

March 24, 2017

Mr. Mark A. Maki
President
Enbridge Energy Partners, LP
1100 Louisiana St., Suite 3300
Houston, Texas 77002

Re: CPF No. 4-2015-5016

Dear Mr. Maki:

Enclosed please find the Final Order issued in the above-referenced case. It makes a finding of violation, assesses a reduced civil penalty of \$33,100, and specifies actions that need to be taken by Enbridge Storage (Cushing) LLC, a subsidiary of Enbridge Energy Partners, LP, to comply with the pipeline safety regulations. The penalty payment terms are set forth in the Final Order. 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. Service of the Final Order by certified mail is effective as provided under 49 C.F.R. § 190.5.

Thank you for your cooperation in this matter.

Sincerely,

Alan K. Mayberry
Associate Administrator
for Pipeline Safety

Enclosure

cc: Mr. Rodrick Seeley, Director, Southwest Region, OPS
Mr. David Stafford, Senior Manager, U.S. Pipeline Compliance, Enbridge Energy
Limited Partnership, 119 North 25th Street East, Superior, WI 54880

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

FINDING OF VIOLATION

The Notice alleged that Respondent violated 49 C.F.R. Part 195, as follows:

Item 1: The Notice alleged that Respondent violated 49 C.F.R. § 195.214,² which states:

§ 195.214 Welding procedures.

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 or Section IX of the ASME Boiler and Pressure Vessel Code (incorporated by reference, *see* § 195.3). The quality of the test welds used to qualify the welding procedure shall be determined by destructive testing.

(b) Each welding procedure must be recorded in detail, including the results of the qualifying test. This record must be retained and followed whenever the procedure is used.

The Notice alleged that Respondent violated 49 C.F.R. § 195.214 by failing to ensure that welding was performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 or Section IX of the ASME Boiler and Pressure Vessel Code (ASME IX). Specifically, the Notice alleged that on March 6, 2015, at approximately 3:45 PM, Enbridge performed welding on its BP/Amoco project. After completion of the root bead on a tie-in weld, the welders started the second pass or “hot-pass,” but stopped before the welding was completed for a potential violation of confined space procedures on a previous weld. Only the root bead and approximately half of the hot pass weld had been completed when the welding was stopped. Welding Procedure 106 LT limits the maximum time between filler passes to no more than 15 minutes.

Approximately five hours later, a second team of welders was brought in by Enbridge to complete the weld using Maintenance Welding Procedure DB-48. These welders were not provided Welding Procedure 106 LT. Rather than grinding out the partially completed weld and re-welding (because more than 15 minutes had elapsed between passes), the welders were instructed to complete the weld, disregarding the requirements of the qualified welding procedure. The second set of welders was not qualified to weld in accordance with Welding Procedure 106 LT.

Maintenance Welding Procedure DB-48 differs from Welding Procedure 106 LT procedure in that Maintenance Welding Procedure DB-48 is qualified under ASME IX, while Welding Procedure 106 LT is qualified under API 1104. The procedures also differ in some essential variables, including, but not limited to, the filler metal, the speed of travel, and the preheat temperature. Maintenance Welding Procedure DB-48 also requires that the hot pass be started within five minutes of the root bead pass.

OPS stated that “Enbridge mixed welding procedures with different essential variables on the

² 49 C.F.R. § 195.214 (2015). Note, this section was amended, effective Oct. 1, 2015; however, because the violation occurred before the amendment was effective, the previous version of the regulation applies here.

same weld and failed to perform the welding according to the qualified procedure.”³

In its Response, Enbridge argued that § 195.214 does not contain a prohibition against the use of more than one welding procedure. It stated that “[i]n this case, both welds were qualified in accordance with the referenced standards and all welders were qualified to perform the procedures they were executing.”⁴ Enbridge asserted that when welding resumed after the delay, Maintenance Welding Procedure DB-48 “was the governing procedure.” While an essential variable for Welding Procedure 106 LT contains “a 15 minute maximum interpass time between the first (root) and the second (hot) passes,”⁵ this is not an essential variable for Maintenance Welding Procedure DB-48.⁶ Instead, Maintenance Welding Procedure DB-48 contains “a requirement to commence the hot pass within 5 minutes of completing the root pass as an engineering best practice requirement for avoidance of hydrogen cracking in the vulnerable lone root pass,” but this is not an essential variable for Maintenance Welding Procedure DB-48.⁷ Enbridge argued that because “the maximum interpass time of DB-48 was not an essential variable per the governing standard (ASME IX), the final weldment was dispositioned in accordance with engineering judgement...”⁸

Enbridge consulted a subject matter expert in its Pipeline Integrity Department, who “determined that the weld met the standard of acceptability and was not an integrity concern.”⁹ Enbridge concluded that “combining two similar weld procedures is not prohibited under PHMSA or consensus standards.”¹⁰

OPS responded that once Enbridge originated the weld using the Welding Procedure 106 LT, it “had to follow the procedure or remove the weld and start over” to be in compliance with § 195.214.¹¹ OPS argued that Welding Procedure 106 LT governed the procedure because it was used to initiate the weld.¹² It continued to oppose Enbridge’s statement that because the interpass time was not an essential variable, it did not have to be followed. “An essential variable change requires the procedure to be completely requalified but this does not mean that

³ Notice, at 2.

⁴ Response, at 2.

⁵ API 1104 WPS 106LT, Section 5.4.2.8.

⁶ Response, at 2.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*, at 2-3.

¹⁰ *Id.*, at 3.

¹¹ Region Recommendation, at 3.

¹² *Id.*, at 7.

the other specifications on the qualified welding procedure required by the standard don't have to be followed.”¹³

OPS stated that Welding Procedure 106 LT prescribes the performance of an entire weld.¹⁴ Similarly, Maintenance Welding Procedure DB-48 is for an entire weld and is qualified under the ASME IX Code.¹⁵ Enbridge completed approximately half of the weld using Welding Procedure 106 LT then completed it with the Maintenance Welding Procedure DB-48.¹⁶ Neither procedure allows the welding “to be stopped partially through the weld and resumed outside of the maximum time between passes... with a completely different procedure qualified under a different standard.”¹⁷ While ASME IX Code permits using multiple Welding Procedure Specifications on the same weld joint, it also requires that “all essential, nonessential, and supplementary essential variables be followed and that welding procedures used on the same joint be qualified under the ASME IX Code. Consequently, a welding procedure qualified under API 1104 could not be part of an ASME Welding Procedure Specification, and therefore could not be used on the same weld joint as an ASME qualified procedure.”¹⁸ Therefore, OPS alleged that neither welding procedure was properly followed.¹⁹

In response to Enbridge's argument that because the essential variables for the welding procedures are different and it only needed to follow the essential variables of the second welding procedure, OPS stated that § 195.214 specifies that the welding *procedure* must be followed, not that “only essential variables must be followed and the rest of the procedure can be ignored.”²⁰ OPS argued that even if Enbridge were permitted to combine procedures, it “was still required to weld according to the procedure specifications, including the interpass time.”²¹

OPS disagreed with Enbridge's argument that it could “indiscriminately mix and match any number of procedures on the same weld joint without regard to following the incorporated standards, procedure specifications, essential variables, welding parameters, and welder qualification requirements is completely contrary to the requirements of 49 CFR [§] 195.214 and

¹³ *Id.*, at 7.

¹⁴ *Id.*, at 3.

¹⁵ *Id.*, at 5.

¹⁶ *Id.*, at 5.

¹⁷ *Id.*, at 3.

¹⁸ *Id.*, at 7.

¹⁹ *Id.*, at 5.

²⁰ *Id.*, at 5-6.

²¹ *Id.*, at 6.

the incorporated standards.”²² OPS explained that Maintenance Welding Procedure DB-48 differed from Welding Procedure 106 LT “in filler metals, speed of travel, and several other essential variables.”²³

Regarding Enbridge’s reliance on its subject matter expert’s advice in using two different welding procedures, OPS responded that the subject matter expert’s opinion could not “eliminate the requirement that an operator must follow the qualified welding procedure” required by 49 C.F.R. § 195.214.²⁴

The central issue in this case is whether an operator is permitted to combine two welding procedures qualified under different standards on the same joint. I find that Enbridge violated 49 C.F.R. § 195.214 when it used two different welding procedures with different essential variables on the same weld, and therefore failed to perform the welding according to either qualified procedure.

The regulatory requirement to follow the qualified welding procedure in 49 C.F.R. § 195.214 is based on the fact that performing welding by following the requirements of the qualified welding procedure is the only way that an operator can have the necessary assurance that the completed weld will have the required strength and mechanical properties.²⁵ A welding procedure is qualified by first welding the proposed procedure, then destructively testing weld coupons in order to ensure that the procedure will result in the weld having the proper strength and mechanical properties for the intended application. This process is performed under strict compliance with the requirements of one of the standards incorporated by reference into Part 195, and relies on establishing parameters for all essential variables and other welding procedure specification information that must be followed every time the procedure is used.²⁶

Consequently, the only assurance that welds in the field will have the strength and mechanical properties comparable to the qualifying welds is to follow the essential variables and other welding procedure specification information written in the qualified welding procedure.²⁷ Replicating the welding procedure “recipe” each time a weld is made in the field is the only way that an operator can have any certainty that each weld will have the strength and mechanical properties comparable to the qualifying weld.²⁸

²² *Id.*, at 6-7.

²³ *Id.*

²⁴ *Id.*, at 9.

²⁵ *Id.*, at 3.

²⁶ *Id.*

²⁷ *Id.*, at 4.

²⁸ *Id.*, at 3.

Section 195.214 states that “[w]elding must be performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 *or* Section IX of the ASME Boiler and Pressure Vessel Code.²⁹ The regulation does not contemplate, or permit, an operator to partially weld with one welding procedure and then complete the work with another procedure.³⁰ Each procedure must be completed fully or restarted from scratch. API Standard 1104, Section 5.4.1, states that “[a] welding procedure must be re-established as a new procedure specification and must be completely requalified when any of the essential variables listed in 5.4.2 are changed.”³¹ Likewise, the two welding procedures are not compatible, and neither contains provisions for re-initiating welding using a different welding procedure qualified under a different standard with different essential variables.

Welding Procedure 106 LT limits the maximum time between filler passes to no more than 15 minutes. Outside of this time frame, an operator cannot restart the welding process without removing the original welding and start from scratch. According to API Standard 1104, Section 5.4.2.8, the length of time between passes is an essential variable and any changes require the welding procedure to be completely requalified. Restarting the welding after over five hours had elapsed disregarded Welding Procedure 106 LT’s essential variable of maximum time between passes. When Enbridge stopped the welding and failed to re-initiate the next welding pass within the 15-minute time period as specified by the qualified procedure, the partially-completed weld was required to be ground out and the entire weld redone because there were no provisions in the procedure for an interpass time exceeding 15 minutes. Enbridge therefore violated § 195.214 by failing to perform the welding according to API Standard 1104.

Essential variables are those welding variables that have the most significant influence on the strength and mechanical properties of the weld, such as tensile strength and ductility.³² Before any changes can be made to an essential variable, the welding procedure must be completely requalified.

Enbridge also did not comply with the Maintenance Welding Procedure DB-48, which does not permit completing a weld initiated using another welding procedure with different essential variables. For Enbridge to use Maintenance Welding Procedure DB-48, which was qualified under a different standard (ASME IX) with different essential, non-essential, and supplemental variables, they would have had to remove the weld, material deposited using Welding Procedure 106 LT, re-bevel the pipes, and re-weld the joint.

Accordingly, after considering all of the evidence, I find that Respondent violated 49 C.F.R. § 195.214 by failing to ensure that welding was performed by a qualified welder in accordance with welding procedures qualified under Section 5 API 1104 or Section IX of the ASME Boiler

²⁹ 49 C.F.R. § 195.214(a) (emphasis added).

³⁰ API Standard 1104 defines a *weld* in Paragraph 3.2.19 as follows: “The *completed* weld joining two sections of pipe, a section of pipe to a fitting, or two fittings.” Region Recommendation, at 4.

³¹ *Id.*

³² *Id.*

and Pressure Vessel Code.

This finding of violation will be considered a prior offense in any subsequent enforcement action taken against Respondent.

ASSESSMENT OF PENALTY

Under 49 U.S.C. § 60122, Respondent is subject to an administrative civil penalty not to exceed \$200,000 per violation for each day of the violation, up to a maximum of \$2,000,000 for any related series of violations. In determining the amount of a civil penalty under 49 U.S.C. § 60122 and 49 C.F.R. § 190.225, I must consider the following criteria: the nature, circumstances, and gravity of the violation, including adverse impact on the environment; the degree of Respondent's culpability; the history of Respondent's prior offenses; and any effect that the penalty may have on its ability to continue doing business; and the good faith of Respondent in attempting to comply with the pipeline safety regulations. In addition, I may consider the economic benefit gained from the violation without any reduction because of subsequent damages, and such other matters as justice may require. The Notice proposed a total civil penalty of \$40,300 for the violations cited above.

Item 1: The Notice proposed a civil penalty of \$40,300 for Respondent's violation of 49 C.F.R. § 195.214, for failing to ensure that welding was performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 or Section IX of the ASME Boiler and Pressure Vessel Code.

Respondent argued that "[the factors of Section 190.225], taken together, do not support the imposition of a penalty in this case. The nature, circumstances and gravity of the alleged violation do not warrant a penalty."³³ It requested that the proposed penalty be eliminated or reduced.

OPS responded that "[t]he actions by the Operator may have compromised the strength and mechanical properties of the weld and as a consequence potentially placed the safety of their employees and the public in danger. The actions by Enbridge justify the imposition of a civil penalty."³⁴

Nature and Circumstances

Respondent offered no reason for reducing the proposed penalty based on the nature of the violation. Based on the evidence, I find that there is no justification for reducing the proposed penalty based on the nature of the violation. With regard to circumstances, I note that the

³³ Response, at 4.

³⁴ Region Recommendation, at 11.

violation was discovered by OPS rather than being self-reported by the operator.³⁵ I find that there is no justification for reducing the proposed penalty based on circumstances.

Gravity

Respondent argued that the proposed penalty should be reduced based on the gravity of the alleged violation, stating that “both welding procedures were acceptable and were welded by qualified welders for their respective procedure. The welds were properly inspected and were determined to meet the standard of acceptability. Enbridge engaged a welding subject matter expert to ensure that safety and pipeline integrity had not been compromised.”³⁶

The Violation Report categorized the gravity of the alleged violation as “Pipeline safety or integrity was compromised in areas other than [a High Consequence Area (HCA)] or an HCA ‘could affect’ segment.”³⁷ It continued that “The compromise to integrity due to the Operator not following the qualified welding procedures is not specifically known without destructive testing of the weld.”

By failing to follow proper welding procedures, Respondent compromised the integrity of its pipeline. Contrary to Respondent’s claims that “both welding procedures were acceptable and were welded by qualified welders for their respective procedure,” combining different welding procedures is not acceptable. In considering the gravity of the violation, I find that pipeline safety or integrity was compromised by Respondent’s violation. I therefore find that there is no justification for reducing the proposed penalty based on the gravity of the violation.

Culpability

Respondent stated that its degree of culpability was “low” because “[a]t all times, Enbridge reasonably believed that it acted in compliance with all PHMSA and industry standards....Enbridge removed the first crew for violating confined-space rules, and then assigned a second crew who was qualified on a different but very similar procedure. Enbridge believed that these actions were acceptable and compliant.”³⁸

When evaluating an operator’s culpability, PHMSA considers the extent to which the operator was responsible for the violation that occurred.³⁹ An operator is expected to be cognizant of the regulatory requirements applicable to its operations and is held responsible for complying with those requirements. An operator will generally be considered culpable for any failure to comply with the requirements absent some justification for the failure, such as an

³⁵ Violation Report, at 9.

³⁶ Response, at 4.

³⁷ Violation Report, at 9.

³⁸ Response, at 4.

³⁹ *Belle Fourche Pipeline Co.*, CPF No. 5-2009-5042, at 19, 2011 WL 7006607 (Nov. 21, 2011).

unforeseeable event outside of its control. Finding an operator culpable does not increase the level of the penalty, but if there is a lesser degree of blameworthiness, such as where there is some justification for a failure to comply, PHMSA may find it appropriate to propose or assess a reduced penalty.

The Violation Report categorized Respondent's culpability as "[t]he operator made a conscious decision not to comply with a requirement that was clearly applicable."⁴⁰ Properly completing welding procedures is fundamental to ensuring pipeline integrity and safety. Respondent made a conscious decision to begin its welding project with one procedure and then complete it with a different procedure, despite neither procedure permitting the procedures to be combined or not completed in full. I find that there is no justification for a reduction of the proposed penalty based on culpability.

History of Prior Offenses

Respondent stated that its "compliance history also does not support the imposition of a penalty."⁴¹ It stated that OPS inspectors had not inspected the BP/Amoco project prior to April 2015, and therefore violations found in any previous inspections were inapplicable.⁴² Further, Respondent stated that "[t]he inspections that are referenced in the NOPV between 2012 and 2015 were performed on other larger breakout tank construction projects which involved a material number of welds. PHMSA performed field and record (including welding records) audits for these projects, with no documented or material findings."⁴³

The history of an operator's offenses is not based on individual projects, but the compliance history of the operator as a whole. Respondent is mistaken in asserting that because the inspection, which identified the alleged violation at issue, was the only inspection on the BP/Amoco project, then this is the only history PHMSA can or should consider. PHMSA considers the operator's compliance history for all of its pipeline facilities during the five-year period prior to the approximate date of the Notice.

In this case, the Violation Report contains no history of prior offenses relating to Respondent. The proposed penalty inadvertently included a penalty for prior offenses. Based on this error, I find justification for reducing the proposed civil penalty.

I therefore find that Respondent's history of prior offenses supports a reduction in the proposed penalty.

⁴⁰ Violation Report, at 10.

⁴¹ Response, at 4.

⁴² *Id.*

⁴³ *Id.*

Economic Benefit

Respondent contended that it “did not derive any economic benefit as a result of the alleged non-compliance. To the contrary, Enbridge removed a crew for not complying with confined space procedures, and brought in another qualified crew to complete the work.”⁴⁴

OPS disagreed, stating that “The actions taken by Enbridge was a short-cut done to avoid the time and cost required to remove the partial weld initiated using the 106LT procedure, re-bevel the pipes, and re-weld the joint. Consequently, Enbridge did derive economic benefit from the decision to not comply with Part 195 requirements.”⁴⁵

I find that Respondent probably realized an economic benefit by not removing the work done on the first part of the welding and simply completing the work using a different procedure. However, economic benefit was not considered in the proposed civil penalty. Accordingly, the proposed penalty was not designed to offset any economic benefit, and the penalty should not be mitigated on those grounds.

Good Faith

Respondent contended that it made a reasonable, good-faith interpretation of the pipeline safety welding regulation.⁴⁶

The Violation Report stated, under the “Good Faith” penalty criteria, that “[t]he operator did not make a reasonable interpretation of the requirement.”⁴⁷

When considering the good faith of Respondent in attempting to comply with the pipeline safety regulations, PHMSA looks at whether the operator made a reasonable interpretation of the requirement.” Complying with pipeline safety regulations by removing a welding crew due to a confined space violation is not acting in good faith. The operator is *required* to remove a crew in these circumstances. Respondent’s interpretation that the regulation permitted the mixing of two different welding procedures is not reasonable because neither the welding procedures nor the regulation permitted this conduct. In addition, this compromised the regulations’ safety purpose. To the extent Respondent believed the regulation permitted different welding procedures to be combined along the same seam, Respondent’s interpretation was unreasonable and does not justify reducing the penalty.

In summary, having reviewed the record and considered the assessment criteria for each of the Items cited above, I assess Respondent a total civil penalty of **\$33,100**.

⁴⁴ *Id.*

⁴⁵ Region Recommendation, at 12.

⁴⁶ Response, at 4.

⁴⁷ Violation Report, at 12.

Payment of the civil penalty must be made within 20 days of service. Federal regulations (49 C.F.R. § 89.21(b)(3)) require such payment to be made by wire transfer through the Federal Reserve Communications System (Fedwire), to the account of the U.S. Treasury. Detailed instructions are contained in the enclosure. Questions concerning wire transfers should be directed to: Financial Operations Division (AMK-325), Federal Aviation Administration, Mike Monroney Aeronautical Center, 6500 S MacArthur Blvd, Oklahoma City, OK 79169. The Financial Operations Division telephone number is (405) 954-8845.

Failure to pay the \$33,100 civil penalty will result in accrual of interest at the current annual rate in accordance with 31 U.S.C. § 3717, 31 C.F.R. § 901.9 and 49 C.F.R. § 89.23. Pursuant to those same authorities, a late penalty charge of six percent (6%) per annum will be charged if payment is not made within 110 days of service. Furthermore, failure to pay the civil penalty may result in referral of the matter to the Attorney General for appropriate action in a district court of the United States.

COMPLIANCE ORDER

The Notice proposed a compliance order with respect to Item 1 in the Notice for a violation of 49 C.F.R. § 195.214. Under 49 U.S.C. § 60118(a), each person who engages in the transportation of hazardous liquids or who owns or operates a pipeline facility is required to comply with the applicable safety standards established under chapter 601. Pursuant to the authority of 49 U.S.C. § 60118(b) and 49 C.F.R. § 190.217, Respondent is ordered to take the following actions to ensure compliance with the pipeline safety regulations applicable to its operations:

1. With respect to the violation of § 195.214 (**Item 1**), Respondent must review all welding records associated with BP/Amoco Project, and remove and re-weld welds not made according to a specific, applicable, appropriate qualified welding procedure using properly qualified welders, including the weld performed on March 6, 2015 that is the subject of this violation.

Enbridge must provide PHMSA copies of all of the welding records reviewed, weld maps showing locations of each weld, and documentation of all welds removed and re-welded, including, but not limited to, the qualified welding procedure used, the welder qualification records, the visual inspection records, inspection records showing that the welding was performed according to the essential variables and parameters of the qualified welding procedure, and NDE records showing that no defects were present in the welds greater than allowed by API 1104 (incorporated by reference). The records must be organized so that it is clear to PHMSA which welding records apply to each weld on the weld maps.

2. Documentation demonstrating compliance with Item 1 shall be submitted to PHMSA no later than 30 days from the issuance of the Final Order in this case.

It is requested (not mandated) that Enbridge maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to R.M Seeley, Director, Southwest Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: (1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and (2) total cost associated with replacements, additions and other changes to pipeline infrastructure.

The Director may grant an extension of time to comply with any of the required items upon a written request timely submitted by the Respondent and demonstrating good cause for an extension.

Failure to comply with this Order may result in the administrative assessment of civil penalties not to exceed \$200,000 for each violation for each day the violation continues or in referral to the Attorney General for appropriate relief in a district court of the United States.

Under 49 C.F.R. § 190.243, Respondent has a right to submit a Petition for Reconsideration of this Final Order. The petition must be sent to: Associate Administrator, Office of Pipeline Safety, PHMSA, 1200 New Jersey Avenue, SE, East Building, 2nd Floor, Washington, DC 20590, with a copy sent to the Office of Chief Counsel, PHMSA, at the same address. PHMSA will accept petitions received no later than 20 days after receipt of service of this Final Order by the Respondent, provided they contain a brief statement of the issue(s) and meet all other requirements of 49 C.F.R. § 190.243. The filing of a petition automatically stays the payment of any civil penalty assessed. Unless the Associate Administrator, upon request, grants a stay, all other terms and conditions of this Final Order are effective upon service in accordance with 49 C.F.R. § 190.5.

March 24, 2017

Alan K. Mayberry
Associate Administrator
for Pipeline Safety

Date Issued