Before the

U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
Office of Pipeline Safety

In the Matter of	)	
Lake Charles LNG Company, LLC	)	
	)	CPF No. 4-2017-3002
	)	Notice of Probable Violation
Respondent.	)	

RESPONDENT'S
POST-HEARING WRITTEN SUBMITTAL

I. Introduction

The Office of Pipeline Safety of the Pipeline and Hazardous Materials Safety Administration (PHMSA, OPS or the Agency) held an administrative hearing on the above referenced matter in Houston on October 3, 2017. The Respondent, Lake Charles LNG Company, LLC (Lake Charles or the Company) requested the Hearing to contest three alleged violations of 49 C.F.R. Part 193. The violations were alleged in a Notice of Probable Violation (NOPV) issued to Lake Charles on March 1, 2017, following a facility inspection in September 2015.

Item 1 of the NOPV alleged a violation of PHMSA cathodic protection regulations, asserting that the Company did not consider IR drop during its annual cathodic protection survey in 2015. Item 2 alleged that Lake Charles failed to conduct corrosion surveys of above ground pipe every three years. Item 3 alleged that the Company did not have required records of training. Items 1-3 were also addressed in a Proposed Compliance Order, and Item 1 also had an associated Proposed Civil Penalty. Items 4 and 5 were issued as Warning Items, and Lake Charles did not contest them.

The Presiding Official allowed Lake Charles to submit this Post-Hearing Brief to address issues raised in the Hearing and summarize the Company's arguments seeking relief. The Company was allowed thirty days to submit this brief (until November 3, 2017), thus this filing is timely.

II. Background

The Lake Charles facility prepares liquefied natural gas (LNG) for transportation as natural gas by pipeline, using a regasification process that utilizes cryogenic equipment. The facility pipes and components used for cryogenic operations are above ground, and operate at temperatures between -260 and -50 degrees Fahrenheit. The cryogenic piping is constructed using austenitic stainless steel, due to its retention of mechanical properties at cryogenic temperatures. It also has the additional benefit of preventing corrosion. Most of the pipe is covered with an insulating material because of the extremely low operating temperatures (the material is for temperature insulation, not a "coating" for corrosion prevention). The majority of the facility piping at the facility is subject to PHMSA jurisdiction under 49 C.F.R. Part 193, but some of the piping is exempt due to its connection to marine transportation. *49 C.F.R. Part 193.2001(b).*

III. Request for Relief

As presented in Respondent's Request for Hearing and Pre-Hearing Brief and at the Hearing, the Company requests that PHMSA withdraw the alleged violations in Items 1-3 of the NOPV, along with associated Proposed Civil Penalty for Item 1, and the Proposed Compliance Order in its entirety. Specifically, the Company requests the following relief for each of the alleged violations that are contested:

> <u>Item 1</u>: Withdraw both the alleged violation, associated proposed penalty and proposed Compliance Order provision because: IR drop was expressly considered during the 2015 annual cathodic protection survey; the survey was in process prior to and during the inspection; and the procedures were revised prior to issuance of the NOPV to include consideration of IR drop. Alternatively, we request that the proposed penalty be reduced to properly reflect the facts with respect to nature, gravity, culpability, circumstances and

good faith. Properly accounting for these factors confirms that no penalty is appropriate under PHMSA's Proposed Civil Penalty Worksheet.

Item 2: Withdraw the alleged violation and proposed Compliance Order provision because the Company has already made and further substantiated its determination that atmospheric corrosion inspection of stainless steel pipe is not necessary at this facility, as allowed under 49 C.F.R. Part 193.2625(a), thus no procedures nor further inspections of stainless steel pipe are required as requested in the Proposed Compliance Order.

Item 3: Withdraw the alleged violation and Proposed Compliance Order provision because training records were, in fact, available at the time of inspection and remain available, in the manner consistent with the requirements of the Proposed Compliance Order.

For the reasons noted above, and as explained in further detail below, there were no violations present at the time of inspection to support a Proposed Civil Penalty nor any actions required to demonstrate compliance in a Proposed Compliance Order.

IV. Argument

A. Item 1: Cathodic Protection Annual Surveys and IR Drop (Part 193.2629)

Item 1 of the NOPV alleges that the Lake Charles facility violated Part 193.2629 (and, in turn, Part 192.463, Appendix D), by failing to consider IR drop during its 2015 annual inspection of the facility's cathodic protection system. Lake Charles disputes this allegation. As demonstrated both in the record and discussed at length during the Hearing, the Company did expressly consider IR drop in the 2015 Annual Cathodic Protection Survey:

- Annual survey proposal was requested, and bid received on August 20, 2015, with consideration of IR drop included. *See Exhibit 3 to Pre-Hearing Brief.*

- The proposal was approved on August 25, 2015 by Steve Couch (see Exhibit 3 in Respondent's Pre-Hearing Brief), and an email confirming that was presented at the Hearing. *Post-Hearing Brief Exhibit 1, Email from Lake Charles to Corr Pro re: 2015 Annual Survey Proposal (Aug. 25, 2015)*.

- The annual cathodic protection survey was conducted between September 14 – 16, 2015. *See Exhibit 4 to Pre-Hearing Brief.* Notably, the survey began (including installation of interrupters before the inspection began) and was in progress before PHMSA's inspection began on September 15, 2015. *Id.* at 5-21 (including readings taken from Sep. 14, 2015).

- On September 28, 2015, Lake Charles received the consultant's report of the Annual Survey. *Id*. The Company revised its procedure Technical Procedures Manual, Section 8.8 Cathodic Protection to include consideration of IR drop on September 24, 2015. *Post-Hearing Brief Exhibit 2, Lake Charles LNG Technical Procedures Manual, Section 8.8 Cathodic Protection (rev. Sep. 24, 2015)*.

In light of the information set forth above, the record clearly demonstrates that Lake Charles retained a cathodic protection third party expert to conduct the annual survey, with express consideration of IR drop, ***before*** the PHMSA inspection occurred. Although the Company's 2015 annual cathodic protection survey was in progress as the PHMSA inspection occurred (including the consideration of IR drop), the inspector did not follow up on this issue after the inspection and the Agency did not acknowledge the Company's consideration of IR drop or confirm the Agency's allegations when it prepared the NOPV two years later.

Because Item 1 of the NOPV alleged that the Company did not consider IR drop in its 2015 annual cathodic protection survey, yet the record reflects that IR drop was considered and the Company's procedures updated, Lake Charles respectfully requests that the Agency withdraw Item 1 of the NOPV. Similarly, the Agency should withdraw the Proposed Civil Penalty and associated Proposed Compliance Order Item 1, because there was no violation to support a proposed penalty and no actions required to demonstrate compliance in a Compliance Order.

Further, if the Proposed Civil Penalty is recalculated to accurately reflect the application of the mandatory and discretionary statutory and regulatory penalty factors at 49 U.S.C. § 60122 and 49 C.F.R. Part 190.225, it would result in no penalty. *Post-Hearing Brief Exhibit 3, Revised Proposed Civil Penalty Worksheet re: Lake Charles LNG NOPV Item 1*. Specifically, the Proposed Civil Penalty Worksheet (attached as Exhibit 5 of Respondent's Pre-Hearing Brief) should reflect this as an issue related to "records only" that had no impact on pipeline safety or integrity because the annual survey was being conducted before and during the PHMSA inspection. As such, the factors of nature and gravity should be reduced to "records" and "records only" respectively. Circumstances should be reduced to reflect that Lake Charles was already conducting a survey that included consideration of IR drop prior to the PHMSA inspection. The culpability factor should likewise be reduced to reflect that the Company took significant steps to comply, prior to PHMSA's inspection. Finally, the factor of good faith should be reduced to reflect that Lake Charles' interpretation of the requirement was reasonable because the survey was ongoing during the time of the inspection and that it did in fact account for IR drop. Properly accounting for these factors in PHMSA's Proposed Civil Penalty confirms that no penalty is appropriate for this issue. *Post-Hearing Brief Exhibit 3, Revised Proposed Civil Penalty Worksheet re: Lake Charles LNG NOPV Item 1*.

B. ***Item 2: Corrosion Inspection of Above Ground LNG Pipe*** **(Part 193.2635(d))**

Item 2 of the NOPV alleges that the Company failed to comply with the Part 193 requirements for inspection of above ground pipelines at least once every three years, pursuant to Part 193.2635(d). As outlined in the Company's Pre-Hearing Brief and explained at the Hearing, Lake Charles made a determination at the outset of its operations that the stainless steel piping at its facility was not subject to corrosion and thus corrosion monitoring was not required as provided under 49 C.F.R. Part 193.2625(a). This conclusion is reflected in Company procedures and it was recently confirmed when operating conditions allowed inspection on both insulated and uninsulated stainless steel piping. As discussed at the Hearing, there has been no visual indication of corrosion or any impacts to wall thickness, and the Company has reconfirmed its original determination that the stainless steel piping is not subject to corrosion and no corrosion monitoring is required. Lake Charles has also retained a third party expert to further evaluate the susceptibility of the facility's stainless steel piping to corrosion, and this evaluation concludes the stainless steel pipe is resistant. *Post-Hearing Brief Exhibit 4, Evaluation of Susceptibility of Stainless Steel LNG Pipe to*

Corrosion Under All Operating Conditions at the Lake Charles LNG Facility, John Smart Consulting Engineers (Nov. 3, 2017).

1. Background Facts

The stainless steel pipe used at the Lake Charles facility is austenitic, which by definition contains a high percentage of nickel and chromium, and is thus extremely resistant to corrosion. *See Exhibit 7 to Respondent's Pre-Hearing Brief (ArcelorMittal, Stainless Steel and Corrosion, Mar. 2010).* The corrosion resistant properties of austenitic stainless steel are in contrast to carbon steel (used in most oil and gas pipelines), which is subject to corrosion. As discussed at the Hearing, a layer of chromium oxide is formed on the surface of austenitic stainless steel in the presence of oxygen, which protects the pipe from corrosion "…and has the particular ability to self repair." *Id.* As noted, the facility's stainless steel pipe components that are normally in cryogenic service are covered with insulation wrap to protect the cryogenic product from temperature fluctuation; the insulation is not for anti-corrosion purposes. The only time that insulated pipe components are not at cryogenic temperatures is when the facility is shut down for maintenance, repair or other reasons.

The insulated stainless steel LNG pipe at the Lake Charles facility has been out of cryogenic service for several years. During that time, Lake Charles has inspected certain facility piping to supplement its determination under 49 C.F.R. Part 193.2625(a), including most recently in 2012 and 2013. *See Exhibit 8 to Respondent's Pre-Hearing Brief, Lake Charles LNG Stainless Steel CUI Inspection Summary (2012-2013)* (explaining that "The objective of the inspection was to take advantage of the terminal downtime to assess the overall condition of the cryogenic piping and insulation systems. The piping systems are inaccessible for inspection during normal operation."); *see also Post-Hearing Brief Exhibit 6, Lake Charles LNG Stainless Steel CUI Insulated Pipe Inspection Summary (2012-2013)* (updated version of Pre-Hearing Brief Exhibit 8 inspection summary to only depict inspection data for stainless steel insulated pipe). Additional examination of inspection records and current pipe conditions again confirmed that no corrosion has been found on this austenitic stainless steel pipe, concluding that the stainless steel piping systems under insulation have no indications of any type of corrosion. *Id.* These visual observations and wall thickness measurement results indicate that no additional review of austenitic stainless steel piping is required and that these pipes are suitable for continued operations without further inspection. *Id.*

2. Applicable Law

The Part 193 rules require that above ground LNG piping be inspected for corrosion every three years, <u>*unless*</u> the operator has determined that the piping in question can reliably be expected not to be subject to corrosion. *49 C.F.R. Part 193.2625(a)*. When OPS promulgated the Part 193 LNG rules in 1980, it stated clearly that "<u>*corrosion does not occur at cryogenic temperatures*</u> or where the metal is continually in contact with liquid LNG or LNG vapors. <u>*At extremely low temperatures, the chemical reaction necessary to cause corrosion does not occur*</u>." *Exhibit 6 to Respondent's Pre-Hearing Brief, 45 Fed. Reg. 70,390, 70,396 (Oct. 23, 1980)* (emphasis added) (agreeing with the Technical Pipeline Safety Standards Committee on this point). This is consistent with industry standards and practice in use since 1980, and PHMSA representatives at the Hearing concurred on this point.

The 1980 Part 193 preamble goes on to state that internal corrosion monitoring requirements at 49 C.F.R. Part 193.2635(e) do not apply to components operated at cryogenic temperatures "*because corrosion control would not be required by § 193.2625.*" *Id*. The same conclusion applies to atmospheric corrosion control requirements based on a determination under Part 193.2625. As discussed in Respondent's Pre-Hearing Brief and at the Hearing, where a component is not continuously in contact with cryogenic temperatures, the applicability of Part 193 corrosion control monitoring depends on the findings of an operator's determination under Part 193.2625.

Again, in the 1980 preamble, the agency explained that "Parts of. . . a component that are not continually at cryogenic temperatures may, however, have to be protected against corrosion and thus monitored under § 193.2635, depending on the findings made under § 193.2625 regarding the effects of corrosion to those parts and the overall effect on the component..." *Id*. OPS recognized that "[s]uch components would have to be protected ***only*** if the findings under § 193.2625 indicate that adverse consequences from corrosion may occur." *Id. (emphasis added).*

3. Application to the Lake Charles LNG Facility

The Lake Charles LNG facility is designed to transport LNG at cryogenic temperatures, using austenitic stainless steel pipe. As noted above, austenitic stainless steel pipe (in contrast to carbon steel pipe) is an alloy that is resistant to corrosion due to the build-up of the chromium oxide layer, with the particular ability to "self-repair." *See Respondent's Pre-Hearing Brief Exhibit 7.* Because the facility's pipe components used in cryogenic transport are in continuous cryogenic service during normal operation, the pipe is covered with insulation wrap. The only time that these pipe components are not at cryogenic temperatures is when the facility is shut down for maintenance, repair or other reasons.

As with other cryogenic LNG facilities, Lake Charles has operated for decades with the understanding that its stainless steel pipe is exempt from PHMSA's Part 193 corrosion inspection requirements. The Company's determination under Part 193.2625 is reflected in its corrosion procedures, including those in effect at the time of the PHMSA inspection, at Section 8.1. *Post-Hearing Brief Exhibit 5, Lake Charles LNG Company, Technical Procedures Manual, Corrosion Control Procedures, Section 8.1 Component Identification (rev. 8/24/2015)* (provided during PHMSA inspection). We are not aware of any prior OPS/PHMSA enforcement action since 1980 that alleged a violation of Part 193.2635 against a cryogenic LNG operator of stainless steel pipe, nor could PHMSA bring one to our attention at the Hearing.[1]

Although not required by Part 193, and as discussed at the Hearing, the LNG pipe at the facility has been inspected when the facility has been out of cryogenic operation, most recently in 2012 and 2013 (data which was validated again in 2017). *See Exhibit 8 to Respondent's Pre-Hearing Brief, Lake Charles LNG Stainless Steel CUI Inspection Summary (2012-2013)* (explaining that

[1] PHMSA has issued enforcement to one LNG operator under a different rule than alleged to be violated in the Lake Charles NOPV. In that one other matter, the operator was cited for failure to provide written documentation of its determination that certain tanks (not pipe) are not susceptible to corrosion. *Amended Final Order, In re: Hopkinton LNG, CPF 1-2012-3001, p. 1 (Mar. 5, 2014)* (finding that the operator "failed . . . to provide any written documentation showing that it had conducted an evaluation or assessment and had ultimately made a determination that the three tanks are not susceptible to atmospheric corrosion."); upheld in *PHMSA Decision on Petition for Reconsideration, CPF 1-2012-3001 (Nov. 24, 2014).*

"The objective of the inspection was to take advantage of the terminal downtime to assess the overall condition of the cryogenic piping and insulation systems."); *see also Exhibit 6 Post-Hearing Brief, Lake Charles LNG Stainless Steel CUI Insulated Pipe Inspection Summary (2012-2013)* (showing inspection data for stainless steel insulated pipe only). In 2012, one hundred and thirty-two (132) points were examined at fifty-four (54) locations, fifty-two (52) of which included original 1980s pipe. *Id.* In 2013, eighty-four (84) points were examined at thirty-nine (39) locations, thirty-two (32) of which included original 1980s pipe. *Id.* There was no indication of any impacts to wall thickness or visual indication of corrosion. *Id.*

Further, it is also possible to visually monitor thousands of feet of uninsulated stainless steel pipe in the facility, which comprises roughly 25% of the stainless steel piping at the facility, which the Company does routinely. Photos taken by PHMSA during the 2015 inspection that were included in the Agency's Pipeline Safety Violation Report (PSVR), and referred to in the Hearing, reflect some of this uninsulated pipe that can be visually inspected. *Post-Hearing Brief Exhibit 7, Lake Charles Facility PHMSA Inspection Photographs with Uninsulated Piping Highlighted (2015).* Since 1980, Lake Charles has not observed any visual indication of corrosion on any of its stainless steel piping.

The Company's additional inspections, evaluation of data and current pipe conditions further confirm that the stainless steel piping systems under insulation "have no indications of any type of corrosion" and the Company concluded that "no additional review of austenitic stainless steel piping is required and that these pipes are suitable for continued operations without further inspection." *See Respondent's Pre-Hearing Brief Exhibit 8, Lake Charles LNG Stainless Steel CUI Inspection Summary (2012-2013); see also Exhibit 6 Post-Hearing Brief, Lake Charles LNG Stainless Steel CUI Insulated Pipe Inspection Summary (2012-2013)* (updated to depict inspection data for insulated stainless steel pipe only). This information was available for review at the time of the PHMSA inspection in 2015 (but was not requested), and remains available for review along with updated verification data from 2017 (including underlying data and photographs).

Despite the extent of the additional data and analysis conducted by Lake Charles in support of its determination that the stainless steel pipe at its facility is not susceptible to corrosion, PHMSA alleges in the NOPV that the information provided by Lake Charles during the PHMSA inspection in issue "*…does not support the argument that corrosion of stainless steel can be predicted solely on the basis of operating temperature.*" *Respondent's Pre-Hearing Brief Exhibit 1, NOPV, at 3 (Mar. 1, 2017).* This statement contradicts the preamble to Part 193 and decades of precedent. As further support for its position, Lake Charles gathered field data regarding temperatures and chloride levels over the summer and retained Dr. John Smart Consulting Engineers to assist in additional analysis to supplement Lake Charles' prior determination.

At the Hearing, Lake Charles provided the Agency with a graph illustrating the Company's and Dr. Smart's additional analysis and findings. *Post-Hearing Brief Exhibit 8, Critical Corrosion Temperatures of Stainless Steel, Comparison of Concentrations of Chlorides in Water v. Temperature in LC LNG Facility and the North Sea Platform; see also John Smart Consulting, Figure 5 to Post-Hearing Brief Exhibit 4 (Nov. 3, 2017) (updated from the version shared at the Hearing to reflect in the green text box that measurements were taken from pipe surfaces at Lake Charles, not just "insulated" pipe surfaces).* In particular, the graph illustrates that the piping at the facility is not subject to temperature or chloride at levels that would potentially result in corrosion. *Id.* The Company took readings of both, and with respect to temperatures, took readings on the hottest days, and examined both exposed and insulated pipe, both close and far away from water sources. The temperatures not exceeding 115°F combined with the low chloride levels of 1 ppm to 3 ppm (in part, because the Lake Charles facility is 26 miles inland from the Gulf Coast) give confidence that the piping is not subject to corrosion from crevice or pitting corrosion. As discussed at the Hearing, this is in stark contrast to the Wika study case which involved temperatures up to 176°F and chloride levels up to 19,000 ppm, as reflected in the data depicted on the right hand side of the graph (and without consideration of environmental conditions).

As presented and discussed in the attached report prepared by Dr. Smart, "for both atmospheric exposure and exposure under insulation, austenitic stainless steel components are immune from atmospheric corrosion under all foreseeable operating and environmental conditions in the LC LNG Facility." *Post-Hearing Brief Exhibit 4, Evaluation of Susceptibility of Stainless Steel LNG Pipe to Corrosion Under All Operating Conditions at the Lake Charles LNG Facility, John Smart Consulting Engineers (Nov. 3, 2017).* More specifically, this evaluation concludes that the Lake Charles facility stainless steel piping whether insulated or uninsulated: (1) will not corrode based on the measured conditions of pipe surface temperature and chloride concentrations; and (2) is "immune" to pitting corrosion, crevice corrosion, and stress corrosion cracking. *Id.* Further, when the facility is operating, the stainless steel is not subject to corrosion because there is no electrolyte in contact with the steel. For these reasons, "the facility is not required to undergo aboveground inspection" for atmospheric exposure or for corrosion under insulation. *Id.*

4. PHMSA's Allegations Regarding Corrosion Under Insulation

The NOPV also asserted that insulated pipe is subject to "corrosion under insulation" (CUI), and thus the Lake Charles LNG pipe should be inspected for atmospheric corrosion even if constructed with stainless steel and operating at cryogenic temperatures.[2] As explained in Respondent's Pre-Hearing brief and discussed at the Hearing, the allegation regarding CUI is simply inapplicable to this matter, and should be disregarded. There is no evidence of any corrosion on stainless steel LNG pipe at Lake Charles, whether under insulation or not. The reference to the CUI threat in the NOPV is not a legal requirement and is wholly inapplicable to the stainless steel pipe at the Lake Charles facility.

Similarly, the API Recommended Practice (RP) 571 (2003) that is referenced in the PSVR is not incorporated to the Part 193 regulations and is similarly inapplicable to the Lake Charles facility. This outdated 2003 version of the referenced RP is an industry standard that generally discusses CUI, but does not address CUI of stainless steel operated at cryogenic temperatures (rather it notes that corrosion is more severe at higher temperatures between 212 and 250 degrees Fahrenheit). Further, under the current version of this RP (April 2011), CUI inspections would not be required given that the Lake Charles facility's operating temperature ranges from cryogenic to ambient at the highest. *See Respondent's Pre-Hearing Brief Exhibit 10, API Recommended Practice 571 (2011).* Neither of those sources support this enforcement action. Moreover, PHMSA was unable

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[2] Although not noted in the NOPV or the Pipeline Safety Violation Report (PSVR), on June 21, 2016, PHMSA issued an Advisory Bulletin on the threat of Corrosion Under Insulation or CUI (*81 Fed. Reg. 40398*) (See Exhibit 9 to Respondent's Pre-Hearing Brief). The NOPV allegations clearly track the cautions set forth in that Advisory. That Advisory, however, was issued in response to a 2015 incident on a crude oil pipeline near Santa Barbara, California, operated by Plains All American Pipeline. The Plains incident occurred on an oil pipeline constructed with carbon steel, operating at ambient temperatures. The Advisory did not address stainless steel pipe or cryogenic LNG pipe.

to provide any examples of where stainless steel corrosion has been observed or violations alleged at other LNG facilities.

5. Item 2 Summary

The Company made the requisite "determination" under 49 C.F.R. Part 193.2625(a) years ago that the stainless steel piping at the Lake Charles facility is not subject to corrosion, whether or not it is operating at cryogenic temperatures. Lake Charles further reevaluated and supplemented that determination through extensive inspections in 2012 and 2013, and retained an industry third party expert to conduct additional analysis, as reflected in Post-Hearing Brief Exhibit 4, *Evaluation of Susceptibility of Stainless Steel LNG Pipe to Corrosion Under All Operating Conditions at the Lake Charles LNG Facility, John Smart Consulting Engineers (Nov. 3, 2017).*

Accordingly, Item 2 of the NOPV and the associated Proposed Compliance Order should be withdrawn.

C. Item 3: Training Requirements **(Parts 193.2707; 193.2713 and 193.2717)**

Item 3 of the NOPV alleges that Lake Charles failed to comply with training requirements set forth at Parts 193.2707, 193.2713 and 193.2717. Parts 193.2713 and 193.2717 address initial and refresher training. As discussed at the Hearing, training records are only required for "appropriate personnel." As also discussed at the Hearing, the appropriate most recent refresher training records were complete and available for review at the time of the inspection.

During the 2015 inspection, the inspector focused on training for one particular long-time employee and the discussion did not return to the broader issue of the Company's training requirements and current records. Further, the inspector did not follow up after the inspection on these issues. All refresher training records as required by Parts 193.2713 and 193.2717 were current and available at the time of the inspection, and were compliant for all courses and all employees.

The NOPV also alleges that Lake Charles failed to require refresher training and had no records for detailed operations for supervisors and emergency response for contract security personnel. At the time of the inspection, Lake Charles' training matrix did require refresher training for both of these items, including appropriate supervisory personnel. As allowed by the rule, refresher training is only required for "appropriate" supervisory personnel. *49 C.F.R. Part 193.2713(a); see also Final Rule, 45 Fed. Reg. 70,390, 70,397 (Oct. 23, 1980)* (193.2713 applies to "appropriate" supervisory personnel to avoid the implication that all supervisors must be trained, not just those engaged in operations.). In addition, refresher training records for detailed operations for supervisors and emergency response for contract security personnel were current and available for review at the time of the inspection.

Even though those records were and remain available for PHMSA inspection, Lake Charles has included proof of current refresher training for Parts 193.2713, 193.2715, and 193.2717 as of the time of the 2015 inspection for each course referenced in Respondent's Request for Hearing. *Post-Hearing Brief Exhibit 9, Lake Charles Master Training Matrix, Initial and Refresher Training*

(Rev. Feb. 1, 2010) (includes "Administration" column);[3] *Post-Hearing Brief Exhibit 10, Lake Charles LNG Training Status (as of 9/14/15-9/16/15); Post-Hearing Brief Exhibit 11, A thru P, Lake Charles LNG Refresher Training Records (as of 9/15/15).* Further, Lake Charles will make available the training records under 193.2707 that were also available at the time of the 2015 inspection, which include verification of individual operations and maintenance personnel to independently perform their assigned function. Each person who is certified to operate or maintain components in the facility have completed a "Job Book" and/or have documented experience in their assigned duties.

Given that the records addressed by the NOPV were, in fact, available at the time of inspection, the Company believes that NOPV Item 3 should be withdrawn and that the associated Proposed Compliance Order Item be withdrawn.

V. <u>Summary</u>

In light of the above, the Company requests that PHMSA withdraw the alleged violations in Items 1-3 of the NOPV, along with associated Proposed Civil Penalty for Item 1, and the Proposed Compliance Order in its entirety.

It is well established that PHMSA bears the burden of proof of all elements of a proposed violation in an enforcement proceeding. *See e.g., In re ANR Pipeline Co, Final Order, CPF No. 3-2011-1011 (Dec. 31, 2012).* If PHMSA "does not produce evidence supporting the allegation [which] outweighs the evidence and reasoning presented by Respondent in its defense," the allegation of violation must be withdrawn. *Id.*

PHMSA has not met its burden for any of the three NOPV violations at issue. With respect to Item 1, Lake Charles expressly considered IR drop in its 2015 annual survey consistent with Part 193.2629, in advance of PHMSA's 2015 inspection. As to Item 2, the Company made a determination that the facility piping was not subject to atmospheric or other corrosion as allowed under Part 193.2625(a), which it has supplemented with (1) extensive inspections most recently in 2012 and 2013 when operating conditions allowed; and (2) a recent third party expert report. The data and analysis conclusively demonstrate that the facility stainless steel piping is not susceptible to corrosion, thus atmospheric corrosion monitoring is not required under Part 193. Finally, with respect to Item 3, the Company maintained and had available for inspection all relevant training documentation during the inspection in compliance with Parts 193.2707, 193.2713 and 193.2717.

For all of these reasons, and other matters as justice may require, Items 1-3 of the NOPV should be withdrawn, including the Proposed Civil Penalty for Item 1 and the associated Proposed Compliance Order items.

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[3] This Master Training matrix was provided during the PHMSA inspection, but the "Administration" column was inadvertently hidden. This Post-Hearing Exhibit reflects the full matrix.

Respectfully submitted,

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Post-Hearing Brief Exhibits

1. Email from Lake Charles to Corr Pro regarding 2015 Annual Survey Proposal (Aug. 25, 2015).

2. Lake Charles LNG Technical Procedures Manual, Section 8.8 Cathodic Protection (rev. Sep. 24, 2015).

3. Revised Proposed Civil Penalty Worksheet re: Lake Charles PHMSA NOPV Item 1 (Nov. 3, 2017).

4. Evaluation of Susceptibility of Stainless Steel LNG Pipe to Corrosion Under All Operating Conditions at the Lake Charles LNG Facility, John Smart Consulting Engineers (Nov. 3, 2017).

5. Lake Charles LNG Company, Technical Procedures Manual, Corrosion Control Procedures, Section 8.1 Component Identification (rev. 8/24/2015) (included in PHMSA's Pipeline Safety Violation Report (dated Oct. 1, 2015)).

6. Lake Charles LNG Stainless Steel CUI Insulated Pipe Inspection Summary (2012-2013).

7. Lake Charles Facility PHMSA Inspection Photographs with Uninsulated Piping Highlighted (2015).

8. Critical Corrosion Temperatures of Stainless Steel, Comparison of Concentrations of Chlorides in Water v. Temperature in LC LNG Facility and the North Sea Platform, John Smart Consulting (see updated version at Figure 5 to Post-Hearing Exhibit 4 (Nov. 3, 2017)).

9. Lake Charles Master Training Matrix, Initial and Refresher Training (Rev. Feb. 1, 2010) (includes "Administration" column).

10. Lake Charles LNG Training Status (as of 9/14/15-9/16/15).

11. Lake Charles LNG Refresher Training Records (as of Sep. 15, 2015 for certain courses)

    a. PHMSA 1A Training Records

    b. PHMSA 1B Training Records

    c. PHMSA 2A Training Records

    d. PHMSA 2B Training Records

    e. PHMSA 2C Training Records

    f. PHMSA 2D Training Records

    g. PHMSA 2E Training Records

h. PHMSA 2F Training Records

i. PHMSA 3 Training Records

j. PHMSA 4 Training Records

k. PHMSA 5 Training Records

l. PHMSA 6 Training Records

m. PHMSA 7/8 Training Records

n. PHMSA 12 Training Records

o. PHMSA 13 Training Records

p. PHMSA 14 Training Records

12. Attachments A-G to ETP's Request for Hearing and Written Response (Mar. 22, 2017) (included by reference only).

a. Attachment A–Proposal for 2015 Cathodic Protection Survey (Aug. 20, 2015)

b. Attachment B– Lake Charles LNG Annual Cathodic Protection Survey (Sep. 28, 2015)

c. Attachment C– Lake Charles LNG Cathodic Protection Site Specific Survey, Adjusted Output (Nov. 2015)

d. Attachment D– Lake Charles LNG Annual Cathodic Protection Survey, Findings and Recommendations (Oct. 2016)

e. Attachment E– Annual Cathodic Protection Survey Follow-up Report (Mar. 18, 2017)

f. Attachment F—

i. Operations Qualification Report Example

ii. Maintenance Qualifications Report Example

g. Attachment G – Master Training Matrix Initial and Refresher Training (Feb. 1, 2010).

13. PHMSA Pipeline Safety Violation Report (dated Oct. 1, 2015) (included by reference only).