Enterprise Products

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS GP, LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING, LLC

May 30, 2013

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

Attn: Mr. R. M. Seeley
Director, Southwest Region, PHMSA
Via email: rodrick.m.seeley@dot.gov
Via FedEx

Re: CPF No. 4-2013-5012M
Notice of Amendment
Enterprise Products Operating LLC ("Enterprise")

Dear Mr. Seeley,

Enterprise is in receipt of the above referenced Notice of Amendment (NOA) dated May 1, 2013. This letter serves as Enterprise's response to the NOA.

NOA Items 1 – 4:

Prior to receipt of NOA Items 1 – 4, Enterprise had revised the subject procedures to address findings during the subject inspection; PHMSA has reviewed and found these revisions to be adequate.

NOA Item 5:

§195.573 What must I do to monitor external corrosion control-

(a) Protect pipelines. You must do the following to determine whether cathodic protection required by this subpart complies with §195.571:

(2) Identify not more than 2 years after cathodic protection is installed, the circumstances in which a close-interval survey or comparable technology is practicable and necessary to accomplish the objectives of paragraph 10.1.1.3 of NACE SP 0169 (incorporated by reference, see § 195.3).

Enterprise O&M Procedure, CPP-CIS-02 (Close-Interval Survey Consideration Procedure) is inadequate that it does not establish the sound engineering justification and/ or a standard method for identifying the circumstances in which a Close-interval Cathodic Protection Potential Survey (CIS) or comparable technology is practicable and necessary for hazardous liquid pipelines.

Enterprise has been using a CIS consideration algorithm in the past several years in order to evaluate the practicality and necessity of a close-interval survey or

comparable technology. During the inspection in 2012, PHMSA revealed that the CIS consideration algorithm program was not described in details in their O&M procedure. When questioned, Enterprise included the details of the algorithm on February 4, 2013, and submitted it to PHMSA. By going through algorithm development, the process, weighting factors, variable inputs, and the values of variable inputs, PHMSA found all the factors, variable inputs and its values inconsistent that does not establish a sound engineering practice.

According to CPP-CIS-02 (Close-Interval Survey Consideration Procedure), Section 4.5.2 "CIS is determined to be necessary and practicable if the results of the algorithm (P&N Score) are ≥ 25. This score has been chosen through the comparison of the algorithm results with practical field knowledge and experience."

PHMSA notes that the score (25) of algorithm (P&N Score) result is so high that if considering a segment with poor coating, visible holidays, poor P/S readings, poor IRF readings, HCAs, leaks and other variable inputs with minimum values or zero in the algorithm formula, the total output of the algorithm consideration (P&N Scores) does not qualify the CIS practicality.

Enterprise must amend the O&M Procedure, CPP-CIS-02 (Close-Interval Survey Consideration Procedure) to reflect the CIS consideration algorithm to an acceptable sound engineering method for identifying the circumstances in which a close-interval cathodic protection potential Survey (CIS) or comparable technology is practicable and necessary for hazardous liquid pipelines.

Enterprise Response to NOA Item 5:

Enterprise objects to and contests this NOA Item 5. Enterprise objects first to PHMSA's statement that "Enterprise's procedure, CPP-CIS-02 (Close-Interval Survey Consideration Procedure) is inadequate that it does not establish the sound engineering justification and/or a standard method for identifying the circumstances in which a close-interval cathodic protection potential survey (CIS) or comparable technology is practicable and necessary for hazardous liquid pipelines." From Enterprise's viewpoint, PHMSA did not state a definition or standard for "sound engineering practice," yet nonetheless, measuring Enterprise's procedure against an unstated, and therefore arbitrary, yardstick. Enterprise asserts that the following discussion sets forth a relevant definition of "sound engineering practice"; describes the expertise and experience applied to development of said procedure and thus Enterprise's fulfillment of that standard; and provides evidence that the subject procedure in fact successfully identifies pipeline segments for which CIS is practicable and potentially necessary.

As incorporated by reference in 49 CFR 195, NACE SP0169-2007 defines sound engineering practice as:

> "Sound Engineering Practices: Reasoning exhibited or based on thorough knowledge and experience, logically valid and having technically correct premises that demonstrate good judgment or sense in the application of science."

Enterprise's staff, which is responsible for the creation and maintenance of the CPP-CIS-02 procedure, has approximately 200 years combined experience (25 years average individual experience) and possesses formal education in the field of corrosion prevention. These same staff members also possess high levels of certification through

the National Association of Corrosion Engineers or are Registered Professional Engineer(s). This thorough knowledge and experience was paramount in the development of the subject procedure. Presently in our industry, there is no generally accepted "standard method" for identifying the circumstances in which a close-interval cathodic protection potential survey (CIS) or comparable technology is practicable and necessary for hazardous liquid pipelines. In fact, standardization of technique and achievement of thorough evaluation are the underpinnings of the CPP-CIS-02 procedure. To demonstrate the effectiveness of CPP-CIS-02, it should be noted that Enterprise conducted over 3,000 miles of close interval survey in 2012 as a result of utilizing the CPP-CIS-02 procedure. Enterprise also recoated over 78,000 feet of pipe and installed 239 impressed current cathodic protection systems, much of which resulted from the evaluation of the close interval surveys determined practicable and necessary through the utilization of the CPP-CIS-02 procedure. Furthermore, in 2013, Enterprise is scheduled to conduct approximately 4,000 miles of close interval survey, recoat approximately 155,000 feet of pipe, and install over 300 impressed current cathodic protection systems, much of which is a direct result of the utilization of the CPP-CIS-02 procedure.

Enterprise objects, second, to PHMSA's statement that "By going through algorithm development, the process, weighting factors, variable inputs, and values of variable inputs, PHMSA found all factors, variable inputs and its values inconsistent that does not establish a sound engineering practice." It is noted that PHMSA has provided no technical or factual basis justifying said statement; therefore, such statements can only be considered as un-supported opinions.

Enterprise objects, third, to PHMSA's statement that "PHMSA notes that the score (25) of algorithm (P&N Score) result is so high that if considering a segment with poor coating, visible holidays, poor P/S readings, poor IRF readings, HCAs, leaks and other variable inputs with minimum values of zero in the algorithm formula, the total output of the algorithm consideration (P&N Scores) does not qualify the CIS practicality." The statement is not supported by any fact. Further, the statement is conclusory in that no discussion, no technical basis, and no analysis is presented to support the conclusion that the procedure "does not qualify the CIS practicality."

Enterprise emphasizes that the subject algorithm was created as, must be, and is used as an integrated unit that utilizes ALL inputs and not merely the individual, "select" inputs identified in PHMSA's aforementioned statement. The comprehensive set of inputs to the algorithm are relational in nature, and the example used in PHMSA's statement utilizes only a portion of the inputs and assumes a zero or low value for the others. The algorithm is not intended to be, and is not, used in that manner, and by using only a portion of the inputs or using artificially low values, the algorithm is misapplied and reaches an artificial outcome that would not occur in practice. As previously stated above, standardization and thorough evaluation are the foundations of the CPP-CIS-02 procedure. As the procedure and associated algorithm clearly demonstrate, a thorough evaluation is achieved via the inclusion of ALL inputs, but is not yielded by utilizing only select ones as suggested in PHMSA's statement. The P&N score of ≥ 25 was chosen through comparison of the algorithm results with practical field knowledge and experience, with the result that the algorithm functions by utilizing all inputs to reach meaningful and technically supported outcomes. If Enterprise were to use only the inputs identified in PHMSA's statement, and thus conduct a less thorough evaluation, then the entire procedure, algorithm, weighting factors and input scores would have been adjusted, to align with practical field knowledge and experience, and a different total P&N score would have resulted.

On the basis of the foregoing discussion, Enterprise respectively submits that the subject procedure fulfills the technical requirement, and the intent, of the subject regulation, and, as such, the procedure is adequate. No amendment to the O&M procedure, CPP-CIS-02 (Close-Interval Survey Consideration Procedure) should be required. Enterprise further requests that, on the basis of the foregoing, PHMSA withdraw NOA Item 5.

NOA Item 6:

§195.575 Which facilities must I electrically isolate and what inspections, tests, and safeguards are required?

(a) You must electrically isolate each buried or submerged pipeline from other metallic structures, unless you electrically interconnect and cathodically protect the pipeline and the other structures as a single unit.

Enterprise O&M Procedure, CP 14 (Testing for the electrical Isolation of Casings), revised on October 21, 2008, does not reflect the plan of action for shorted casings. A plan of action needs to be developed whenever electrolytic and/or metallic shorted casings are identified. The plan of action should be initiated within six months of completion of a survey.

Procedure CP-14 describes several testing procedures to identify whether the casing is shorted or not. But the testing procedure does not include a plan of action by the operator. The testing procedure identifies whether there is a shorted casing, but the procedures do not go into detail of what type of short exists and what action is to be taken to clear the short.

Enterprise must amend their O&M procedure, CP-14 (Testing for the Electrical Isolation of Casings) to include a plan of action to be taken for clearing the shorted casings.

Enterprise Response to NOA Item 6:

Enterprise objects to and contests this NOA Item 6 and offers the following comments and information in effort to resolve the stated allegations of NOA Item 6.

The various, progressive, steps of a plan of action to address "electrolytic and/or metallic" shorted casings are identified within the Company's O&M manual, Section 1501, Page 6, as attached, hereto, which states: "*If the test determines that a short does exist, the shorted casings vents shall be checked with a gas detector for signs of leakage at least twice each calendar year, but with intervals not exceeding 7-1/2 months until the short is cleared, the casing is filled with a corrosion inhibitor, or the casing is removed/replaced. If the test indicates that a short does not exist, annual monitoring of pipe to soil versus casing to soil potentials for any changes from previous year's survey will be sufficient.*" Enterprise notes that Section 1501 of the O&M manual also references CP14 Testing for the Electrical Isolation of Casings. Section 1501 of the O&M manual was provided to the Inspector at the time of the audit, yet it is neither acknowledged nor discussed in the NOA nor in the underlying Violation Report.

Additionally, the subject procedure, CP14 Testing for the Electrical Isolation of Casings, does, in fact, contain a section that provides for a plan of action for whenever

"electrolytic and/or metallic" shorted casings are identified. While this procedure is specific in nature for testing to determine the existence of an electrical short between the carrier pipe and the casing, it nonetheless includes the following:

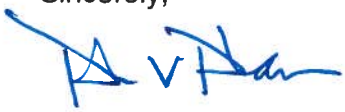
> *6 Documentation*
> *6.1 All test results should be recorded on the Company Electrical Isolation Test Form. All records must be maintained in the appropriate Company database.*
> *6.1.1 If the casing is shown as newly shorted by the Panhandle Eastern test, Operations will be notified and the casing should be reported as a deficiency within two weeks of discovery. An attempt to clear the shorted casing may be made. The casing/pipe annulus may be filled with high dielectric casing filler, or the shorted casing vents shall be monitored with leak detection instruments as specified in the Company O&M Manuals.*
> *6.1.2 If the casing has previously shown as shorted by the Panhandle Eastern test, and the difference between the pipe-to-soil and casing-to-soil potentials remains the same or decreases, then annual monitoring of pipe to soil versus casing to soil potentials for any changes from previous year's survey results will be sufficient and the casing should be indicated as shorted.*
> *6.1.3 If the casing has previously shown as clear by the Panhandle Eastern test, and the difference between the pipe-to-soil and casing-to-soil potentials remains the same or increases, then annual monitoring of pipe to soil versus casing to soil potentials for any changes from previous year's survey results will be sufficient and the casing should be indicated as clear."*

Enterprise notes further that NOA Item 6 asserts that a "plan of action needs to be developed" and "initiated within six months of completion of a survey"; however, neither the NOA nor the Violation Report identifies any regulation; cites any precedent; nor provides any technical analysis or discussion in support of such assertion.

Based upon the foregoing discussion, Enterprise respectfully submits that its procedural manual does in fact provide for a plan of action to address shorted casings, and fulfills the intent of the subject regulation, and, therefore, Enterprises procedures are adequate to fulfill the technical requirements, and the intent, of the subject regulation. As such, no further action to amend the O&M procedure, CP-14 (Testing for Electrical Isolation of Casings) is required at this time, and NOA Item 6 should be withdrawn.

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,



Phu V. Phan
Senior Director, Transportation Compliance

Attachment