



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

ENTERPRISE PRODUCTS OPERATING LLC

VIA ELECTRONIC MAIL TO: bryan.lethcoe@dot.gov

March 14, 2023

Attn: Mr. Bryan Lethcoe
Director, Office of Pipeline Safety – Southwest Region
Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation
8701 S. Gessner, Suite 630
Houston, TX 77074

Re: CPF 4-2022-062-NOPV

Dear Mr. Lethcoe,

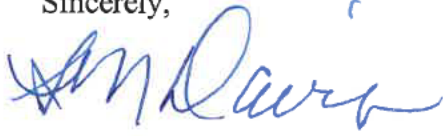
Enterprise is in receipt of the above referenced Document Request received via email on December 14, 2022 as a follow up to PHMSA's inquiries of the CPF 4-2022-062-NOPV. PHMSA requested "unredacted, downloadable and printable" copies of these documents.

Enterprise has determined that our method of providing information to PHMSA through a viewing portal is necessary to protect our company's interests in light of PHMSA's 2017 issuance of new 49 C.F.R. § 190.343. The rule states that, for information an operator submits to PHMSA, the agency "may make that information publicly available unless you [the operator] ask that we keep the information confidential," and requires that an unredacted copy of confidential information be provided (marked "confidential") along with a redacted version and an explanation of why the information is considered confidential.

The information being requested by PHMSA contains confidential information including: trade secrets, proprietary, and/or confidential information exempt from public disclosure under the Freedom of Information Act (FOIA), 5 U.S.C. § 552(a). This material also contains Sensitive Security Information ("SSI") as defined in 49 C.F.R. Part 1520. As such, the USDOT/PHMSA may be considered a "covered person" under the SSI regulation and may have additional obligations under federal law to protect this information from unauthorized disclosure.

Enterprise welcomes the opportunity to work with PHMSA in the safe operations of our pipeline systems. Thank you in advance for your understanding and do not hesitate to contact me should you require additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Suzie M. Davis". The signature is fluid and cursive, with a large initial "S" and "M".

Suzie M. Davis
Senior Manager, Transportation Compliance



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Pipeline and Hazardous Materials Safety Administration
U.S. Department of Transportation
8701 S. Gessner, Suite 630
Houston, Texas 77074

Attn: Bryan Lethcoe
Director, Southwest Region, OPS, PHMSA

Re: CPF 4-2022-062-NOPV
Notice of Probable Violation and Proposed Compliance Order
Enterprise Products Operating, LLC

Dear Mr. Lethcoe,

Enterprise Products Operating LLC (Enterprise or the Company) is in receipt of the above referenced Notice of Probable Violation (NOPV) and Proposed Compliance Order (PCO) dated December 14, 2022 and PHMSA's January 13, 2023 letter granting Enterprise a response-time extension to March 14, 2023. Accordingly, this letter constitutes Enterprise's timely response.

NOPV 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.

Enterprise failed to construct each pipeline system in accordance with comprehensive written specifications or standards that are consistent with the requirements of Part 195 in accordance with § 195.202. Specifically, Enterprise failed to follow its written procedure, Engineering Standard 8501 (STD.8501), Bolt Torquing and Flange Assembly (May 2021), Section 7.0 Material, which states that "the minimum acceptable length of bolt shall be full nut engagement after initial tightening."

Bolts on flanges at the following eight locations were observed to be either flush or recessed: Ponderosa Junction, MP 8 Valve Site, Hobbs Pump Station, Conway Pump Station, Willowbrook Pump Station, Langdon Pump Station, Hutchinson Pump Station, and Coffeyville Pump Station. At these locations, PHMSA observed bolts that failed to have the minimum acceptable length such that full nut engagement was not achieved in the nut on both ends, contrary to Enterprise's procedures.

After the conclusion of PHMSA's inspection, Enterprise provided bolt-flange assembly records to indicate it fixed the improperly installed bolts at four of the eight locations: Ponderosa Junction (5/11/2022), Conway Pump Station (6/15/2022), Langdon Pump Station (8/1/2022), and the Hutchinson Pump Station (5/18/2022). Enterprise did not

provide any records for the MP 8 Valve Site, Hobbs Pump Station, Willowbrook Pump Station, and the Coffeyville Pump Station.

Therefore, Enterprise failed to construct each pipeline system in accordance with comprehensive written specifications or standards that are consistent with the requirements of Part 195 in accordance with § 195.202.

Enterprise Response to NOPV Item 1:

Following the field inspection with PHMSA Enterprise completed the improperly installed bolts at MP 8 Valve Site, Hobbs Pump Station, Willowbrook Pump Station, and the Coffeyville Pump Station. Attachment Item #1-A represents the records for the bolt-flange assembly at the listed locations.

NOPV Item 2:

§ 195.262 Pumping Equipment.

(a)

(d) Except for offshore pipelines, pumping equipment must be installed on property that is under the control of the operator and at least 15.2 m (50 ft) from the boundary of the pump station.

Enterprise failed to install pumping equipment at least 15.2 m (50 ft) from the boundary of the pump station in accordance with § 195.262(d). Specifically, Enterprise failed to install pumping equipment at least 50 feet from the boundary of the pump station at the Coffeyville pump station (37' from the boundary on N side; 48' from the boundary on the S side), Bushton pump station (17'2" from the boundary on the S side; 34' from the boundary on the E side), and Newton pump station (23' from the boundary on the E side).

Therefore, Enterprise failed to install pumping equipment at least 15.2 m (50 ft) from the boundary of the pump station in accordance with § 195.262(d).

Enterprise Response to NOPV Item 2:

Enterprise has or is in process of addressing each of the pump installation concerns listed. The pump at Coffeyville Station is no longer needed and was removed the week of March 1st eliminating the boundary concern. Enterprise completed a land survey at Newton and Bushton pump stations, and plans are in place to relocate the fence at both locations so that the pumping equipment is 50 feet or more from the boundary of the pump station. Estimated completion of this is mid-year 2023. Enterprise is acquiring additional property at Bushton Station. Once the property has been acquired the fence will be relocated to the appropriate 50 feet or more boundary.

NOPV Item 3:

§ 195.412 Inspection of rights-of-way and crossings under navigable waters.

(a) Each operator shall, at intervals not exceeding 3 weeks, but at least 26 times each calendar year, inspect the surface conditions on or adjacent to each pipeline right-of-way. Methods of inspection include walking, driving, flying or other appropriate means of traversing the right-of-way.

Enterprise failed to inspect the surface conditions on or adjacent to each pipeline right-of-way using an appropriate method of inspection in accordance with § 195.412(a). Specifically, PHMSA discovered that Enterprise's aerial patrols failed to detect overgrown vegetation and overhead growth of trees at four right-of-way (ROW) locations: Eunice Valve Site (87828), east and west of Highway 214 at milepost 16 (2414), and milepost 62.5 (2414). Highway 214 is in a high consequence area near Denver City, Texas.

Enterprise provided pictures showing that it cleared the overgrown vegetation for milepost 62.5, east of Highway 214, and the Eunice Valve Site. Enterprise is currently working with the landowner to remediate the overhead growth of trees over the ROW west of Highway 214.

Therefore, Enterprise failed to inspect the surface conditions on or adjacent to each pipeline right-of-way using an appropriate method of inspection in accordance with § 195.412(a).

Enterprise Response to NOPV Item 3:

Enterprise cleared the tree branches that extended over the ROW at Highway 214 near Denver City, Texas, see attachment Item #3-A .

NOPV Item 4:

§ 195.420 Valve maintenance.

(3) Each operator shall maintain each valve that is necessary for the safe operation of its pipeline systems in good working order at all times.

Enterprise failed to maintain each valve that is necessary for the safe operation of its pipeline systems in good working order at all times in accordance with § 195.420(a) and its procedures.

During the field inspection, PHMSA observed leaking valve plugs and valve stems at the following locations: Mocane Station on the 6" SN 106717-4 and 10" SN BM200041 pipelines, Milepost 5 on the 10" pipeline, Skellytown Station on the 8" pipeline, at MP 196 on the 10" pipeline, Valve SN 5797 at Tulia Station, at MP 134 on the 10" pipeline, and at MP 43 on the 10" pipeline.

Therefore, Enterprise failed to maintain each valve that is necessary for the safe operation of its pipeline systems in good working order at all times in accordance with § 195.420(a) and its procedures.

Enterprise Response to NOPV Item 4:

Enterprise performed maintenance work on the noted valves and stopped the leak. Records of maintenance work was provided to PHMSA on July 14, 2022, attachment Item #4-A.

NOPV Item 5:

§ 195.402 Procedural manual for operations, maintenance, and emergencies.

(3) General. Each operator shall prepare and follow for each pipeline system a manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to ensure that the manual is effective. This manual shall be prepared before initial operations of a pipeline system commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.

Enterprise failed to follow its manual of written procedures for conducting valve inspections and maintenance in accordance with § 195.402(a). Specifically, Enterprise failed to note on its inspection documents if each valve was remotely or manually operated.

Enterprise's procedures, Operations and Maintenance Procedures, L1303 Valve Inspection and Maintenance (03/09/2020), Section 5 Valve Inspection, Section 5.6.2., state that valve inspection documentation must note "whether the valve is remotely or manually operated." The inspection documentation for the following locations failed to include this required information: Conway, Hobbs Area East, Skellytown, and South Leg.

Therefore, Enterprise failed to follow its manual of written procedures for conducting valve inspections and maintenance in accordance with § 195.402(a).

Enterprise Response to NOPV Item 5:

Enterprise uses a maintenance program to document required inspections and track maintenance. More specifically a Quality Plan provides instructions on how the inspection report is filled out and the options available to document each inspection. Enterprise will continue to provide proper training to field technicians to ensure that valve inspection reports are completed accurately.

NOPV Item 6:

§ 195.452 Pipeline integrity management in high consequence areas.

(a)

(f) What are the elements of an integrity management program? An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1)

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure;

Enterprise failed to integrate all available information about the integrity of the entire pipeline in accordance with § 195.452(f)(3) and its integrity management program. Specifically, Enterprise's risk report contained inaccurate information about the Coffeyville facility.

PHMSA reviewed the Facility Integrity Management Program Current Risk Report for the Coffeyville Facility and found numerous instances of the report containing inaccurate information, such as equipment quantity, atmospheric coating conditions, security, staffing, and complexity factor. Each of these are data integration factors used in the determination of the facility risk score. The data from the risk report did not match the data from the Facility Evaluation Questionnaires provided by Enterprise's Corrosion Prevention, Operations, and Pipeline Control office. PHMSA reviewed the Facility Risk Analysis Procedure and also found that the determination of the complexity factor for the Coffeyville and El Dorado facilities did not match the table in the 2014 procedure. Specifically, both facilities had a complexity factor below 2.0 but the 2014 procedure requires a complexity factor of 2.0 or greater if the facility has a pump or launcher. Coffeyville and El Dorado both have at least one launcher.

Therefore, Enterprise failed to integrate all available information about the integrity of the entire pipeline in accordance with § 195.452(f)(3) and its integrity management program.

Enterprise Response to NOPV Item 6:

During the inspection, and in response to the inspection's preliminary findings, Enterprise personnel described the processes by which the company collects, reviews, and verifies the data used for information analyses and also the processes by which the company collects, reviews and verifies the data used in the Risk Analyses of facilities.

Enterprise uses questionnaires submitted to Operations, Pipeline Control, and Corrosion Prevention in order to collect data for information analyses in accordance with section 6-01.2.1 of IM Procedure 6-01F Information Analysis Facilities Procedure (Rev 9 5/14/14), attachment Item #6-A. The Facility Integrity Engineer (FIE) combines data from the questionnaires with data from PODS and other data sources as indicated in Section 6-01.2.1.14. Once data collection is complete, the FIE begins reviewing the data in order to determine if additional Preventive and Mitigative Measures are needed and to determine when the next information analysis at that facility should be performed. When performing this review, the FIE is directed to verify any data that is of concern (indicates elevated risk) and note verified data within the appropriate Preventive and Mitigative Measure section (titled "Threat Evaluation Notes") of the information analysis. If, during the data validation processes it is determined that data from a submitted questionnaire should be revised, the FIE revises that data within the facility information analysis documents. In addition, if the FIE believes that a Preventive and Mitigative Measure should be considered, they are directed to discuss the potential Preventive and Mitigative Measure options with the appropriate stakeholder (Operations, Corrosion Prevention, for example) and to further validate all the applicable underlying data with the stakeholder. Finally, as part of the approval process of the information analysis, Corrosion Prevention Leadership, Operations Leadership and Pipeline Integrity Leadership, review data collected for the information analysis, specific data points considered by the FIE when recommending (or not recommending) Preventive and Mitigative Measures, and any recommended Preventive and Mitigative Measures. These approvals serve as the final QA/QC check of the data used in the information analysis.

Data collected as part of the Information Analysis process includes:

- General facility information (facility type such as terminal, pump station, etc.)

- Specific information about assets at the facility
 - Associated pipelines
 - Product type
 - Counts of certain pieces of equipment (not all types)
 - Environmental characteristics such as soil, terrain, and land use
- General operation information such as
 - Staffing level
 - Operational control (local vs pipeline control)
 - Relief system information
 - ANSI rating of flanges
 - Coating types
 - Known dead-legs
- Inspection and maintenance information (frequency and formality)
- Security
 - Visibility and lighting
 - Access control
 - Valve operation security
- Surveillance (site visit frequency, security monitoring)
- Mechanical damage prevention (signs, markers, barriers)
- Public awareness, leak detection, and spill response
 - Leak detection methods
 - Shutdown devices
 - Emergency response (including drills)
- Geotechnical threats
 - Earthquakes, flooding, hurricanes
 - Controls in place for known geotechnical threats.
- Above-grade piping condition
 - Atmospheric conditions
 - Atmospheric inspection timing, results, and any remedial actions
 - Soil-to-air interface inspections and results
 - Insulated piping information including inspection and CUI identification
 - Pipe under-support corrosion inspection and results information
- Below-grade piping condition
 - Annual CP survey information and results, including remedial actions needed and status
 - Type of below grade coating including general condition
- Internal corrosion control
 - Liquids and solids analysis
 - Corrosion control chemical application
 - Internal corrosion monitoring devices and results if over 1.0 mil per year
 - Remedial actions recommended for mitigating risk of internal corrosion
- Control center information
 - Release/rupture detection timing
 - Shutdown timing

Because of the previously described data validation exercises that occur during the information analysis process, differences in information on the questionnaire and risk report are expected when information is revised as a result of the information analysis being completed.

Other data used for the risk analysis is updated on a yearly basis and does include similar or some of the same data that is collected as part of the information analysis process. This data includes:

- High Consequence Area analysis results
- Atmospheric inspection results
 - Worst atmospheric rust grade
 - Soil to air interface condition
- CP survey results
- Below grade coating type
- Use of internal corrosion monitoring
- Internal corrosion rate above 1 MPY
- Incidents resulting in unintentional in-service product release

Data collected from the Information Analyses is superseded by the yearly collected information when there are differences.

Regarding PHMSA's allegation that the equipment quantity in the Current Risk Report, attachment Item #6-B, was inaccurate for Coffeyville because the data from the risk report did not match the data from the information analysis Facility Evaluation Questionnaires, attachment Item #6-C, Enterprise confirms the data used in the Risk Report was accurate because it was using information that was the same as that in the approved information analysis, attachment Item #6-D. While the number of filters identified in the Operations Questionnaire did not match the number documented in the approved information analysis, the number documented in the approved information analysis was determined to be accurate through conversations with Operations personnel (there were originally two filters at Coffeyville and one was idled, thus making the correct count as 1). Therefore, the equipment count in the approved information analysis accurately represented the actual equipment count at Coffeyville and, likewise, the equipment count in the Risk Report accurately represented the actual equipment count at Coffeyville.

Regarding PHMSA's allegation that the information analysis Corrosion Prevention Questionnaire atmospheric corrosion data didn't match the Risk Report corrosion prevention data, Enterprise would like to point out that the information analysis Corrosion Prevention Questionnaire collects significantly different atmospheric corrosion data than the atmospheric inspection data that is collected for the risk analysis. Specifically, the Corrosion Prevention Questionnaire collects counts of all the findings from the most recent atmospheric inspection whereas the risk analysis collects data regarding the most severe indication by requesting the identification of the "Worst atmospheric rust grade". In the risk report, a "1" is used to designate which of the atmospheric corrosion categories is the most severe that was identified during the most recent inspection and a "0" for all the other categories that were not the most severe atmospheric corrosion identified in the most recent inspection or were not identified at all during the most recent inspection. In the case of Coffeyville, the Corrosion Prevention questionnaire for the information analysis reported 27 areas of surface rust with a grade of "9-S thru 6-S, 9-G thru 7-G and 9-P thru 7-P" but no remedial actions. The data collected for the 2021 Risk Analysis (more recent data than the information analysis data) indicated the worst atmospheric grade (but not the occurrence counts) had not changed.

Regarding PHMSA's allegation that inaccurate data about facility security was used in the risk analysis, the result of whether motor operated valves were secured was revised during the IA approval process. While the Operations questionnaire indicates that motor operated valves were not secured, there is no note indicating that the motor operated valves at Coffeyville are unsecured in the Information Analysis section summarizing the Mechanical Damage threat. Facility Integrity Engineers are instructed to make note of potential areas of concern, verify the correctness of data when potential concerns are noted and note these areas of concern in the appropriate comments section of the Preventive and Mitigative Measure evaluation portion of the information analysis. Since unsecured motor operated valves represent elevated risk (and are given the highest risk score), were it confirmed through the IA approval process that motor operated valves at Coffeyville were unsecured, a comment to that affect would be expected. Operations confirmed that motor operated valves at Coffeyville have been historically secured in accordance with the Valves, Regulators, and Controllers section of the Facility Security Standards contained in Enterprise's Corporate Security Plan. Therefore, the security status of motor operated valves in the approved information analysis accurately represents the actual security status of motor operated valves at Coffeyville and, likewise, the security status of motor operated valves in the Risk Report accurately represented the actual security status of motor operated valves at Coffeyville.

Regarding PHMSA's allegation that inaccurate data about facility staffing was used in the risk analysis, Enterprise acknowledges that a change in the staffing level from a "minimum of twenty hours every week" to "Less than twenty hours every week" was identified during the information analysis but this update was not made to risk data in time for the 2021 Risk Report. The original operations questionnaire dated 3/6/2019 indicated that Coffeyville was staffed a "minimum of twenty hours every week". The revised operations questionnaire dated 7/17/2019, attachment Item #6 - E. reflected the change, indicating that Coffeyville was staffed "Less than twenty hours every week" as did the information analysis which was approved on 7/18/2019. Had this data update been included in the 2021 Risk report, the overall risk score for Coffeyville would have been increased by 0.005 points from an overall score of 11.434 (out of 100) to 11.439. This increase would not have changed the overall relative risk ranking of Coffeyville when compared to other facilities in the program. Coffeyville's relative risk ranking would have remained unchanged at 360 (with #1 being the highest risk) out of the 483 facilities in the program at that time. This data was updated in the 2022 Risk Report.

Regarding PHMSA's finding that the complexity factor for Coffeyville and El Dorado did not match allowed values in its 2014 procedure, during the inspection, Enterprise acknowledged that it changed its Facility Risk Model in 2019 but had failed to finalize updates to IM Procedure 2-01F before the beginning of the inspection. As described in Enterprise's response to the inspection's preliminary findings, Enterprise finalized updates to that procedure and presented the revised procedure on 5/20/2022.

Mindful of the above clarifications and with the intent of promoting continued cooperation with PHMSA, Enterprise plans on adjusting the schedule for conducting its 2023 Facility Risk Analysis to ensure it is complete within 90-days of finalization of this document. However, Enterprise notes that, with exception of the item related to the complexity factor, none of the other cited items involve a violation of Enterprise's Integrity Management Program procedures

or regulatory requirements contained in 49 CFR Part 195.452(f)(3); as such Enterprise respectfully requests that this alleged violation be withdrawn from the NOPV.

NOPV Item 7:

§ 195.452 Pipeline integrity management in high consequence areas.

(a)

(i) What preventive and mitigative measures must an operator take to protect the high consequence area?

(1)

(4) Emergency Flow Restricting Devices (EFRD). If an operator determines that an EFRD is needed on a pipeline segment to protect a high consequence area in the event of a hazardous liquid pipeline release, an operator must install the EFRD. In making this determination, an operator must, at least, consider the following factors - the swiftness of leak detection and pipeline shutdown capabilities, the type of commodity carried, the rate of potential leakage, the volume that can be released, topography or pipeline profile, the potential for ignition, proximity to power sources, location of nearest response personnel, specific terrain between the pipeline segment and the high consequence area, and benefits expected by reducing the spill size.

Enterprise failed to conduct an emergency flow restricting device (EFRD) analysis on segments of the MAPCO SW Pipeline System that transport non-highly volatile liquid products that pool when released in accordance with § 195.452(i)(4) and its Integrity Management Program IM Procedure 1-02 Emergency Flow Restriction Devices Study (7/1/2020). Specifically, Enterprise failed to conduct an EFRD analysis on its Getty - El Dorado Metering to Kanab pipeline segment, which transports pooling products. Section 2.2 of the integrity management program states that “[a] pipeline segment that transports pooling products will be considered for an EFRD analysis.”

With respect to non-pooling products, PHMSA reviewed the Baker Engineering Gas Dispersion Analysis dated December 15, 2005. Section 1, Introduction states that the report summarizes the study methodology and gas dispersion results for highly volatile liquid pipelines (HVLs) and that natural gasoline releases are excluded since this material tends to pool. PHMSA notes that this analysis may have used outdated inputs in its analysis since it was published in 2005. An updated gas dispersion analysis that used current data could enable Enterprise to utilize its emergency response resources in the most efficient manner.

Therefore, Enterprise failed to conduct an EFRD analysis on segments of the MAPCO SW Pipeline System that transport non-highly volatile liquid products that pool when released in accordance with § 195.452(i)(4) and its integrity management program.

Enterprise Response to NOPV Item 7:

Enterprise complies with requirements contained in section 195.452(i)(4) for determining whether an EFRD is needed on a pipeline segment to protect a high consequence area (HCA) in the event of a hazardous liquid release through execution of the company’s information analysis process in accordance with IM Procedure 6-01 Information Analysis – Line Pipe Section 2.2.6 attachment Item #7-A. If, through the course of the information analysis, a

determination is made that the installation of an EFRD has the potential to significantly reduce the consequences of a pipeline failure that could affect an HCA and should be further considered, a recommendation is made to conduct an EFRD study. Enterprise then conducts an EFRD study in accordance with IM Procedure 1-02 Emergency Flow Restriction Devices Study, attachment Item #7-B. The EFRD study conducted under IM Procedure 1-02 includes detailed modeling of spill volume and HCA impact changes as a result of an EFRD being installed. In summary, the requirements of 195.452(i)(4) are met through the information analysis determination that a EFRD is not needed on a pipeline segment to protect an HCA in the event of a hazardous liquid release or the determination that an EFRD potentially could be needed. If it is determined that an EFRD potentially could be needed to protect an HCA in the event of a hazardous liquid release, a subsequent EFRD study is conducted.

For LID 820 – Getty – El Dorado Metering to Kanab, determinations of whether the installation of an EFRD “is needed to protect a high consequence area” were conducted in accordance with requirements of 195.452(i)(4) when Enterprise completed Information analyses in 2011, 2012, and 2016.

Section 2.2.6 of the Information Analysis was completed on 3/9/2011 (attachment Item#7-C “2011 IA Form Line ID – 820 AID – 182 Getty – El Dorado Metering to Kanab (CNG)(Final).pdf) which was performed in accordance with the current information analysis procedure at that time (see section 6.2.2 of the attachment Item #7-A “IMP-SEC6-01 Information Analysis Procedure REV 13.pdf”). Data considered in this information analysis included, but was not limited to, the swiftness of leak detection and pipeline shutdown capabilities, type of product carried, the rate of potential leakage, the volume that can be released, the topography or pipeline profile as identified in the overland spread analysis, the potential for ignition, proximity to power sources, the location of response personnel, specific terrain between the pipeline segment and the HCA as identified in section 1.1 of the information analysis, and the benefits expected by reducing the release size; and determined that “No additional EFRD’s are recommended”.

Section 2.2.6 of the Information Analysis was again completed on 8/27/2012 (attachment Item #7-D “2012 IA Form Line ID – 820 AID – 182 Getty – El Dorado Metering to Kanab (Post Leak) (Final).pdf) which was performed in accordance with the current information analysis procedure at that time (see section 6.2.2 of attachment Item #7-E “IMP-SEC6-01 Information Analysis Procedure REV 15.pdf”). Data considered in this information analysis included, but was not limited to, the swiftness of leak detection and pipeline shutdown capabilities, type of product carried, the rate of potential leakage, the volume that can be released, the topography or pipeline profile as identified in the overland spread analysis, the potential for ignition, proximity to power sources, the location of response personnel, specific terrain between the pipeline segment and the HCA as identified in section 1.1 of the information analysis, previous Information Analysis EFRD recommendation(s) made, and the benefits expected by reducing the release size; determined that “No additional EFRD’s are recommended”.

Section 2.2.6 of the Information Analysis was again completed on 11/17/2016 (attachment Item#7-F “2016 IA Form LID – 820 AID – 182 Getty – El Dorado Metering to Kanab Final.pdf) which was performed in accordance to the current information analysis procedure at that time (attachment Item #7-G section 6-01.2.2.6 of the “IM Procedure 6-01L Information Analysis –

Line Pipe REV 17.pdf"). Data considered in this information analysis included, but was not limited to, the swiftness of leak detection and pipeline shutdown capabilities, type of product carried, the rate of potential leakage, the volume that can be released, the topography or pipeline profile as identified in the overland spread analysis, the potential for ignition, proximity to power sources, the location of response personnel, specific terrain between the pipeline segment and the HCA as identified in section 1.1 of the information analysis, previous Information Analysis EFRD recommendation(s) made, and the benefits expected by reducing the release size; determined that "No additional EFRD's are recommended".

Enterprise conducts information analyses according to its IM Procedure for Information Analysis on all pipeline segments with the potential to impact HCA's. Since Enterprise has met the requirements of 195.452(i)(4) for every HCA impacting segment of pipeline through these information analyses on lines that contain pooling products (including natural gasoline), Enterprise respectfully requests that PHMSA withdraw this item from the NOPV and also withdraw the first requirement in part E of the Proposed Compliance Order which requires an "EFRD analysis for non-HVL segments" under the premise that Enterprise has already met the requirements of 195.452(i)(4) for all pipeline segments that could impact HCAs and re-performs the determination approximately every 5-years by way of its recurring execution of its Information Analysis Procedure.

Enterprise would also like to point out that LID 820 has no longer been HCA impacting since it was taken out-of-service and purged with nitrogen on August 18, 2017.

Regarding Enterprise's use of the Baker Engineering Gas Dispersion Analysis dated December 15, 2005, Enterprise would like to reiterate that there are a number of conservative inputs and assumptions used in running the PHAST model such as:

- Assuming full bore rupture
- Assuming terrain is flat and there is no vegetation or structures blocking the dispersion cloud
- Use of the orifice plate modeling scenario which doesn't account for friction losses to escaping gas velocity
- Modeling daytime and nighttime wind conditions to ensure maximum dispersion cloud size
- Modeling different temperature ranges to ensure maximum dispersion cloud size

In addition to the conservative modeling parameters mentioned above, Enterprise applies several additional levels of conservatism when determining the Probable Impact Radius (PIR) that is applied to a line segment for HCA determination and Risk Analysis. These additional factors of conservatism include:

- The output of the PHAST model is round up to the nearest 500 ft (a calculated PIR of 3600 ft is rounded to 4000 feet for instance).

- PIRs are compared for all possible HVL types known to be able to be transported in a segment and the largest used.
- If a pipeline has segments with different values for MOP, the PIR for the highest MOP range is used for the entire pipeline.

The use of these two groups of conservative factors assures that the PHAST model will not lead to unintentional, unconservative determination of High Consequence Area Impacts nor inappropriate estimates of risk.

Also, Enterprise would like to point out that Baker Engineering used the PHAST model (version 6.42) when conducting their gas dispersion analysis in 2005. The most current PHAST model (version 8.22) uses the same inputs as the version used by Baker Engineering in 2005, namely:

- Pipeline specifications, including, but not limited to Diameter, Pressure (MOP), and Product(s)
- Modeling a single pipeline full bore rupture, specifically a horizontal perpendicular orientation
- Orifice plate modeling scenario, which is conservative since friction loss is not accounted for in the calculation
- Release Reduction factor of 0.25, which is applied to release velocity and mass flow rate due to the large mass flows predicted by orifice plate models

Multiple Release modeling scenarios, including daytime wind speeds of 5 m/s and nighttime wind speeds of 1.5 m/s. The maximum Lower Flammable Limit (LFL) of both modeling scenarios will be utilized in the study. According to Det Norske Veritas (DNV), the owner of the PHAST model, model refinements have been made since version 6.42, but their subject matter expert concluded that "In the past 15 years a significant amount of work has gone into improving the models and validating against experiments. In general, this has led to more accurate, higher confidence results. I would expect a model run in version 6.42 to be more conservative (larger PIRs) than its duplicate in version 8".

Enterprise agrees to replicate a number of input data scenarios (product type, line diameters, MOP, wind speed, temperature) that were run with version 6.42 in 2005 in the latest version of PHAST. The number of scenarios as well as the specific variable combinations in those scenarios will be chosen to cover the entire range of product types, line diameters, MOPs, wind speeds and temperatures that used in the 2005 Baker Risk Gas Dispersion Study in order to confirm that the probable impact radii (PIRs) from the most recent version of the PHAST model are no larger than the ones Enterprise uses in its Integrity Management Program.

Considering the fact that there is no evidence that the use of the 2005 PHAST model version 6.42 led to non-conservative results when compared to newer versions, there is no evidence that Enterprise failed to identify pipeline segments that could impact high consequence areas in the event of a release and no evidence that Enterprise performed non-conservative calculations

of risk; as such Enterprise respectfully requests that this alleged violation be withdrawn from the NOPV.

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 is committed to public safety, protecting the environment, and operating its pipeline facilities safely and welcomes the opportunity to work with PHMSA regarding the safe operation of our pipelines.

Sincerely,



Graham Bacon
Executive Vice President and Chief Operating Officer

Attachments:

- Attachment Item #1-A
- Attachment Item #3-A
- Attachment Item #4 -A
- Attachment Item #6-A
- Attachment Item #6-B
- Attachment Item #6-C
- Attachment Item #6-D
- Attachment Item #6-E
- Attachment Item #7-A
- Attachment Item #7-B
- Attachment Item #7-C
- Attachment Item #7-D
- Attachment Item #7-E
- Attachment Item #7-F
- Attachment Item #7-G