U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

8701 S. Gessner, Suite 630
Houston, TX 77074

WARNING LETTER

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 10, 2017

Mr. Doug Shanda
Senior Vice President, Terminal Operations
Corpus Christi Liquefaction, LLC
700 Milam Street
Houston, TX 77002

CPF 4-2017-3004W

Dear Mr. Doug Shanda:

From January 3, 2017 to January 5, 2017, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected your Corpus Christi Liquefaction (CCL) construction project in Corpus Christi, TX.

As a result of the inspection, it is alleged that you have committed a probable violation of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations. The item inspected and the probable violation is:

1. §193.2301 Scope.

Each LNG facility constructed after March 31, 2000 must comply with requirements of this part and of NFPA-59A-2001 (incorporated by reference see §193.2013). In the event of a conflict between this part and NFPA 59A, this part prevails.

NFPA-59A-2001
6.3.4 Welding.

6.3.4.1 Qualification and performance of welders shall be in accordance with Section 328.2 of ASME B 31.3, *Process Piping*, and 6.3.4.2 of this standard.
ASME B 31.3 Section 328.2

328.2 Welding and Brazing Qualification
Welding and brazing procedure specifications (WPSs and BPSs) to be followed in production welding shall be prepared and qualified, and welders, brazers, and operators shall be qualified as required by the ASME BPV Code, Section IX except as modified by para. 333 for brazing of Category D Fluid Service piping and by the following subparagraphs.

ASME BPV Code, Section IX

QW-301.2 Qualification Tests.
Each manufacturer or contractor shall qualify each welder or welding operator for each welding process to be used in production welding. The performance qualification test shall be welded in accordance with qualified Welding Procedure Specification[1] (WPS), or Standard Welding Procedure Specifications (SWPS) listed in Appendix E, except that when performance qualification is done in accordance with a WPS or SWPS that requires a preheat or postweld heat treatment, these may be omitted.

QW-401.3 Supplementary Essential Variable[2] (Procedure).
A change in a welding condition which will affect the notch-toughness properties of a weldment (for example, change in welding process, uphill or down vertical welding, heat input, preheat or PWHT, etc.). Supplementary essential variables are in addition to the essential variables for each welding process.

QW-409 Electrical Characteristics
QW-409.1 An increase in heat input, or an increase in volume of weld metal deposited per unit length of weld, over that qualified. The increase may be determined by either of the following:
(a) Heat input [J/in. (J/mm)]

$$= \frac{\text{Voltage x Amperage x 60}}{\text{Travel Speed [in./min (mm/min)]}}$$

[1]ASME BPV Code, Section IX Article QW200.1(a) defines a WPS to be a written qualified welding procedure prepared to provide making production welds.
[2]ASME BPV Code, Section IX Article QW200.1(b) a completed WPS shall contain all of the essential, nonessential, and, when required, supplementary essential variables for each welding process used in the WPS.

CCL failed to adequately conduct welder qualifications as required by ASME BPV Code, Section IX, Article QW-301.2 Qualification Tests, incorporated by reference. The essential and supplementary essential welding variables for gas tungsten arc welding are specified in Article QW-256 of ASME BPV Code, Section IX[3]. Heat Input is a supplementary essential variable specified by the WPS and described in paragraph QW-409.1 for the Operator to ensure that the welder qualification tests were welding to the WPS heat input requirements, as mentioned. This is accomplished using voltage, amperage, and the travel speed formula.

In order to confirm the welds had the correct heat input per the welding procedures, voltage and travel speed must be taken during the welder testing process. On January 4, 2017, PHMSA inspectors observed the inadequate inspection of the voltage and travel speed and requested a copy of the testing records to confirm that heat input paramters were not inspected to ensure compliance. On February 13, 2017, PHMSA received these records including the "Welder Qualification Request" along with "Welder Performance Qualification Test Record (WR-1)" which confirmed that supplementary essential variables were not inspected.

CCL failed to adequately conduct welder qualifications as required by ASME BPV Code, Section IX, incorporated by reference. CCL did not ensure that the supplementary essential variable of heat input was followed during the welder qualification process.

Under 49 United States Code, § 60122, you are subject to a civil penalty not to exceed $205,638 per violation per day the violation persists up to a maximum of $2,056,380 for a related series of violations. For violation occurring between January 4, 2012 to August 1, 2016, the maximum penalty may not exceed $200,000 per violation per day, with a maximum penalty not to exceed $2,000,000 for a related series of violations. For violations occurring prior to January 4, 2012, the maximum penalty may not exceed $100,000 per violation per day, with a maximum penalty not to exceed $1,000,000 for a related series of violations. Also, for LNG facilities, an additional penalty of not more than $50,000 for each violation may be imposed. We have reviewed the circumstances and supporting documents involved in this case, and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to correct the item(s) identified in this letter. Failure to do so will result in Corpus Christi Liquefaction, LLC being subject to additional enforcement action.

[3] Article QW-256 of ASME BPV Code, Section IX describes the welding variables procedure specificaitons for gas tungsten arc welding. Heat input is a supplementary essential variable required in the welding procedure.

No reply to this letter is required. If you choose to reply, in your correspondence please refer to **CPF 4-2017-3004W.** Be advised that all material you submit in response to this enforcement action is subject to being made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. 552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. 552(b).

Sincerely,

R. M. Seeley
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration