TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Alternative Method of Control (AMOC) Plan, AMOC No.: AMOC-231
Port Arthur LNG, LLC
Natural Gas Liquefaction Plant and Export Terminal Multi-Point Ground Flare (MPGF) System
Port Arthur, Jefferson County
Regulated Entity Number: RN104517826

1. This AMOC Plan Authorization shall apply at the Port Arthur LNG, LLC (PALNG) liquified natural gas (LNG) liquefaction plant and export terminal located near Port Arthur, Jefferson County identified by Regulated Entity Number RN104517826**.** Under Title 30 Texas Administrative Code (TAC) Section 115.910 (§ 115.910) this plan authorizes the pressure-assisted stages of the Wet and Dry multi-point ground flares (MPGF) for use to control emissions from liquid condensate tanks, demethanizer and debutanizer process vents; liquid condensate tanks; and condensate truck loading during routine operations, planned maintenance, start-ups and shut-downs (MSS), as well as unauthorized, unplanned emergency and upset situations.

2. A copy of the AMOC application and the AMOC Plan provisions must be kept on-site or at a centralized location and made available at the request of personnel from the TCEQ or any pollution control agency with jurisdiction. This AMOC authorization is defined by the application received November 7, 2023, and supporting documentation submitted through August 13, 2024.

3. This authorization is granted under § 115.910 for emissions sources regulated by 30 TAC Chapter 115:

   - Subchapter B: General Volatile Organic Compound Sources, Division 1 Storage of VOCs;
   - Subchapter B: General Volatile Organic Compound Sources, Division 2 Vent Gas Control; and
   - Subchapter C: Volatile Organic Compound Transfer Operations, Division 1 Loading and Unloading of VOCs.

   This AMOC shall apply in lieu of the requirements in these state regulations, as applicable. Compliance with this AMOC is independent of the regulated entity's obligation to comply with all other applicable requirements of 30 TAC Chapter 115, TCEQ permits and applicable state and federal law. Compliance with the requirements of this plan does not assure compliance with requirements of an applicable New Source Performance Standard, National Emission Standard for Hazardous Air Pollutants, or an Alternative Means of Emission Limitation (AMEL) and does not constitute approval of alternative standards for these regulations.

4. In accordance with 30 TAC § 115.913(c), all representations submitted for this plan, as well as the provisions listed here, become conditions upon which this AMOC Plan is issued. It is unlawful to vary from the emission limits, control requirements, monitoring, testing, reporting or recordkeeping requirements of this Plan.

   The TCEQ Region may request a performance test if the MPGF systems cannot comply with the requirements of this Plan.

5. The high-pressure MPGF systems are identified as "Ground Flare" (EPN G-FLARE) and are authorized under Permit Nos. 131769, PSDTX1456, GHGPSDTX134 and 158420, PSDTX1572, GHGPSD198 and are subject to this AMOC Plan. When the pressure-assisted burners are operated, compliance is demonstrated following the requirements in paragraph 6 of this AMOC Plan.

6. The Wet and Dry MPGF systems are manufactured by John Zink Hamworthy Combustion (JZHC). The Wet Flare consists of three (3) Indair burners on Stage 1 and a total of 131 LRGO burners on Stages 2 – 5. The Dry Flare includes three (3) Indair burners on Stage 1 and a total of 417 LRGO burners in Stages 2 –9.

   The MPGF operates with no assist air or assist steam and shall operate in accordance with the following requirements when regulated materials are routed to the flare systems to achieve 99 % VOC destruction/removal effectiveness (DRE).

A. Operating Requirements: The net heating value of the flare vent gas (NHV_{vg}) must greater than or equal to 800 British thermal units per standard cubic foot (800 Btu/scf) demonstrated by continuously complying based on a 15-minute block average in accordance with 40 CFR § 63.670(e)(2).

(1) Flare vent gas composition NHV_{vg}. Determine the concentration of individual components or the net heating value in the flare vent gas using the methods in 40 CFR §§ 63.670(j), 63.670(l), and Table 12 of MACT CC, as applicable. Different monitoring methods may be used to determine vent gas composition for different gaseous streams provided the composition or net heating value of all gas streams that contribute to the flare vent gas are determined.

(2) Maximum Flare Tip Velocity (V_{tip}). Calculation of or limits on V_{tip} is not applicable to the HP MPGF burners consistent with 40 CFR § 63.670(d)(3).

(3) Flare Vent Gas Flow Rate Requirements**.** Install, operate, calibrate, and maintain a monitoring system capable of continuously measuring calculating, and recording the cumulative volumetric flow rates in the flare header or headers that feed the flares, and any supplemental fuel used with the flare. The flow rate monitoring systems must comply with 40 CFR § 63.670(i), as applicable.

B. Pilot Flame Requirements: All Indair burners shall be equipped with individual pilots. Each stage of LRGO burners that cross-lights in the pressure-assisted MPGFs must have at least two pilots with at least one continuously lit and capable of igniting all regulated material that is routed to that stage of burners. The MPGF systems shall be operated with a flame present at all times when regulated material is routed to a given stage of high-pressure burners and meet 40 CFR § 63.670(b).

C. Visible Emission Requirements: When any HP flare stage is receiving regulated materials, the MPGF shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours and meet 40 CFR § 63.670(c) and (h).

D. Stage Valve Position Indicator and Pressure Monitor Requirements: Install and operate pressure monitor(s) on the main flare header, as well as a valve position indicator monitoring system for each staging valve to ensure that the flare operates within the proper range of conditions as specified by the manufacturer and in accordance with 40 CFR § 63.670(d)(3).

E. Closed Vent Capture Systems. Streams vented to the MPGF must be routed through a closed vent system that is not open to the atmosphere and is configured of piping, ductwork, connections, and flow inducing devices that transport gas or vapor from any emission source or point to a control device.

F. Continuous Monitoring Requirements: Follow the specifications, calibration, and maintenance procedures according to the following:

(1) General.

(a) At all times, all monitoring equipment must operate and be maintained in a manner consistent with 40 CFR §§ 60.11(d), 63.6(e)(1)(i), 63.671(a), and Table 13 of MACT CC with the TCEQ as the Administrator.

(b) Any monitor downtime must comply with 40 CFR §§ 63.671(a)(4) and 63.671(c). The monitors and analyzers shall operate as required at least 95% of the time when any stage of the MPGF is operational, averaged over a rolling 12-month period.

(c) Unless otherwise specified, for each measurement produced by the monitoring systems shall comply with 40 CFR §63.671(d).

(2) Composition or Net Heating Values. Install, operate, calibrate, and maintain a monitoring system specified in (a) and may elect to supplement the monitoring as specified in (b) or (c).

a. A calorimeter capable of continuously measuring, calculating, and recording the net heating value, NHVvg, present in the flare vent gas according to 40 CFR § 63.670(j)(3). The monitor shall meet the accuracy and calibration requirements of Table 13 of MACT CC.

b. A gas chromatograph or gas chromatograph / mass spectrograph system may be used to determine NHVvg as specified in 40 CFR § 63.670(j)(1) or (2). Component properties determinations must follow 40 CFR § 63.670(l)(1) and Table 12 of MACT CC. The system used to determine compositional analysis shall follow 40 CFR § 63.671(e).

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c. An optional hydrogen monitoring system may be used if capable of meeting 40 CFR § 63.670(j)(4). The hydrogen analyzer must meet accuracy and calibration requirements of Table 13, MACT CC.

(3) Flow Rates.

a. Different flow monitoring methods may be used to measure different gaseous streams and assist media streams provided that 40 CFR §63.670(i) is followed.

b. The measurement location must be selected following Table 13 of MACT CC.

c. All flow monitors shall meet the accuracy and calibration requirements of Table 13 of MACT CC.

(4) Pilots.

a. The pilot flame continuous monitoring must meet 40 CFR § 63.670(b).

b. Loss of pilot flame is determined by and must meet 40 CFR §§63.670(b) and records must follow 40 CFR § 63.655(i)(9)(i).

c. A video camera that meets 40 CFR §63.670(h)(2) may be used to demonstrate compliance.

(5) Pressure. Any pressure monitor must meet the accuracy and calibration requirements of Table 13 of MACT CC.

(6) Temperature. Any temperature monitor must meet the accuracy and calibration requirements of Table 13 of MACT CC.

G. Recordkeeping Requirements

Records shall follow requirements in 40 CFR § 63.655(i).

H. Emission Determinations.

Calculations of hourly and annual emissions to determine compliance with the MAERT limitations shall be determined and recorded using the monitoring data collected pursuant to this AMOC Plan applying the best data of the parameters measured during each 15-minute block period and the appropriate emission factors based on the approach represented in the Permits. Annual emissions shall be calculated by the end of the current month for the previous rolling 12-month period. To calculate CH_4 and CO_2 emissions, use the methodology in 40 CFR § 98.233(n)(4) – (6).