Enterprise Products

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

July 9, 2014

Mr. Rodrick M. Seeley
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration
Office of Pipeline Safety
8702 S. Gessner, Suite 1110
Houston, Texas 77074

Re: Response and Request for Hearing by Enterprise Products Operating, L.L.C. re Notice of Probable Violation and Proposed Compliance Order No. CPF 4-2014-5006

Dear Mr. Seeley:

Enterprise Products Operating L.L.C. ("Enterprise") is in receipt of the Notice of Proposed Violation and Proposed Compliance Order (collectively, the "Notice") (Docket No. CPF 4-2014-5006) issued it by the Pipeline and Hazardous Materials Safety Administration ("PHMSA") on April 8, 2014. As you know from your recent telephone conversation with Jeff Morton, Enterprise has requested to meet with PHMSA in an effort to resolve this matter amicably before the necessity of proceeding to hearing. However, in order to preserve its legal rights, Enterprise respectfully requests a hearing on the Notice, specifically on Probable Violation Number 1 ("§ 194.214 – Welding procedures") and the Proposed Compliance Order, pursuant to 49 C.F.R. § 190.211. This letter constitutes Enterprise's timely response to the Notice[1] and serves as a statement of issues that Enterprise intends to raise at the hearing.

Accordingly, Enterprise requests that the hearing be held in-person at PHMSA's Southwest Region office in Houston, Texas. Enterprise will be represented by outside counsel at the hearing. Pursuant to 49 C.F.R. §§ 190.209, Enterprise also requests that PHMSA produce its case file and violation report. Finally, Enterprise requests that a court reporter prepare a transcript of the hearing. Enterprise will be glad to arrange for the preparation of the transcript, bear the associated cost, and provide copies of the transcript to PHMSA and the presiding official.

Enterprise takes pipeline safety and the allegations raised in the Notice very seriously, and looks forward to discussing and addressing PHMSA's concerns. Again, Enterprise would be pleased to meet with PHMSA in an effort to resolve this matter without a hearing.

Sincerely,

Graham Bacon
Group Senior Vice President, Operations & EHS&T

[1] By letter dated May 8, 2014, PHMSA granted Enterprise until July 9, 2014 to respond to the NOPV.

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Statement of the Issues & Response to Notice
Notice of Probable Violation and Proposed Compliance Order No. CPF 4-2014-5006

I. Background & Notice

The Notice relates to the procedure for conducting in-service welding. On May 31, 2013, a weld failed on Enterprise's 12-inch Brown Line near Beaverton, Oklahoma during a hot-tapping operation. Subsequent material analysis showed that a crack formed in a circumferential weld and that the filler material contained more chromium than was appropriate. PHMSA inspected and concluded that Enterprise had violated 49 C.F.R. § 195.214 by "fail[ing] to use a welding procedure qualified under Section 5 of API Std. 1104 or Section IX of the ASME Boiler and Pressure Vessel Code."[2]

Specifically, Probable Violation Number 1 identified two ways in which Enterprise's in-service welding procedure did not comply with § 195.214:

1. "[T]he procedure lacked adequate detail when specifying the welding consumables. The welding procedure did not specify the proper alloy designator which ultimately allowed an incorrect weld filler material to be used in the weld that failed on May 31, 2013."
2. "The welding procedure used by Enterprise had been modified, and in making those changes, essential variables were changed and the procedure was not subsequently requalified."

Enterprise agrees with PHMSA's first allegation that the provision of additional detail when specifying welding consumables will enhance its in-service welding procedures and has taken steps to revise them accordingly. But, as described in more detail below, Enterprise disagrees that its in-service procedures are not properly qualified, and respectfully suggests that its method of qualifying such procedures under Appendix B of API 1104 reflects industry best practice and complies with 49 C.F.R. 195.214.

Issues & Response – General Enterprise places the highest priority on safety. Its in-service welding procedures have been rigorously developed by company specialists and outside experts to comply with the highest industry standards and to provide the clearest guidance to welders in the field. Part of Enterprise's commitment to safety is a focus on continuous improvement. Following the Brown Line incident, Enterprise undertook extensive action to assess its practices, including:

- External expert review and assessment of in-service procedures in use at the time of the incident
- Field inspection of previously completed in-service welds

[2] Section §195.214 ("Welding procedures") provides that: "(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)."

  - Positive material identification (PMI) with x-ray fluorescence (XRF) analyzer
  - Wet magnetic particle (MT) inspection
- Welding consumable testing
- Experimental testing
  - Heat input / travel speeds on various pipe diameters
  - Critical variables associated with temper bead welding

Testing indicated that the failure of the weld on the Brown Line resulted from the use of an inappropriate welding consumable. Subsequent inspections of other in-service welds performed in the area and around the same time demonstrated that the use of the inappropriate welding consumable was local, not systemic.

Enterprise also commissioned an expert assessment of the best practice for qualifying in-service welding procedures under API 1104. The assessment, performed by Mr. William Bruce of Det Norske Veritas (U.S.A.), Inc. ("DNV"), concludes that API 1104 does not require in-service procedures to meet the essential variable requirements set forth in Section 5 and in Appendix B. Rather, the industry best practice for qualifying in-service procedures is outlined in Appendix B, with Section 5 playing a supplemental role. The DNV Report is enclosed as Exhibit A.

A. Issue & Response – Welding Consumables

Enterprise concurs with PHMSA that providing additional detail regarding the proper alloy designator when specifying welding consumables will enhance its in-service welding procedures. Consequently, it has qualified new in-service welding procedures for different consumable classifications with the associated alloy designator (i.e. E7018 H4R and E7018-1 H4R). Enterprise requests that PHMSA find that this action satisfies the welding consumables issue raised in the NOPV.

B. Issue & Response – Modification of Procedures and Requalification

This issue arises from ambiguity regarding what modifications should trigger requalification of a welding procedure under API 1104. Part 195 requires the use of a welding procedure qualified in accordance with Section 5 of API 1104, which in turn requires that a procedure be requalified when any of the essential variables provided in Section 5 are changed. Section 5 pertains to new construction, however, and is not intended to cover in-service welding, which is addressed in Appendix B. Thus, the application of Section 5 to qualify an in-service welding procedure can have unintended and contradictory results. Focusing on Section 5 essential variables that are inadequate for in-service welding by themselves (e.g., wall thickness alone without considering the effect of the flowing contents or travel speed alone without considering heat input) ignores the concerns specific to that kind of welding (e.g., hydrogen cracking; burn-through). Such an approach is technically unsound and potentially unsafe.

Enterprise believes that its in-service welding procedures are properly qualified and in compliance with regulation because they meet the requirements set forth in Appendix B, which was specifically written

to govern in-service welding practices. For instance, Enterprise modified its in-service procedures to provide a broader range of travel speeds in order to accommodate realistic field conditions. Because travel speed is an essential variable under Section 5, Enterprise's change arguably triggers the requalification requirement. As a technical matter, however, requalifying an in-service procedure because of a change to travel speed makes no sense when the procedure requires that heat input be controlled. For in-service welds, the critical variable is heat input, which accounts for travel speed and is specifically addressed in Appendix B. Enterprise's qualification of its in-service procedures under Appendix B assures that the procedures are fit for the purpose of welding on pipelines that are in service.

Enterprise does not contend that the Section 5 requirements have no place in the qualification of in-service welding procedures. Rather, they play a supplemental role. Appendix B addresses its relationship with Section 5 directly, stating that: "[t]he procedure qualification requirements for fillet welds in Section 5 should be applied to in-service welds, except for the alternative/additional requirements specified in this appendix." It also provides that: "[f]or in-service welding, where discrepancies exist between this appendix and the main body, the appendix should govern."

These provisions establish that Appendix B is the primary source of guidance regarding in-service welding procedures. Where Section 5 conflicts with Appendix B via specific alternative/additional provisions or where a general discrepancy in application develops between the two, Appendix B governs. In this system, the operator has discretion in the application of procedure qualification requirements from Section 5 to in-service welds, as indicated by the use of "should" rather than "shall" in the language incorporating Section 5 into Appendix B.[3] This distinction between a recommendation and a requirement in the application of Section 5 reflects the technical preference of the American Petroleum Institute ("API") that operators exercise their judgment in developing in-service procedures which are fit for operational purpose and not burdened by additional specifications irrelevant to in-service work.

Enterprise is concerned that PHMSA's position in connection with these issues as stated in the NOPV would have negative implications in the field. In light of that risk, guidance from PHMSA on the application of the regulations will be helpful. First, Enterprise suggests that the qualification of in-service welding procedures under Section 5 alone, without reference to Appendix B, is inappropriate. The focus and intent of the two sections demonstrate that Appendix B provides the correct requirements for in-service welding. Second, Enterprise urges PHMSA to preserve the discretion of the operator in applying Section 5 requirements to the qualification of in-service welding procedures. Wholesale overlap of the provisions violates not only the language of API 1104, which states that

[3] The API provides specific guidance on the meanings of shall and should in its publications. The API Procedures for Standards Development (2011) states: "The use of "shall" and "should" in API standards convey the following meaning[:] Shall: As used in a standard, "shall" denotes a minimum requirement in order to conform to the standard. Should: As used in a standard, "should" denotes a recommendation or that which is advised but not required in order to conform to the standard."

Appendix B should govern in-service welding questions where there are discrepancies between itself and Section 5, but also its functionality. Unintended consequences of an approach that mandates strict overlap of Section 5 and Appendix B will include the diminishment of operator discretion, the necessity of qualifying large numbers of narrowly applicable welding procedures (e.g., qualifying procedures for base material strength groupings and carbon equivalent level groupings), and ensuing confusion and difficulty of use in the field.

C. Proposed Compliance Order

The Proposed Compliance Order requires that Enterprise provide a copy of its revised in-service welding procedures and subsequent procedure requalification records to PHMSA for review. As discussed above, Enterprise has revised its in-service procedure to require greater specificity regarding welding consumables but has not re-qualified the procedure to meet the requirements of both Section 5 and Appendix B. As an offer of compromise, Enterprise respectfully requests that the Proposed Compliance Order be modified to require Enterprise to provide only a revised in-service welding procedure that provides greater specificity regarding the choice of welding consumables and not require an in-service welding procedure to be requalified under all of the essential variables of Section 5 and Appendix B.

II. Conclusion

Enterprise looks forward to working with PHMSA to resolve the issues raised in the Notice and to assure continuous improvement of safe pipeline operations. Enterprise will be prepared to provide more detailed information about the issues presented above during the hearing, but also respectfully requests to meet with PHSMA and pursue a resolution before the hearing occurs.