

October 3, 2014



Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation
8701 South Gessner, Suite 1110
Houston, TX 77074

Attn: Mr. Rod Seeley
Director, Southwest Region, PHMSA

Re: Notice of Amendment CPF 4-2014-5019M
Warning Letter CPF 4-2014-5018W
ATEX, Seaway Loop, and Western Expansion III Construction Projects
Enterprise Products Operating LLC ("Enterprise")

Dear Mr. Seeley,

Enterprise is in receipt of the above referenced "Notice of Amendment" (NOA) and "Warning Letter" dated August 12, 2014. This letter constitutes Enterprise's timely response to the NOA.

Enterprise is committed to ensuring that our Engineering Standards & Specifications are technically accurate and effective for their intended use. As such, periodic reviews and revisions, if applicable, are conducted as part of a continuous improvement program. Subsequent to the concerns raised during the PHMSA inspection, Enterprise initiated stakeholder meetings to review Enterprise Engineering Standard 7002 Protective Coatings - Below Ground Steel Surfaces - Field Applied (STD.7002) and have revised accordingly to provide clarity.

NOA Item 1:

§195.202 Compliance with specifications or standards.

Each pipeline system must be constructed in accordance with comprehensive written specifications or standards that are consistent with the requirements of this part.

The Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings Below Ground Steel Surfaces-Field Applied, Sec. 3.4.2(f) Liquid Coatings is confusing and fails to include the process details provided to PHMSA in an email.

During the inspection of the construction projects, Enterprise provided PHMSA a clarification of STD.7002 in the form of an email that stated,

"STD 7002 - Protective Coatings - Below Ground Steel Surfaces - Field Applied Topics Clarified:

Durometer measurements (Shore D hardness) shall be performed before handling or backfilling the material. A shore D reading of 80 shall be achieved to ensure an adequate mixing ratio was used and proper cure of the material is achieved. The Shore D test shall be performed over the abraded tie-in area to ensure a non-destructive test."

PHMSA reviewed Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings - Below Ground Steel Surfaces-Field Applied, Sec. 3.4.2(i) Liquid Coatings, Rev. 2, dated May 2013, which states:

"Coating shall be allowed to cure adequately before the structure is handled or backfilled. Wet and dry film thickness and hardness shall be in accordance with manufacturer's recommendations."

Enterprise must amend the Enterprise Engineering Standards & Specifications, STD.7002 to accurately detail the procedure that Enterprise relies upon with respect to the hardness of the field applied coating used.

Enterprise Response to NOA Item 1:

Enterprise has amended Section 3.4.2(f) of STD.7002 to specify that the Shore D Hardness Test shall be conducted to determine if the coating is ready for handling and backfilling. The revised STD.7002 dated October 2014 is attached and Section 3.4.2(f) is now Sections 3.4.2(1) & (2) which states:

- (1) Coating shall be allowed to cure adequately before the structure is handled or backfilled. Not following the manufacture recommendations may cause severe immediate degradation of the newly applied coating.
- (2) Time interval between application and backfill shall be controlled within the limits recommended by the coating supplier. The non-destructive test method that shall be periodically conducted to determine if the coating is backfill ready is the Shore D Hardness Test as referenced in NACE RP-0105 Liquid-Epoxy Coatings for External Repair, Rehabilitation, and Weld Joints on Buried Steel Pipelines Section 7.2.5.4.2. Minimum Shore D hardness requirements shall be as indicated in Tables 8.2 and 8.3 of this standard."

NOA Item 2:

§195.202 Compliance with specifications or standards.

Each pipeline system must be constructed in accordance with comprehensive written specifications or standards that are consistent with the requirements of this part.

The Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings - Below Ground Steel Surfaces-Field Applied, Sec. 5.2.1(3)(b) Repairs to Single-Layer Fusion-Bonded Epoxy makes reference to a section of STD.7002 that is non-existent.

PHMSA reviewed Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings Below Ground Steel Surfaces-Field Applied, Sec. 5.2.1(3)(b) Repairs to Single-Layer Fusion-Bonded Epoxy, dated May 2013 which states:

"Large area defects (not to exceed requirements set out in Section 4.9 of this standard) shall be repaired with liquid epoxy ..."

Section 4.9 does not exist in the standard. Enterprise must amend the Enterprise Engineering Standards & Specifications, STD.7002 to eliminate the reference error.

Enterprise Response to NOA Item 2:

Enterprise has amended Section 5.2.1(3)(b) of STD.7002 by correcting the reference to Section 4.9 with Section 5.2.1(1)(a). Section 5.2.1(3)(b) is now Section 5.2.1(2)(a) due to formatting changes which states:

"Coating defects exceeding the dimensions outlined in Section 5.2.1(1)(a) shall be repaired with liquid epoxy."

NOA Item 3:

§195.202 Compliance with specifications or standards.

Each pipeline system must be constructed in accordance with comprehensive written specifications or standards that are consistent with the requirements of this part.

The Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings-Below Ground Steel Surfaces-Field Applied, Sec. 5.2.1(3)(e) Repairs to Single-Layer Fusion-Bonded Epoxy makes reference to a section of STD.7002 that is non-existent.

PHMSA reviewed Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings - Below Ground Steel Surfaces-Field Applied, Sec. 5.2.1(3)(e) Repairs to Single-Layer Fusion-Bonded Epoxy, dated May 2013 which states:

"Liquid epoxy shall be prepared for application in accordance with Section 4.5.1 of this standard"

Thus, §5.2.1(3)(e) references Section 4.5.1, but Section 4.5.1 does not exist in the standard. There is a section 4.5(1) that addresses Cure Time, not Preparation for Application.

Enterprise must amend the Enterprise Engineering Standards & Specifications, STD.7002 to eliminate the reference error.

Enterprise Response to NOA Item 3:

Enterprise has amended STD.7002 by identifying the incorrect section reference of 4.5.1 and correctly identifying it as Section 4.4.1 for Recoat Coating Applications. Additionally, the content was added to Section 5.1, items (2) through (7) for Minor Coating Repairs (Patching). By incorporating this referenced information into Section 5, Enterprise removed Section. 5.2.1(3)(e) as the reference is no longer necessary.

NOA Item 4:

§195.202 Compliance with specifications or standards.

Each pipeline system must be constructed in accordance with comprehensive written specifications or standards that are consistent with the requirements of this part.

The Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings - Below Ground Steel Surfaces-Field Applied, Sec. 2.2(8) General and Sec. 3.3.3(6) Liquids over mill applied ARO liquids (SPC 2888 and Powercrete J products only) conflict with statements in each.

PHMSA reviewed Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings - Below Ground Steel Surfaces-Field Applied, Sec. 2.2(8) General, dated May 2013 which states,

"For liquid epoxies,... Each gauge reading shall be at least 100 percent of the specified minimum thickness and less than 120 percent of the specified maximum ... "

Enterprise Engineering Standards & Specifications, STD.7002, Protective Coatings-Below Ground Steel Surfaces-Field Applied, Sec.STD.7002, 3.3.3(6) Liquids over mill applied ARO liquids (SPC 2888 and Powercrete J products only), dated May 2013 states, "Contractor shall apply liquid coatings ... The ARO should achieve a minimum of 20 mils and a maximum of 50 mils dry-film thickness, or more appropriately, match the total mill-applied coating thickness."

Section 2.2(8) and Section 3.3.3(6) contain statements that conflict with each other. Section 3.3.3(6) states that the maximum thickness is 50 mils for field applied liquid epoxies. Section 2.2(8) states the maximum thickness of the field applied coating should be less than 120% of the maximum or 60 mils. Thus, when the mill applied coating is 50 mils, the field applied coating can be a value greater than 50 mils and less than 60 mils DFT. Therefore, the "maximum" permitted by §3.3.3(6) can be exceeded by use of §2.2(8).

Enterprise must amend the Enterprise Engineering Standards & Specifications, STD. 7002 to eliminate the conflicting statements.

Enterprise Response to NOA Item 4:

Enterprise has amended Section 3.3.3(6) of STD.7002 by deleting the sentence below to eliminate the conflict with Section 2.2(8):

“The ARO should achieve a minimum of 20 mils and a maximum of 50 mils dry film thickness, or more appropriately, match the total mill applied coating thickness.”

Section 2.2(8) now states,

“Each gauge reading shall be at least 100 percent of the specified minimum thickness and less than 120 percent of the specified maximum.”

Safety Improvement Costs:

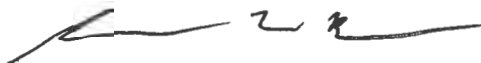
It is requested (not mandated) that Enterprise Crude Pipeline LLC maintain documentation of safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to R. M. Seeley, Director, SW Region, Pipeline and Hazardous Materials Safety Administration.

Enterprise is hereby providing the safety improvement costs as requested:

Description	Total Cost
Costs associated with preparation/revision of plans and procedures	\$ 25,000

Although the above response is in specific reference to the NOA Items 1-4, Enterprise believes that the Warning Letter Items 1-4 have also been addressed in these revisions. Should you have any questions, require further information in connection with the above or wish to discuss this matter in greater detail, please do not hesitate to contact our office. Enterprise welcomes the opportunity to discuss this response with PHMSA to further clarify our perspective.

Sincerely,



Graham W. Bacon
Group Sr. Vice President, Operations and EHS&T

Attachment