September 2, 2016

Mr. Mark Maki
President
Enbridge Pipelines (Ozark), LLC
1100 Louisiana Street
Suite 3300
Houston, TX 77002

Re: CPF No. 4-2013-5004

Dear Mr. Maki:

Enclosed is the Decision on the Petition for Reconsideration filed by Enbridge Pipelines (Ozark), LLC, in the above-referenced case. For the reasons explained therein, the Decision grants the Petition and modifies the civil penalty and compliance terms of the October 16, 2015 Final Order. The penalty terms are set forth in the Decision. When the civil penalty has been paid and the terms of the compliance order completed, as determined by the Director, Southwest Region, this enforcement action will be closed. This Decision constitutes the final administrative action in this proceeding. Service of this Decision is made pursuant to 49 C.F.R. § 190.5.

Thank you for your cooperation in this matter.

Sincerely,

Alan K. Mayberry
Acting Associate Administrator
for Pipeline Safety

Enclosure

cc: Mr. R. M. Seeley, Regional Director, Southwest Region, OPS
Mr. Darren Hunter, Counsel for Enbridge Pipelines (Ozark), LLC, Rooney Rippie & Ratnaswamy, LLP, Kingsbury Center, Suite 600, 350 W. Hubbard Street, Chicago, Illinois 60654

<u>CERTIFIED MAIL - RETURN RECEIPT REQUESTED</u>

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

In the Matter of	)	
	)	
Enbridge Pipelines (Ozark), LLC,	)	**CPF No. 4-2013-5004**
a subsidiary of Enbridge, Inc.,	)	
	)	
Petitioner.	)	
	)	

DECISION ON PETITION FOR RECONSIDERATION

In November 2011, pursuant to 49 U.S.C. § 60117, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), conducted an on-site pipeline safety inspection of the facilities and records of Enbridge Pipelines (Ozark), LLC (Enbridge or Petitioner), at the company's Cushing Terminal in Cushing, Oklahoma. The Cushing Terminal includes 87 crude oil storage tanks with approximately 20 million barrels in shell capacity.[1]

As a result of the inspection, the Director, Southwest Region, OPS (Director), issued a Notice of Probable Violation, Proposed Civil Penalty and Proposed Compliance Order (Notice) to Enbridge on March 3, 2013, which alleged certain violations of the pipeline safety regulations and proposed a civil penalty of $78,700.[2] The Notice also proposed ordering Petitioner to take certain measures to correct the alleged violations.

Enbridge responded to the Notice by letter dated April 26, 2013 (Response).[3] The company contested one of the allegations of violation, provided certain information regarding the corrective actions it had taken, but did not request a hearing.[4]

On October 16, 2015, pursuant to 49 C.F.R. § 190.213, PHMSA issued a Final Order in this proceeding.[5] The agency found that Enbridge had committed violations of § 195.432(b) (Item 1)

[1] *See* www.enbridge.com. Current as of May 9, 2016.

[2] Notice of Probable Violation, Proposed Civil Penalty, and Proposed Compliance Order (Notice), C.P.F. No. 4-2013-5004, (Mar. 4, 2013) (on file with PHMSA).

[3] Respondent's Response to Notice (Response), (Apr. 26, 2013) (on file with PHMSA).

[4] *Id.*

and §§ 195.565 and 195.571 (Item 4), as alleged in the Notice.[6] The Final Order assessed a civil penalty of $33,700 for Item 1 and $45,000 for Item 4 and ordered corrective actions for both items, set forth in the compliance order that was part of the Final Order.[7] The Final Order also issued warnings for probable violations of 49 C.F.R. § 195.432 (b) and (c) (Items 2 and 3) and § 195.581 (Item 5).[8]

In accordance with § 190.243, Enbridge filed a timely Petition for Reconsideration of the Final Order on November 9, 2015, seeking reconsideration of the finding of violation in Item 1 and its associated civil penalty and compliance terms.[9] For the reasons stated below, I find that the finding of violation, civil penalty and compliance terms for Item 1 should be withdrawn for lack of sufficient evidence. Accordingly, as noted below, I am granting the Petition by withdrawing Item 1 of the Final Order in its entirety. The other provisions of the Final Order are otherwise affirmed without modification.

<u>Standard of Review</u>

Pursuant to 49 C.F.R. § 190.243, an operator may petition for reconsideration of a final order issued under § 190.213 and PHMSA may consider additional facts or arguments if the petitioner submits a valid reason explaining why such information was not presented prior to issuance of the final order. PHMSA may grant or deny, in whole or in part, a petition for reconsideration without further proceedings, but may request additional information or comment if deemed appropriate.

<u>Discussion</u>

Item 1 in the Final Order found that Petitioner violated 49 C.F.R. § 195.432(b), which states:

> **§ 195.432 Inspection of in-service breakout tanks.**
> (a) …
> (b) Each operator must inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to API Standard 653 (incorporated by reference, *see* § 195.3). However, if structural conditions prevent access to the tank bottom, the bottom integrity may be assessed according to a plan included in the operations and maintenance manual under § 195.402(c)(3).

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[5] *In the Matter of Enbridge Pipelines (Ozark), LLC,* Final Order, C.P.F. No. 4-2013-5004 (Oct. 16, 2015) (Final Order) (available at www.phmsa.dot.gov/pipeline/enforcement).

[6] *Id.*

[7] *Id.*

[8] *Id.*

[9] Petitioner's Petition for Reconsideration (Petition), (Nov. 9, 2015) (on file with PHMSA). Enbridge did not seek reconsideration of Items 2 through 5.

The Final Order determined the Petitioner had violated § 195.432(b) by failing to inspect the physical integrity of three in-service breakout tanks at its Cushing, Oklahoma facility, in accordance with American Petroleum Institute (API) Standard 653 (Standard).[10] Specifically, PHMSA found that the Petitioner violated section 6.3.2.1 of the Standard by failing to properly determine the corrosion growth rates for several tanks in the Cushing facility.[11] To illustrate, the Final Order noted that recorded shell-plate corrosion growth rates for three tanks in the Cushing facility were negative, indicating the methodology used by the Petitioner was flawed and inconsistent with the Standard.[12] The Final Order further explained that even when considering pertinent variables such as steel tolerances and measurement differentials, the Petitioner's methodology could only be effective if corrosion rates were completely uniform across the tanks.[13] The Order also found that the negative values showed the company's methodology for calculating the corrosion growth rates was not in accordance with sound engineering principles.

In its Petition, Enbridge contends it did not violate § 195.432(b) and PHMSA wrongly concluded that the negative corrosion growth rates recorded for the three Cushing Terminal tanks implied that the company had employed an incorrect methodology.[14] Enbridge argues that it applied the formula for corrosion growth rates as prescribed in the Standard and that the recorded negative values did not indicate noncompliance. Enbridge explains that it calculated metal loss, a component of the corrosion growth-rate calculation, by using the minimum (thinnest) thickness measurement taken on each tank and comparing it to the thickness measurements from the previous inspection for each tank.[15] Enbridge further explains that using the minimum thickness measurement "add[ed] conservatism" to the metal-loss and corrosion-rate calculations.[16]

In its Petition, Enbridge further argues that the Notice erroneously alleged that the Standard required corrosion growth rates to be calculated by determining metal loss at the same location on each tank during each inspection.[17] The Petition includes expert opinions stating that "tak[ing] measurements at random locations on the tank to determine general corrosion rates" is compliant with the Standard.[18]

[10] API Standard 653, "Tank Inspection Repair, Alteration, and Reconstruction" (3rd edition, December 2001, includes addendum 1 (September 2003), addendum 2 (November 2005), addendum 3 (February 2008) and errata (April 2008)), has been incorporated by reference into 49 C.F.R. Part 195 under 49 C.F.R. § 195.3.

[11] Final Order, at 2.

[12] *Id*. at 3.

[13] *Id*.

[14] Petition, at 3.

[15] Petition, at 3-4; Response, at 2.

[16] Response, at 2.

[17] Petition, at 3.

[18] *Id*. at 4.

The crux of this Petition involves the question of what constitutes the proper methodology for calculating external inspection intervals and tank-shell corrosion growth rates, which are prescribed by the Standard. Section 6.3.2.1 of the Standard states that external inspections shall occur at least every five years, or *RCA/4N* years (where *RCA* is the difference between the measured shell thickness and the minimum required thickness in shells, and *N* is the shell corrosion rate in mils per year), whichever is less. Section 3.11 of the Standard defines corrosion rate (*N*) as "[t]he total metal loss divided by the period of time over which the metal loss occurred." To calculate the corrosion rate (*N*) for a tank shell, metal loss must first be determined. The Standard, however, does not prescribe a specific methodology for calculating metal loss, nor does it specify a methodology for determining the thicknesses of tank shell-plates, an essential component of the metal loss calculation.

In this case, OPS bears the burden of proving, by a preponderance of the evidence, that the Petitioner failed to calculate the inspection interval in accordance with the Standard. The "Shell Thickness Evaluation" reports (Reports) provided by the Petitioner during the PHMSA inspection show that the inspection intervals for the three tanks at issue were set at five years or less.[19] The reports show that Enbridge had recorded shell-plate thickness measurements for each course of the individual tanks during the most recent inspections.[20] The evidence does not reflect that Enbridge inspectors took more than a single shell-plate thickness measurement for each tank course; however, the Petitioner asserts that several shell-plate thickness measurements were taken and the smallest (thinnest) readings were recorded in the report as the thickness determinations for each course.[21] Further, the Reports show that corrosion rates were calculated for each tank course based on these minimum shell-plate thickness readings by utilizing the formula prescribed in Section 3.11 of the Standard, total metal loss divided by the period of time over which the metal loss occurred.[22] The Reports also show that the formula prescribed in Section 6.3.2.1 was applied as prescribed in calculating the inspection intervals for the three subject tanks.[23] Finally, the Reports reflect that the ultimate inspection interval for each tank was based on the shortest interval calculated from all of the individual tanks' courses.[24]

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[19] Pipeline Safety Violation Report (Violation Report), (Jul. 9, 2012), at 39-41.

[20] *Id*.

[21] Response, at 2.

[22] *See* Violation Report, at 39, the calculations for Tank 1014 are as follows: RCA = (.593) – (.5198) = .07 corrosion allowance, N = .028 / 5.62 = .0049 mils / year, .07 / 4 (.0049) = 3.73 years (report reflects 3.67 years); Violation Report at 40, the calculations for Tank 2228 are as follows: RCA = (1.078) – (.8910) = .187 corrosion allowance, N = .091 / 9.80 = .009 mils / year, .187 / 4 (.009) = 5.05 years (report reflects 5.04 years); Violation Report at 41, the calculations for Tank 3011 are as follows: RCA = (.934) – (.8616) = .0724 corrosion allowance, N = .038 / 9.08 = .004 mils / year, .0724 / 4 (.004) = 4.525 years (report reflects 3.67 years).

[23] *Id*.

[24] *Id*. at 39-41.

I have carefully reviewed the entire record in this case and cannot determine that the methodology used by Enbridge to calculate the tank inspection intervals under the Standard was wrong or that it violated 49 C.F.R. § 195.432(b). First, I agree with the Petitioner that the negative corrosion growth rates recorded by Enbridge inspectors do not show that the company's methodology was inherently flawed.[25] Negligible or negative corrosion rates may occur while properly employing the corrosion-rate calculation set forth in the Standard, as argued by the Petitioner and its experts.[26] This is because the calculations for tank shell corrosion rates and metal loss include shell-plate thickness measurements that can be affected by several variables, including steel tolerances, measurement differentials, and differing rates of corrosion. Those variables can result in negative metal loss calculations, even when the Standard is followed appropriately.

Second, I agree with Enbridge that API 653 does not require that shell-plate thickness measurements be taken at the same location on each tank during each inspection when determining metal loss. Rather, the Standard is silent on the exact methodology that must be used for making the metal loss determination. While Enbridge's methodology of using a minimum thickness reading for each tank course to determine a general corrosion rate may not be considered the optimal practice because single, anomalous readings can skew general corrosion rates, the Petitioner's methodology did not expressly violate 49 C.F.R. § 195.432 or API 653.[27]

The Notice and Final Order found fault with Petitioner's practice of taking shell-plate thickness measurements across each tank shell and using the lowest reading in the metal loss calculation for that tank. While the evidence shows Enbridge inspectors did not calculate the average shell-plate thicknesses when determining metal loss of the tanks in accordance with sound engineering practices, the Petitioner's methodology does not expressly violate the requirements of Sections 6.3.2.1 or 3.11 of the Standard, as neither directly prescribes a methodology for determining shell-plate thickness measurements. Based on the evidence of record, I find there is insufficient evidence to show that Enbridge violated either the Standard or § 195.432(b). Accordingly, I grant the Petition for Reconsideration with respect to Item 1 of the Final Order. The finding of violation, the proposed penalty of $33,700, and the associated terms of the compliance order are hereby withdrawn.

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[25] *Id*. The Enbridge "Shell Thickness Evaluation" reports include shell corrosion rates for each tank course on the subject tanks. Several corrosion rates recorded for the tank courses were negative, in negligible amounts.

[26] Petition, at 3.

[27] Enbridge even argues that "there are variables that affect the [shell corrosion rate] calculation" in support of their argument that measuring in the same location on each tank is not the correct methodology. Petition, at 5.

Conclusion

For the reasons stated above, the Petition for Reconsideration is granted. The finding of violation in Item 1 of the Final Order, the associated penalty of $33,700, and the associated compliance terms are hereby withdrawn. All other terms of the Final Order and Compliance Order remain in effect as set forth therein.

This Decision on Reconsideration is the final administrative action in this proceeding.

Alan K. Mayberry Acting Associate Administrator for Pipeline Safety	Date Issued