Craig O. Pierson
President

**Marathon Pipe Line LLC**

539 South Main Street
Findlay, OH 45840-3229
Direct No. 419/421-4000
Main No. 419/422-2121
Fax 419/421-3125

June 5, 2014

Mr. Wayne T. Lemoi
Director, Office of Pipeline Safety
PHMSA Southern Region
233 Peachtree Street, Suite 600
Atlanta, GA 30303

Subject: Response to Notice of Probable Violation
Proposed Civil Penalty and Proposed Compliance Order
CPF 2-2014-5003

Dear Mr. Lemoi:

I am writing in response to the Notice of Probable Violation (NOPV), Proposed Civil Penalty and Proposed Compliance Order issued by the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA) on May 5, 2014, and received by Marathon Pipe Line LLC (MPL or Marathon) on May 9, 2014.

By submitting this response, MPL contests the violations alleged in the NOPV and submits the following explanations, information and other materials. We believe that these explanations, coupled with MPL's commitment to direct resources toward the continuous improvement of pipeline safety through a research project discussed below, warrant withdrawal of the proposed civil penalty for Item No. 3. With respect to the Proposed Compliance Order, although we contest the violations as alleged, consistent with MPL's letter to you on April 30, 2014, MPL is willing to enter into a consent order containing agreed upon remedial requirements including revised dates for completion as discussed below. MPL does not waive any right, privilege or objection that it may have in any separate or subsequent proceeding related in any way to the information provided in this response.

The NOPV was issued in response to an inspection of MPL's integrity management program conducted on July 9-12, 23-27, 2012 and February 26, 2014. As a follow-up to the 2012 inspection dates, PHMSA sent MPL a letter labeled "Request for Specific Information" (RSI Letter) dated September 11, 2013, which is attached. The NOPV includes four alleged violations and MPL will address each of the violations in the order they are alleged.

1. **§195.452 Pipeline integrity management in high consequence areas.**
   **... (c) What must be in the baseline assessment plan?**
   **(1) An operator must include each of the following elements in its written baseline assessment plan:**
   **(i) The methods selected to assess the integrity of the line pipe. An operator must assess the integrity of the line pipe by any of the following methods. The methods an operator selects to assess low frequency electric resistance welded pipe or lap welded pipe susceptible to longitudinal seam failure must be capable of assessing seam integrity and of detecting corrosion and deformation anomalies.**
   **...(C) External corrosion direct assessment in accordance with §195.588; or**

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PHMSA's Finding

Marathon developed its *Standard MPLMNT 127*[1] *"... to provide a standardized process to successfully plan and execute an ECDA* [External Corrosion Direct Assessment] *project."* But, the written *"ECDA Procedures for Cased Pipe"*[2] (ECDA procedures) contained in the *Standard* did not provide for the use of ECDA in accordance with §195.588.

That is, Marathon developed and used its written procedures in *Standard MPLMNT 127* to complete the baseline integrity management assessment of cased pipe using the ECDA method but the ECDA procedures were not in accordance with §195.588 because they did not follow the requirements of NACE SP0502[3] as follows:

A. Marathon's ECDA procedures did not follow the requirements of NACE SP0502 Section 3.4.1 which states *"The pipeline operator shall select indirect inspection tools based on their ability to detect corrosion activity and coating holidays reliably under the specific pipeline conditions to be encountered."*

   — Section 4.1.4 *(Selection of Indirect Inspection Tools)* of Marathon's ECDA procedures stated, *"Casing test methods are expected to provide information about the electrical status of casings (i.e. metallic or electrolytic short)"* and Section 5.1.1 *(Electrical Test Methods to Verify Casing Isolation)* of Marathon's ECDA procedures stated *"Two or more test methods shall be selected to determine casing electrical isolation."* But, nothing in either section of the ECDA procedures described the ability of the tools to detect corrosion activity and coating holidays reliably for line pipe inside a steel casing.

   — Sections 4.1.4.1 (*Qualitative Tests for Casing Isolation*) and 4.1.4.2 (*Quantitative Tests for Casing Isolation*) of Marathon's ECDA procedures included six test methods - four of which were based on indirect inspection tools listed in NACE SP0502, Section 3.4.1 Table 2. That said, Table 2 in NACE SP0502 (ECDA Tool Selection Matrix) includes five indirect inspection tools which are identified as "Not applicable to this tool or not applicable to this application without additional considerations" for cased piping. But, Marathon's ECDA procedures did not provide additional considerations for the use of these methods to detect corrosion activity and coating holidays reliably on cased piping.

B. Marathon's ECDA procedures did not follow the requirement of NACE SP0502 Section 5 *Direct Examination.* Section 6.1.1 of Marathon's ECDA procedures stated, *"The Direct Examination Step requires excavations to expose the pipe upstream and downstream of the casing then a detailed inspection can be performed."* But Marathon's ECDA procedures did not require the direct examination of the line pipe within casings when required for prioritized indications, or other required direct examinations in the ECDA Region identified as most likely for external corrosion.

*MPL Response to Item No. 1*

*MPL's ECDA Procedures for conducting a baseline assessment were developed in accordance with NACE SP0502, prior to PHMSA's approval of the use of ECDA for assessments of liquid pipelines (Part 195.588). These procedures have been periodically updated with sound*

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[1] Marathon Petroleum Company LLC Standard# MPLMNT127, External Corrosion Direct Assessment (ECDA) for Pipelines

[2] Marathon Petroleum Company LLC Standard# MPLMNT127, Attachment 12.5, ECDA Procedures for Cased Pipe, Pipeline External Corrosion Direct Assessment (ECDA).

[3] NACE SP0502-2008, Standard Practice, "Pipeline External Corrosion Direct Assessment Methodology" (reaffirmed March 20, 2008) is incorporated by reference, see §195.3.

*principles and with the intent of fully complying with the requirements of §195.588. The requirements were scrutinized by industry experts when the procedures were first developed, again after MPL received PHMSA's RSI Letter and yet again following receipt of the above referenced NOPV. Additionally, MPL's ECDA Procedures were previously examined by PHMSA during a 2007 Integrity Management Program inspection.*

*MPL's ECDA Procedures comply with guidance offered in the applicable sections of NACE SP0502, by using indirect surveys to evaluate the condition of piping segments contained in cased crossings. These indirect techniques are supplemented with additional considerations that MPL employs by testing to determine the electrical status of each casing. In the absence of a metallic or electrolytic "short", MPL and industry experience indicates it is reasonable to expect that there is minimal risk of external corrosion of the carrier pipe within the casing.*

*Based upon communications with PHMSA following receipt of the RSI Letter, MPL proactively informed PHMSA's Southern Region Director in a letter dated April 30, 2014, that MPL would no longer rely solely on its ECDA Procedures as an integrity assessment method. That decision was based primarily on MPL's focus on continuous improvement and industry leadership. As an example of such leadership, MPL recently submitted an application to the University of Akron to collaborate with them in a proposed PHMSA sponsored research project intended to develop a methodology for characterizing and quantifying corrosion sites on cased piping based on an AC signal.*

*MPL's commitment to improvement for the future, by discontinuing the application of our ECDA Procedures as a sole method of assessment on cased pipe is not an indication that assessments following that method compromised the safety of the public or environment. We believe now as we did then that by using a consistent risk-based approach, the determination of pipeline integrity was served at all times.*

**2. §195.452 Pipeline integrity management in high consequence areas.**
**... (j) *What is a continual process of evaluation and assessment to maintain a pipeline's integrity?***
**(5) Assessment methods. An operator must assess the integrity of the line pipe by any of the following methods. The methods an operator selects to assess low frequency electric resistance welded pipe or lap welded pipe susceptible to longitudinal seam failure must be capable of assessing seam integrity and of detecting corrosion and deformation anomalies.**
**(iii) External corrosion direct assessment in accordance with §195.588: or**

PHMSA's Finding

Marathon developed its *Standard MPLMNT 127* *"... to provide a standardized process to successfully plan and execute an ECDA* [External Corrosion Direct Assessment] *project."* But, the written *"ECDA Procedures for Cased Pipe"* contained in the *Standard* did not provide for the use of ECDA in accordance with §195.588.

That is, Marathon developed and used its written procedures in *Standard MPLMNT 127* to complete the continual process of evaluation and assessment to maintain a pipeline's integrity (i.e. reassessments) of cased pipe using the ECDA method but the ECDA procedures were not in accordance with §195.588 because they did not follow the requirements of NACE SP0502 as follows:

A. Marathon's ECDA procedures did not follow the requirements of NACE SP0502 Section 3.4.1 which states *"The pipeline operator shall select indirect inspection tools based on their ability to detect corrosion activity and coating holidays reliably under the specific pipeline conditions to be encountered."*

— Section 4.1.4 *(Selection of Indirect Inspection Tools)* of Marathon's ECDA procedures stated, *"Casing test methods are expected to provide information about the electrical status of casings (i.e. metallic or electrolytic short)"* and Section 5.1.1 *(Electrical Test Methods to Verify Casing Isolation)* of Marathon's ECDA procedures stated *"Two or more test methods shall be selected to determine casing electrical isolation."* But, nothing in either section of the ECDA procedures described the ability of the tools to detect corrosion activity and coating holidays reliably for line pipe inside a steel casing.

— Sections 4.1.4.1 (*Qualitative Tests for Casing Isolation*) and 4.1.4.2 (*Quantitative Tests for Casing Isolation*) of Marathon's ECDA procedures included six test methods - four of which were based on indirect inspection tools listed in NACE SP0502, Section 3.4.1 Table 2. That said, Table 2 in NACE SP0502 (*ECDA Tool Selection Matrix*) includes five indirect inspection tools which are identified as "*Not applicable to this tool or not applicable to this application without additional considerations*" for cased piping. But, Marathon's ECDA procedures did not provide additional considerations for the use of these methods to detect corrosion activity and coating holidays reliably on cased piping.

B. Marathon's ECDA procedures did not follow the requirement of NACE SP0502 Section 5 *Direct Examination.* Section 6.1.1 of Marathon's ECDA procedures stated, *"The Direct Examination Step requires excavations to expose the pipe upstream and downstream of the casing then a detailed inspection can be performed."* But Marathon's ECDA procedures did not require the direct examination of the line pipe within casings when required for prioritized indications, or other required direct examinations in the ECDA Region identified as most likely for external corrosion.

*MPL Response to Item No. 2*

*Although Item No. 2 addresses continuous integrity assessments, MPL's response to Item No. 2 is the same as Item No. 1, which is hereby incorporated by reference. See response to Item No. 1 above.*

**3. §195.452 Pipeline integrity management in high consequence areas.**
**... (l) What records must be kept? (1) An operator must maintain for review during an inspection:**
**(ii) Documents to support the decisions and analyses, including any modifications, justifications, variances, deviations and determinations made, and actions taken, to implement and evaluate each element of the integrity management program listed in paragraph (f) of this section.**

PHMSA's Finding

Marathon did not maintain for review during an inspection documents to support the decisions and analyses it made to evaluate its ECDA procedures, which were contained in its *Standard MPLMNT127* and were used to assess the integrity of line pipe in casings.

That is, Marathon did not provide documents to the PHMSA inspector during the inspection to support the decisions and analyses it made to evaluate its ECDA procedures.

*MPL Response to Item No. 3*

*Subsequent to receiving PHMSA's RSI Letter, as a follow-up to the inspection performed during 2012 and in advance of PHMSA's February 26, 2014 inspection, Marathon provided the following documents to PHMSA in a letter dated November 25, 2013.*

- *"Response to PHMSA Request for Technical Justification, Casing ECDA" report, 11/22/2013, Mears Group, Inc.*
- *MPL Standard MPLMNT127 "External Corrosion Direct Assessment (ECDA) for Pipelines" and its referenced attachments as follows.*

| Title | | Title | |
|---|---|---|---|
| IDPR0192 | "ECDA Process Flow Diagram" | IDPR0206 | "On" and "Off" Potential Casing Test Worksheet" |
| IDPR0193 | "Pre-Assessment Process" | IDPR0207 | "Forced Depolarization Casing Test Worksheet" |
| IDPR0194 | "MPL ECDA Data Elements Form" | IDPR0208 | "ECDA Indirect Inspection Severity Classification" |
| IDPR0195 | "Guidelines for Selecting Inspection Techniques" | IDPR0209 | "ECDA Direct Examination and Assessment Procedure" |
| IDPR0196 | "Indirect Inspection Tools for Cased Crossings" | IDPR0210 | "ECDA Direct Assessment Data Collection Form" |
| IDPR0197 | "ECDA Threat Assessment Summary (Example)" | IDPR0211 | "Direct Assessment Test Methods and Appropriate Samples" |
| IDPR0198 | "ECDA Indirect Inspection Plan (Example)" | IDPR0212 | "Linear Polarization Resistance Corrosion Rate Measurements" |
| IDPR0199 | "ECDA Indirect Inspection Project Summary" | IDPR0213 | "MPL Soil Collection & Laboratory Testing Protocol" |
| IDPR0200 | "ECDA Electronic Data Format" | IDPR0214 | "ECDA Reassessment Interval Determination" |
| IDPR0201 | "ECDA Procedures for Cased Pipe" | IDPR0215 | "ECDA Analysis Process Leader" |
| IDPR0202 | "Typical Field Notes" | IDPR0216 | "Project Action Log (PAL)" |
| IDPR0203 | "Casing Inspection Data Sheet" | IDPR0217 | "Process Action Log" |
| IDPR0204 | "Indirect Inspection Tools for Cased Crossings" | IDPR0218 | "ECDA Excavation Summary Template" |
| IDPR0205 | "Static "On" Potential Casing Test Worksheet" | IDPR0219 | "ECDA Project Documentation |

*The information that MPL provided reflect opinions and conclusions from industry leading individuals, associations, and engineering firms that we consider to be sufficiently supportive of our ECDA Procedures. Accordingly, we do not agree that we are in violation and herein request this item be withdrawn along with the associated $24,400 penalty.*

*In the interest of advancing technology for the industry as a whole and for the continuous improvement of pipeline safety, MPL proposes directing resources toward a partnership in a University of Akron research project intended to develop new methodology for characterizing and quantifying corrosion sites on cased piping. As described in the Response to Item No. 1 (above), MPL has submitted an application to the University of Akron, including a monetary commitment to the project at a minimum of $42,858. We encourage PHMSA to approve this project and join with MPL in this commitment to the continuous improvement of pipeline safety.*

4. **§195.588 What standards apply to direct assessment?**
   **... (b) The requirements for performing external corrosion direct assessment are as follows:**
   **(1) *General.* You must follow the requirements of NACE SP0502 (incorporated by reference, see § 195.3). Also, you must develop and implement an External Corrosion Direct Assessment (ECDA) plan that includes procedures addressing pre-assessment, indirect examination, direct examination, and post-assessment.**

PHMSA's Finding

Marathon did not follow the requirements of NACE SP0502 when it used ECDA to assess the integrity of line pipe that could affect a High Consequence Area (HCA).

Marathon performed the baseline assessment of the line pipe that could affect an HCA in the Lebanon Junction Mid-Valley to Lebanon Junction 20" pipeline in 2010 and 2011 using ECDA. But, the Lebanon Junction Mid-Valley to Lebanon Junction 20" pipeline included line pipe in a casing at the pipeline crossing of Highway 61. Marathon did not assess the line pipe in the casing at Highway 61 using ECDA in accordance with NACE SP0502 because Marathon used its "ECDA Procedures for Cased Pipe" contained in its Standard *MPLMNT127* and those ECDA procedures did not meet the requirements of NACE SP0502.

In 2010 and 2011, Marathon conducted the reassessment of the line pipe in the Lima Metering – Lima Tank Farm 22" & 16" and the Lima Metering – Lima Maumee 24"-16" pipelines using ECDA. The Lima Metering – Lima Tank Farm 22" & 16" pipeline included two sections of line pipe in casings at the crossings of Dixie Highway and the B&O Railroad. The Lima Metering – Lima Maumee 24"-16" pipeline also included line pipe in a casing at the crossing of Dixie Highway. Marathon did not assess the line pipe in the casings at the Dixie Highway crossings and the line pipe in the casing at the B&O Railroad crossing using ECDA in accordance with NACE SP0502 because Marathon used its *"ECDA Procedures for Cased Pipe"* contained in its Standard *MPLMNT 127* and those ECDA procedures did not meet the requirements of NACE SP0502.

*MPL Response to Item 4*

*As stated in our response to Items No. 1 and No. 2 above, we believe the implementation of our ECDA Procedures has been effective in assessing the integrity of subjected pipeline segments, thus ensuring safety for the public and the environment. We further believe that our ECDA Procedures comply with the guidance offered in the applicable sections of NACE SP0502 by executing indirect surveys to assess the piping segments contained in cased crossings. The NACE standard indicates that the indirect techniques used by Marathon are "Not Applicable without additional considerations", and Marathon does employ additional considerations.*

*Marathon has done additional testing to assess the electrical status of each casing and has correctly applied actions in accordance with our procedures for cased crossings. The term "additional considerations" used in the NACE standard in no way precludes the use of the techniques used by Marathon and is only intended to offer guidance that additional testing and considerations are required. Furthermore, it is reasonable for Marathon to conclude that absent a metallic or electrolytic "short", it is reasonable to expect that there is minimal risk of external corrosion of the carrier pipe inside a casing.*

*In our letter to PHMSA dated April 30, 2014, MPL informed PHMSA's Southern Region Director that MPL would no longer rely solely on the ECDA Procedures as an integrity assessment method. This commitment to improvement for the future is not an indicator of yesterday's method being deficient. With the support of our industry leading consultants, MPL believes that our consistent risk-based method for assessing cased pipe using our ECDA Procedures was successful in determining the integrity of associated pipelines and that safety of the public and environment was never compromised.*

*MPL Response to Proposed Compliance Order*

*MPL contests the Proposed Compliance Order and requests a Consent Order containing agreed upon remedial requirements and dates for completion. The Proposed Compliance Order includes three items which will be addressed in order.*

PHMSA's Proposed Remedial Requirement No. 1

1. In regard to Item Numbers 1 and 2 of the Notice pertaining to the failure of Marathon to include in its written integrity management procedures for completing baseline assessments and reassessments the use of External Corrosion Direct Assessment (ECDA) in accordance with§195.588, which requires an operator to follow NACE SP0502, Marathon must
    a. Within 120 days of issuance of a Final Order, modify its written integrity management ECDA procedures for completing baseline assessments and reassessments such that the procedures are in accordance with §195.588; and,
    b. Within 60 days of completion of the procedural modifications, make all records, and documentation showing the modification of the plans available for OPS inspection.

*MPL Response to Remedial Requirement No. 1*

*As stated in MPL's April 30, 2014 letter to PHMSA, MPL will no longer solely rely on ECDA as a method to comply with §195.452(c)(1)(i)(C) for cased pipe. We do, therefore, agree to modify our written integrity management procedures for completing baseline assessments and reassessments regarding the use of ECDA. MPL does not have any cased pipe segments due for scheduled integrity assessment, until September 17, 2015; therefore, we request that the due date for modifications to our ECDA procedures be revised to 90 days prior to the next scheduled ECDA assessment (June 17,2015). We will make all records and documentation showing the modification of the plans available for OPS inspection within 60 days of the revised procedures' completion date. This schedule will allow PHMSA adequate time to evaluate MPL's procedure modifications.*

PHMSA's Proposed Remedial Requirement No. 2

2. In regard to Item Number 4 of the Notice pertaining to the failure of Marathon to follow the requirements of NACE SP0502 when it used ECDA to assess the integrity of line pipe that could affect a high consequence area (HCA) in the Lebanon Junction Mid-Valley to Lebanon Junction 20", the Lima Metering-Lima Tank Farm 22" & 16" and the Lima Metering-Lima Maumee 24"-16" pipelines; Marathon must

a. assess the line pipe in casings of the above pipelines in accordance with §195.452(c)(1)(i) or §195.452(j)(5), as appropriate, within 150 days of the issuance of a Final Order,

b. notify the OPS Southern Region of the assessment method(s) to be used and provide the procedures for performing the assessments at least 120 days prior to assessing the line pipe,

c. notify the OPS Southern Region of the planned date(s) for performing each assessment at least 30 days prior to assessing the line pipe,

d. notify the OPS Southern Region when each assessment has been completed; and

e. within 30 days of the completion of each assessment, Marathon must make available for OPS inspection all records and documentation showing the completion of the assessment.

*MPL Response to Remedial Requirement No. 2*

*MPL's position is that the 2010 and 2011 ECDA assessments conducted on the subject cased pipe segments were completed following sound procedures that complied with the regulations, and that public and environmental safety were not compromised. MPL will modify its applicable procedures for completing reassessments and offer that the reassessments for the referenced cased pipe segments will be completed in a scheduled and disciplined fashion. In the case of Lebanon Junction Mid-Valley to Lebanon Junction 20", that segment's next scheduled assessment date is September 18, 2018. The two remaining segments, Lima Metering to Lima Maumee 24"-16", and Lima Metering to Lima Tank Farm 22" are due for reassessment on April 3, 2016 and May 22, 2016. We therefore propose remaining with our current schedule for reassessment of the above-referenced pipeline segments prior to September 18, 2018, April 3, 2016 and May 22, 2016 respectively. MPL agrees to make notification of the assessment method(s) and provide procedures for performing the assessments at least 120 days prior to assessing the line pipe in each of the subject casings. Additionally, MPL will make notification to the OPS Southern Region of the planned date(s) for performing each assessment at least 30 days prior to assessing the line pipe, notify the OPS Southern Region when each assessment has been completed; and within 30 days of the completion of each assessment, Marathon will make available for OPS inspection all records and documentation showing the completion of the assessment.*

PHMSA's Documentation Request

3. It is requested (not mandated) that Marathon maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Wayne T. Lemoi, Director, Southern Region- Office of Pipeline Safety, 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.

*MPL Response to Documentation Request*

*MPL agrees to maintain documentation of the costs associated with fulfilling the remedial requirements of this action's Final Order.*

In summary, MPL contests the alleged violations and offers information in response to each allegation. As a responsible operator, MPL developed comprehensive procedures with the assistance of widely known and respected pipeline corrosion experts; MPL implemented those very procedures in a timely fashion; MPL has never experienced a failure on a cased pipe segment subjected to its ECDA procedures; and MPL had informed PHMSA before the issuance of its May 5, 2014 NOPV that MPL would not continue relying solely on its ECDA procedures for future cased pipe segment assessments. In the matter of Item No. 3, MPL did provide PHMSA with documents supporting its ECDA procedures and requests that the $24,400 Proposed Civil Penalty associated with this item be withdrawn. However, in the interest of continuous improvement of pipeline safety, MPL will contribute nearly double the monetary value of the Proposed Civil Penalty to funding the University of Akron project described above. Regarding the Proposed Compliance Order and based upon MPL's commitment as set forth in its letter to you of April 30, 2014, MPL requests execution of a Consent Order for proposed remedial requirements No. 1 and No. 2, as discussed above.

MPL is committed to partnering with PHMSA, industry peers, educational and research institutes, and others in an effort toward continuous improvement and the advancement of technology for assessment of line pipe within casings. Our partnership is one that should promote cooperation, given the commonality of our desire to protect the public and the environment.

Please contact Randy Bishop at (419) 421-3712, or myself at (419) 421-4000 if you have any questions or wish to discuss these matters further. Thank you in advance for this consideration.

Sincerely,

Craig O. Pierson

Attachments: Request for Specific Information