous facility finding in the CAO; Part II discusses the continuation of the hazardous facility finding; and Part III discusses the Respondent’s other arguments raised in opposition to the CAO.

I. CAO Hazardous Facility Finding

49 U.S.C. § 60112(a) requires that in making a finding that a facility is or would be “hazardous to life, property, or the environment,” PHMSA must consider, if relevant, “the characteristics of the pipe . . . including the age, manufacture, physical properties, and method of manufacturing, constructing or assembling . . .” At the hearing, PHMSA presented the following evidence in support of its determination in the CAO that the facility would be hazardous unless certain corrective actions were taken.

² Letter from Robert Hogfoss at Amelia Samaras, PHMSA, dated December 5, 2007, at 3.

A. Environmental Severity of the Bellflower Accident

PHMSA produced evidence at the hearing regarding the nature and extent of the crude oil release near Bellflower, Missouri. The crude released from the ruptured pipeline flowed into an adjacent pond, coating the surface of the pond and the pond's banks. The environmental impacts of the spill appear to have been limited to fish and other species dependent upon the pond. From the evidence, it is clear that the release could have caused much greater environmental impacts and public safety risks had it not been contained by the pond.

B. Failure History of Kaiser SSAW Segments along the Platte Pipeline

Photographs taken at the Bellflower release site revealed that the pipe ruptured along the seam weld.³ Kaiser SSAW pipe is known to have a seam weld lack of fusion ("LOF") defect.⁴ LOF defects exist where the pipe metal and the weld metal fail to combine or fuse completely during the manufacturing process. This defect results from poor welding technique. Kaiser SSAW weld metal is also known to have low toughness.⁵ When material with low toughness is subjected to pressure fluctuations, tiny cracks and striations form in the material. These cracks and striations are known as "fatigue damage." The combination of the LOF defect and low toughness have made the Kaiser SSAW segments of the Platte Pipeline particularly susceptible to failure.

PHMSA presented the following evidence detailing the failure history of Kaiser SSAW pipe segments along the Platte Pipeline:⁶

- The Platte Pipeline was subject to a "Hazardous Facility Order" from 1992 to 1996 following a seam weld failure that occurred on Kaiser SSAW pipe on January 9, 1992 near Salisbury, Missouri. Four thousand one hundred barrels of crude oil were released into the environment.⁷ The failure resulted from the combination of a LOF seam weld defect and low toughness. Hydrostatic testing following the 1992 release resulted in four more failures of SSAW Kaiser pipe, each along the seam weld.
- On February 1, 2006, a leak was discovered 0.5 miles downstream from the Casper Station on Kaiser SSAW pipe. Fifty barrels of product were released.

³ See photos attached to CAO (CPF No. 3-2007-5027H).

⁴ Hazardous Facility Order Case File No. 32502-H; Platte Pipeline Failure Analysis by DnV (Feb. 27 1992), figure 24.

⁵ "Mechanical Properties of Eight Pipe Sections from the Platte 22" System, S.F. Biagiotti (Intracompany Correspondence) (December 22, 1992) ("Evaluation of the toughness data reveals two important observations. First, the SSAW seam welded pipe has weld toughness properties significantly different from the base pipe properties. Second, the seam toughness values of the SSAW pipe are extremely low at temperatures below 80°F.")

⁶ See also, Corrective Action Order, CPF 3-2007-5027H (September 13, 2007) at 3.

⁷ Hazardous Facility Order. CPF 32502-H (January 24, 1992)

- Laboratory analysis revealed that the cause of the release was the same LOF seam weld defect. This seam weld defect grew as a result of fatigue damage that was facilitated by material with low toughness.⁸
- A log submitted by the Respondent showed at least 12 other failures of Kaiser SSAW pipe due to LOF seam weld defects.⁹ Each of these failures occurred during normal operation of the pipeline (i.e. not during testing) and released product into the environment.
- Approximately 15 other seam weld failures occurred during hydrostatic testing of Kaiser SSAW pipe between 1972 and the present.¹⁰

This failure history demonstrates the pervasive nature of seam weld defects on the Kaiser SSAW segments of the Platte Pipeline.

C. Current Condition of Kaiser SSAW Pipe Segments Along Platte Pipeline

At the hearing, PHMSA also presented the following evidence of In-Line Inspection (ILI) data that revealed the general condition of Kaiser SSAW seam weld on the Platte Pipeline:

- In 1998, the Respondent conducted Seam Weld Anomaly Detection testing with a Transverse Flux Inspection ILI Tool. Based on analysis of the data collected during testing, the Respondent conducted 55 repairs to address LOF seam weld anomalies detected on Kaiser SSAW pipe.
- In 2006, the Respondent reprocessed the data from the 1998 Seam Weld Anomaly Detection testing. The re-analysis revealed 20 new seam weld anomalies on Kaiser SSAW pipe. The Respondent selected 15 of the seam weld anomalies for repair.¹¹
- In 2006, the Respondent conducted ILI testing using an ultrasonic crack detection tool. Twelve of the 17 anomalies selected for repair were related to seam weld problems.¹²
- Since 1996, seven separate ILI tools were run through the pipe joint that failed near Bellflower, Missouri on September 6, 2007.

⁸ Metallurgical Report: Failure Analysis of February 1, 2006 leak of Platte Pipeline at Joint 740.

⁹ Platte Pipeline Company, Kaiser Pipe Failure (11/16/2007).

¹⁰ Id.

¹¹ "Listing of Seam Weld Anomaly Repairs based on 1998 Transverse Flux Inspection Tool (TFI) ILI Tool."

¹² "Listing of Seam Weld Anomalies examined based on 2006 re-processing of the 1998 TFI data."

The fact that failures have continued to occur on this pipeline, even after the completion of multiple in-line inspections and at least 72 repairs, demonstrates that the use of in-line inspection tools has not been fully successful in locating all of the anomalies due to pervasive seam weld defects. In consideration of this known failure and repair history of the Kaiser SSAW segments, the magnitude of the Bellflower release, and the fact that the September 6 failure appeared to have been caused by the same type of seam weld failure that had occurred in the past, I find that issuance of the CAO on September 13, 2007 and PHMSA's determination that the Kaiser SSAW segments of the Platte Pipeline "would be hazardous to life, property or the environment" unless certain corrective actions were taken, was reasonable and proper.

II. Continuation of CAO

At the hearing, PHMSA presented the findings of Kinder Morgan's own metallurgical report to support the agency's argument that the CAO should remain in effect. The report found that the rupture along the longitudinal seam weld, like the series of previous failures, was caused by the combination of a LOF defect and fatigue damage that had further weakened the inadequately fused seam weld.¹³

The magnified images included in the report discussed three different regions of pipe metal; PHMSA regional staff explained each region's role in the failure.¹⁴ Region 1, closest to the inside diameter of the pipe, exhibited the LOF defect that was present when the pipe was manufactured in 1952.¹⁵ Two distinct layers of metal in this region indicated that the metal did not properly fuse during manufacture. Region 2 exhibited fatigue damage in the form of ratchet marks, beach marks, and fatigue striations caused by pressure fluctuations on the low toughness metal. Region 3, closest to the outside diameter, was composed of the remaining metal that held the seam together just prior to failure.¹⁶ PHMSA stated that the weakness of Regions 1 and 2 was further evidenced by the fact that the rupture occurred at an operating pressure of 1053 pounds per square inch, which was less than the maximum operating pressure of 1098 psi.

Furthermore, PHMSA pointed out that the seam weld anomaly resulting in the Bellflower seam weld rupture had not been repaired as a result of the previous ILI testing. PHMSA argued that the metallurgical report suggested that other seam weld anomalies might still exist but remain undetected or unrepaired. If such anomalies did exist, they would have also been subject to pressure fluctuations that could have further weakened the seam weld by causing fatigue damage in the weld metal.¹⁷

PHMSA also addressed the Respondent's argument that the company's voluntary pressure reduction cured any hazardous condition that may have existed at the time of the rupture.

¹³ Final Report, Kinder Morgan Pipelines, Factual Metallurgical Report: Failure Analysis of Rupture on 20-inch Diameter Platte Pipeline at MP 858.23, Bellflower, Missouri [hereinafter, Kinder Morgan Final Report], Figure 34.

¹⁴ PHMSA November 9, 2007 CAO hearing power point and oral presentation.

¹⁵ Final Report, *supra* note 20.

¹⁶ Final Report, *supra* note 20, at Figure 34.

¹⁷ Assessment History of Kaiser Pipe seams on the Platte Pipeline Prior to September 6, 2007.

PHMSA cited the Respondent's own investigative report, entitled "Evaluation of the Effectiveness of Pressure Reduction on the Platte Pipeline," prepared in accordance with Required Corrective Action Item 4 of the CAO, which states, "Our most conservative analysis indicates that if a defect was undetected and just on the verge of failing at the pre-incident maximum operating pressure, it could enlarge to the point where it may fail at the reduced operating pressure in an estimated 1.8 years" (emphasis added). PHMSA emphasized that this finding confirms that the pressure reduction alone did not fully address the hazards posed by the Kaiser SSAW segments of the Platte Pipeline.

In summary, the foregoing evidence, as presented at the hearing and in PHMSA's Response to Kinder Morgan Statement of the Issues, demonstrates that Kaiser SSAW segments of the Platte Pipeline continued to pose a hazard to life, property, and the environment unless certain corrective actions are taken. 49 U.S.C. § 60112(a).

III. Respondent's Other Objections to Issuance of the CAO

Although the Respondent did not dispute the technical analysis that PHMSA presented in support of its issuance of the CAO, it did raise a number of other objections to the agency's issuance of the CAO on September 13, 2007. Each of Respondent's objections is addressed below as follows:

A. Issuance of CAO Not Necessary

As noted above, the Respondent has argued that issuance of the CAO was unnecessary because the Respondent had agreed to undertake certain pressure reductions and pipe analysis after the accident but before the CAO had been issued. The Respondent suggested that its cooperation demonstrated that a legal order was not necessary because PHMSA and Kinder Morgan had shown that they could work together cooperatively to address safety issues. In response, PHMSA officials noted that they appreciated the Respondent's cooperation and willingness after the accident to address the risks that Kaiser SSAW pipe posed to life, property, and the environment. However, under the Federal Pipeline Safety Law, the Secretary of Transportation "*shall order* the operator of the facility to take necessary corrective action" if [s]he determines that a pipeline facility is or would be hazardous to life, property or the environment. 49 U.S.C. § 60112 (emphasis added).

The use of a CAO, an administrative tool bestowed upon PHMSA by Congress, provides an enforceable, systematic, and predictable process for managing conditions that could endanger public health, safety, or the environment. Even though an operator may agree or disagree with the issuance of the CAO, the order provides an appropriate means of ensuring immediate compliance with measures that the Secretary believes are needed to protect the public while still allowing the Respondent to challenge the findings and compliance terms within a reasonable time. U.S.C. § 60119 and 49 C.F.R. § 190.221. In this case, the ongoing mandatory provisions of the CAO also ensure that the Respondent is legally obliged to take necessary corrective actions in addition to the voluntary pressure reduction and that are responsive to new information that is gained about the condition of the pipeline in the months following the accident.

I do not mean to minimize the importance of Kinder Morgan's willingness to take prompt action following the Bellflower incident to address the risks posed by the Kaiser SSAW segments.

Nevertheless, PHMSA has a duty to the public to ensure pipeline safety. In this case, where the agency had determined that the facility would be hazardous if certain corrective actions were not taken, I believe it acted reasonably to prevent the likelihood of serious harm to life, property, and the environment. Furthermore, the Respondent's own analysis demonstrated that the pressure reduction in place at the time of the CAO did not cure the hazardous condition caused by the LOF seam weld defect and fatigue damage.

B. PHMSA's Performance-Based Regulatory Scheme Inconsistent With Issuance of a CAO

During the hearing and in its post-hearing submission, the Respondent also argued that "[i]t would be inconsistent for the Agency to promulgate performance based regulations intended to predict and avoid pipeline failures, but then insist that activities meeting those goals are insufficient to dispel a finding of hazardous condition." It is true that PHMSA has adopted a largely performance-based regulatory scheme. This program is premised on a risk-based approach that encourages pipeline operators to focus on the issues and risks most relevant to their facilities. CAOs serve to complement the agency's performance-based regulatory approach when a release or other circumstances demonstrate that a facility is or would be hazardous to life, property or the environment if immediate corrective actions were not taken.

Given the pervasive nature of the LOF defects and the failure history of the Kaiser SSAW segments in this case, in-line inspections had clearly proven insufficient to ensure the safety of the line. Accordingly, in consideration of all the circumstances surrounding the Bellflower accident, PHMSA determined that more aggressive measures were needed to protect life, property and the environment and issued the CAO. I find that issuance of the CAO on September 13, 2007 constituted a reasonable and prudent response to a serious accident that was consistent with the agency's overall performance-based regulatory approach.

C. Possible Collateral Harm to Respondent

During the hearing and in its post-hearing submission, the Respondent further argued that the "hazardous" finding in the CAO might have implications for the company outside of its relationship with PHMSA that could cause collateral harm to the Respondent. PHMSA responded that the agency takes what it considers to be a reasonable and prudent approach to the issuance of CAOs, regardless of their potential impact on private litigation, public relations, or other matters outside the purview of PHMSA's public responsibilities. Because available information in this case indicated that the failure likely involved pervasive problems with the Kaiser SSAW segments of the Platte Pipeline, PHMSA properly concluded that a CAO was necessary for the protection of life, property, and the environment. I would remind the Respondent that the issuance of a CAO in this case does not constitute a finding of violation, carries no civil penalties, and ensures that Kaiser SSAW segments of the Platte Pipeline will receive additional regulatory oversight so that safety problems on the line are properly addressed.

D. Issuance of CAO Violated Due Process

Finally, the Respondent has argued that issuance of the CAO without formal notice and an opportunity for a hearing violated its constitutional right of due process and cited TVA v. Whitman, 336 F.3d 1236 (11th Cir. 2003), in support.

The Respondent quoted that court as stating, “One of the most fundamental tenets of justice or fairness for an administrative agency is to allow a respondent an opportunity to address allegations and issues presented by an administrative order, especially where the respondent may be subject to significant sanctions for failure to comply.” *Id.* at 1258.

Unfortunately, the *TVA* case does not support Respondent’s argument. That case held that a certain procedural provision of the Clean Air Act (“CAA”)¹⁸ violated due process because it authorized the EPA Administrator to make findings of violation through “Administrative Compliance Orders” (“ACOs”) that could be based upon “any information available” to the Administrator without benefit of a hearing. *TVA*, 336 F.3d 1236 at 1241 (“[T]he Administrator need only have a staff report, newspaper clipping, anonymous phone tip, or anything else that would constitute ‘any information.’”); 42 U.S.C. § 7413(a)(1).

The statutory provisions authorizing CAOs and ACOs differ in several key respects. First, unlike the CAA, the Federal Pipeline Safety Laws set out various factors that the Administrator must evaluate in making a finding that a facility “is” or “would be” hazardous. 49 U.S.C. § 60112(b). Furthermore, unlike ACOs, CAOs do not make findings of violation. Finally, unlike CAOs, which address critical, if not emergency, situations, ACOs address the emission of “pollutants in excess of that allowed by EPA regulations or constructing a pollution source without a permit.” *TVA*, 336 F.3d 1236, 1240; 49 U.S.C. § 60112(a). Although releasing more emissions than permitted impacts human health and the environment, such situations do not necessarily pose imminent threats to human life or the environment. Therefore, the ability of the Associate Administrator to waive the right to hearing prior to the issuance of a CAO in certain situations is balanced by the gravity of the harm that the public faces. The Associate Administrator may only issue a CAO without the opportunity for a hearing where “failure to issue the order expeditiously will result in likely serious harm to life, property, or the environment.” 49 U.S.C. § 60112(e). In any event, 49 U.S.C. § 60112(e) requires that PHMSA provide an opportunity for a hearing “as soon as practicable” after issuance of the CAO. The issuance of an ACO carried no such requirement. *TVA*, 336 F.3d 1236 at 1241. Therefore, I find that PHMSA’s issuance of the CAO without formal notice and opportunity for a hearing was justified under the Federal Pipeline Safety Laws and did not violate due process.

Conclusion

In conclusion, I find that PHMSA’s hazardous finding and issuance of the CAO on September 13, 2007 were appropriate, given the known risks posed by Kaiser SSAW segments of the Platte Pipeline. As required by the Federal Pipeline Safety Laws, PHMSA considered a variety of factors related to the pipeline, “including the age, manufacture, physical properties, and method of manufacturing, constructing or assembling . . .” of the pipe. 49 U.S.C. § 60112(a).

Even with Respondent’s voluntary pressure reduction in place at the time of the issuance of the CAO, PHMSA was aware of the pervasive problems and series of failures associated with the seam weld defects on the Platte Pipeline system. Under such circumstances, it was reasonable for the agency to determine that certain segments of the pipeline continued to pose a significant risk of failure.

¹⁸ 42 U.S.C. § 7413(a).

PHMSA's issuance of a CAO before providing Respondent with the opportunity for a hearing was also proper. The Bellflower rupture revealed that the ILI testing performed by Terasen in the past had not detected all seam weld anomalies, that the Kaiser SSAW segments continued to pose significant risks, and that a failure to issue a CAO expeditiously would result in likely serious harm to life, property, or the environment.

Therefore, the CAO will remain in effect for Kaiser SSAW segments of the Platte Pipeline until PHMSA deems that the corrective actions required under the CAO have been satisfactorily completed and that the hazardous conditions giving rise to the CAO no longer exist.

Jeffrey D. Wiese
for

Jeffrey D. Wiese
Associate Administrator
for Pipeline Safety

MAR 17 2008

Date Issued