TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Alternative Method of Control (AMOC) Plan
Bayport Polymers, LLC (Baystar)
AMOC No.: AMOC-113
Port Arthur Refinery Ethane Cracker
Multi-Point Ground Flare (MPGF) System
Port Arthur, Jefferson County, Regulated Entity Number: RN109845768

A. This AMOC Plan Authorization shall apply at the Bayport Polymers, LLC (Baystar), Port Arthur Refinery located in Port Arthur, Jefferson County. This site is identified by Regulated Entity Number RN109845768**.** Under Title 30 Texas Administrative Code (TAC) Section 115.910 (§115.910) this plan authorizes a multi-point ground flare (MPGF) system identified as EPN XF-4601. The flare system will be used during emission events such as planned maintenance, start-ups, and shutdowns (MSS), and unplanned emergency and upset situations.

B. 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. The AMOC application is defined by the application received 5/15/2018 and subsequent supporting documents dated through June 14, 2019.

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

Subchapter B: General Volatile Organic Compound Sources
- Division 2: Vent Gas Control
- Division 3: Water Separation
- Division 4: Industrial Wastewater

Subchapter C: Volatile Organic Compound Transfer Operations
- Division 1: Loading and Unloading Of Volatile Organic Compounds

Subchapter D: Petroleum Refining, Natural Gas Processing, and Petrochemical Processes
- Division 1: Process Unit Turnaround and Vacuum-Producing Systems in Petroleum Refineries
- Division 3: Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, And Petrochemical Processes in Ozone Nonattainment Areas

Subchapter F: Miscellaneous Industrial Sources
- Division 3: Degassing of Storage Tanks, Transport Vessels And Marine Vessels

Subchapter H: Highly-Reactive Volatile Organic Compounds
- Division 1: Vent Gas Control
- Division 2: Cooling Tower Heat Exchange Systems
- Division 3: Fugitive Emissions

This AMOC shall apply in lieu of the requirements §§ 115.122(a)(1)-(2), as applicable. Compliance with this AMOC is independent of Baystar's obligation to comply with all other applicable requirements of 30 TAC Chapter 115, TCEQ permits, and applicable state and federal law. The monitoring and testing requirements of 30 TAC Chapter 115 shall continue to apply.

Compliance with the requirements of this plan does not assure compliance with requirements of an applicable New Source Performance Standard, applicable 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.

If an AMEL is granted by the U.S. Environmental Protection Agency (EPA) or federal authorization is provided in regulations, the company shall incorporate AMEL conditions into this AMOC by revision within 90 days if any changes are needed for consistency.

D. In accordance with § 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.

E. The flare system EPN XF-4601is authorized under Permits No. 122353, PSDTX1426, GHGPSDTX114 and subject to this AMOC plan. The flare system uses Zeeco MJ-4 burners controlling MSS and upset activities. When the High Pressure (HP) Vent Header sends waste gas to the MPGF, the burners will exceed the tip velocity portions of §60.18, §63.11, and 30 TAC Chapter 115. In these instances, the Zeeco MJ-4 burners and stages will meet the requirements in paragraph F.

The MPGF system will be 11 stages of burners and a spare stage of burners for a total of 304 burners and 62 spare burners. Operations of the MPGF burners will achieve a reduction in emissions at least equivalent to the reduction in emissions being controlled by a steam-assisted, air-assisted, or non-assisted flare complying with the requirements of §§ 115.122(a)(1)-(2) or 40 CFR 60.18(b).

F. When the burners exceed the tip velocity requirements of §60.18, §63.11, and 30 TAC Chapter 115, the burners must be operated such that the following are met:

1. Operating Requirements: The net heating value of the flare vent gas combustion zone (*NHVcz*) is greater than or equal to 800 British thermal units per standard cubic foot (Btu/scf); or the combustion zone gas lower flammability limit (*LFLcz*) is less than or equal to 6.5 percent by volume.

The owner or operator must demonstrate compliance with the *NHVcz* or *LFLcz* metric by continuously complying with a 15-minute block average. The operator must calculate and monitor for the *NHVcz* or *LFLcz* according to the following:

a. **Calculation of *NHVcz***

i. If any owner or operator elects to use a monitoring system capable of continuously measuring, calculating, and recording the individual component concentrations present in the flare gas, the net heating value shall be determined using the following equation:

$$NHV_{vg} = \sum_{i=1}^{n} x_i \, NHV_i$$

Where: *NHVvg* = Net heating value of flare vent gas, British thermal units per standard cubic foot (Btu/scf). *Flare vent gas* means all gas found just prior to the MPGFs. This gas includes all flare waste gas (*i.e.,* gas from facility operations that is directed to a flare for the purpose of disposing of the gas), flare sweep gas, flare purge gas and flare supplemental gas, but does not include pilot gas.

i = Individual component in flare vent gas.

n = Number of components in flare vent gas.

x_i = Concentration of component i in flare vent gas, volume percent (vol %).

NHV_i = Net heating value of component i determined as the heat of combustion where the net enthalpy per mole of offgas is based on combustion at 25 degrees Celsius (°C) and 1 atmosphere (or constant pressure) with water in the gaseous state from values published in the literature, and then the values converted to a volumetric basis using 20 °C for ‘‘standard temperature.’’ Table 1 summarizes component properties including net heating values.

(ii) If the owner or operator uses a continuous net heating value monitor, the owner or operator may, at their discretion, install, operate, calibrate, and maintain a monitoring system capable of continuously measuring, calculating, and recording the hydrogen concentration in the flare vent gas. The owner or operator shall use the following equation to determine NHVvg for each sample measured via the net heating value monitoring system.

$$NHV_{vg} = NHV_{measured} + 938\ x_{H2}$$

Where:

NHV_{vg} = Net heating value of flare vent gas, BTU/scf.

$NHV_{measured}$ = Net heating value of flare vent gas stream as measured by the continuous net heating value monitoring system, BTU/scf.

x_{H2} = Concentration of hydrogen in flare vent gas at the time the sample was input into the net heating value monitoring system, volume fraction.

938 = Net correction for the measured heating value of hydrogen 1,212-274 BTU/scf.

(iii) (A) For non-assisted flare burners, NHVvg = NHVcz.

(B) For air-assisted burners, NHVcz should be calculated using the following equation:

$$NHV_{cz} = (Q_{vg} * NHV_{vg} + Q_{ag} * NHV_{ag}) / (Q_{vg} + Q_{ag})$$

Where:

NHVcz = Net heating value of combustion zone gas, BTU/scf.

NHVvg = Net heating value of flare vent gas for the 15-minute block period as determined according to (1)(a)(i), BTU/scf.

Qvg = Cumulative volumetric flow of flare vent gas during the 15-minute block period, scf.

Qag = Cumulative volumetric flow of assist gas during the 15-minute block period, standard cubic feet flow rate, scf.

NHVag = Net heating value of assist gas, BTU/scf; this is zero for air or for steam.

(C) For steam-assisted burners, NHVcz should be calculated using the following equation:

$$NHV_{cz} = (Q_{vg} * NHV_{vg}) / (Q_{vg} + Q_s)$$

Where:

NHVcz = Net heating value of combustion zone gas, BTU/scf.

NHVvg = Net heating value of flare vent gas for the 15-minute block period as determined according to (1)(a)(i), BTU/scf.

Qvg = Cumulative volumetric flow of flare vent gas during the 15-minute block period, scf.

Qs = Cumulative volumetric flow of total assist steam during the 15-minute block period, standard cubic feet flow rate, scf.

b. **Calculation of *LFLcz***

(i) The owner or operator shall determine *LFLcz* from compositional analysis data by using the following equation:

$$LFL_{vg} = \frac{1}{\sum_{i=1}^{n}\left[\frac{\chi_i}{LFL_i}\right]} * 100\ \%$$

Where:

LFLvg = Lower flammability limit of flare vent gas, volume percent (vol %)

n = Number of components in the vent gas.

i = Individual component in the vent gas.

χi = Concentration of component i in the vent gas, vol %.

LFLi = Lower flammability limit of component *i* as determined using values published by the U.S. Bureau of Mines (Zabetakis, 1965), vol %. All inerts, including nitrogen, are assumed to have an infinite LFL (*e.g., LFLN2* = ∞, so that x*N2*/ *LFLN2* = 0). LFL values for common flare vent gas components are provided in Table 1.

(ii) (A) For non-assisted flare burners, LFLvg = LFLcz.

(B) For steam assisted burners, LFLcz shall be calculated using the following:

$$LFLcz = \frac{LFLvg\ x\ (Qvg + Qs)}{Qvg}$$

Where:

LFLcz = Lower flammability limit of combustion zone gas (vol %).

LFLvg = Lower flammability limit of flare vent gas (vol %)

Q_{vg} = Cumulative volumetric flow of flare gas vent in scf during the 15-minute block period.

Q_s = Cumulative volumetric flow of total assist steam in scf during the 15-minute block period.

c. Calculation of Vtip is not applicable to this MPGF.

d. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring flare vent gas volumetric flow rate (Q_{vg}) the total assist steam volumetric

flow rate (Q_s), the volumetric flow rate of total assist air (Q_a), and the volumetric flow rate of total assist gas (Q_{ag}), as applicable.

i. The flow rate monitoring system must be able to correct for the temperature and pressure of the system and output parameters in standard conditions (i.e., a temperature of 20 degrees C (68 ° F) and a pressure of 1 atmosphere).

ii. Mass flow monitors may be used for determining volumetric flow rate of flare vent gas provided the molecular weight of the flare vent gas is determined using compositional analysis so that the mass flow rate can be converted to volumetric flow at standard conditions using the following equation:

$$Qvol = \frac{Qmass\ x\ 385.3}{MWt}$$

Where:

Qvol = volumetric flow rate in scf per second (scf/s).

Qmass = mass flow rate in pounds per second (lb/s)

385.3 = conversion factor scf per pound-mole

MW_t = molecular weight of the gas at the flow monitoring location, pounds per pound-mole

e. The operator shall install, operate, calibrate and maintain a monitoring system capable of continuously measuring (i.e., at least once every 15-minutes) temperature consistent with the applicable requirements in 30 TAC Chapter 115 for purposes of correcting flow rate to standard conditions. The monitor must meet the accuracy and calibration specifications annually.

For each measurement produced by monitoring systems, the operator shall determine the 15-minute block average as the arithmetic average of all measurements made by the monitoring system within the 15-minute period.

f. The operator must follow the calibration and maintenance procedures according to Table 2.

Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

2. Pilot Flame Requirements:

a. The MPGF systems shall be operated with a flame present at all times when in use.

b. Each stage of MPGF burners must have at least two pilots with at least one continuously lit pilot flame.

c. Each pilot flame must be continuously monitored by a thermocouple or any other equivalent device (such as the video camera required for visible emission monitoring as outlined in 3 below), used to detect the presence of a flame.

d. The time, date and duration of any complete loss of pilot flame on any stage of burners must be recorded.

e. Each monitoring device must be maintained or replaced at a frequency in accordance with the manufacturer's specifications.

f. Flares at refineries must meet the requirements in the Petroleum Refinery MACT (§63.670(b)) in addition to the requirements in this subsection, including:

i. Each 15-minute block during which there is at least one minute where no pilot flame is present when regulated material is routed to the flare is a deviation of the standard.

ii. Deviations in different 15-minute blocks from the same event are considered separate deviations.

3. Visible Emission Requirements:

a. When the flare is receiving regulated material, the flare system shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

b. A video camera that is capable of continuously recording (*i.e.,* at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visible emissions observations must be used to demonstrate compliance with this requirement.

c. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the video camera images may be viewed at any time.

Video camera downtime associated with maintenance periods and camera adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Maintenance and adjustment procedures conducted when the flare is not receiving regulated material are excluded from the video camera downtime calculation.

d. Flares at refineries shall comply with the requirements of 40 CFR 63.670(h):

i. The owner or operator shall conduct an initial visible emissions demonstration using an observation period of 2 hours using Method 22 at 40 CFR part 60, appendix A-7. The initial visible emissions demonstration should be conducted the first time regulated materials are routed to the flare.

ii. Subsequent visible emissions observations must be conducted using either the methods in paragraph (h)(1) of this section or, alternatively, the methods in paragraph (h)(2) of this section. The owner or operator must record and report any instances where visible emissions are observed for more than 5 minutes during any 2 consecutive hours as specified in §63.655(g)(11)(ii).

iii. Requirements of (h)(1) - At least once per day for each day regulated material is routed to the flare, conduct visible emissions observations using an observation period of 5 minutes using Method 22 at 40 CFR part 60, appendix A-7. If at any time the owner or operator sees visible emissions while regulated material is routed to the flare, even if the minimum required daily visible emission monitoring has already been performed, the owner or operator shall immediately begin an observation period of 5 minutes using Method 22 at 40 CFR part 60,

appendix A-7. If visible emissions are observed for more than one continuous minute during any 5-minute observation period, the observation period using Method 22 at 40 CFR part 60, appendix A-7 must be extended to 2 hours or until 5-minutes of visible emissions are observed. Daily 5-minute Method 22 observations are not required to be conducted for days the flare does not receive any regulated material.

iv. Requirements of (h)(2) - Use a video surveillance camera to continuously record (at least one frame every 15 seconds with time and date stamps) images of the flare flame and a reasonable distance above the flare flame at an angle suitable for visual emissions observations. The owner or operator must provide real-time video surveillance camera output to the control room or other continuously manned location where the camera images may be viewed at any time.

4. Pressure Monitor Requirements:

a. The operator of the flare system shall install and operate pressure monitor(s) on the main flare header, and

b. a valve position indicator monitoring systems for each staging valve to ensure that the flare system operates within the range of tested conditions or within the range of the manufacturer's specifications.

c. The pressure monitor shall meet the requirements in Table 2.

d. Monitor downtime associated with maintenance periods, instrument adjustments or checks to maintain precision and accuracy and zero and span adjustments may not exceed 5 percent of the time the flare is receiving regulated material. Calibration and maintenance procedures conducted when the flare is not receiving regulated material are excluded from the monitor downtime calculation.

5. Recordkeeping Requirements: All data must be recorded and maintained for a minimum of five years or for as long as applicable rule subpart(s) specify flare records should be kept, whichever is longer. Records must be maintained onsite and made available upon request by authorized representatives of the executive director, U.S. EPA, and any local air pollution control agency with jurisdiction.

6. Reporting Requirements

a. The information specified in (b) and (c) below should be reported in the timeline specified by the applicable rules for which the flare system will control emissions.

b. Owners or operators should include the final operating requirements for each flare in their initial Notification of Compliance (NOC) status report (including but not limited to the items listed in F.6.c.

c. The owner or operator shall notify the Administrator of periods of excess emissions in their Periodic Reports.

d. All MPGF shall include the following in their NOC, reports, and records:

i. Each 15-minute block during which there was at least one minute when regulated material was routed to the MPGFs and a complete loss of pilot flame on any stage or any individual burner(s) occurred.

ii. Periods of visible emissions events (including time and date stamp) that exceed more than 5 minutes in any 2 hour consecutive period.

iii. Each 15-minute block period for which an applicable combustion zone operating limit (*i.e., NHVcz* or *LFLcz*) is not met for the flare system when regulated material is being combusted in the flare. Indicate the date and time for each period, the *NHVcz* and/or *LFLcz* operating parameter for the period, the type of monitoring system used to determine compliance with the operating parameters (*e.g.,* gas chromatograph or calorimeter), and the flare stages which were in use.

iv. Periods when the pressure monitor(s) on the main flare header show the flare burners are operating outside the range of tested conditions or outside the range of the manufacturer's specifications. Indicate the date and time for each period, the pressure measurement, the stage(s) and number of flare burners affected and the range of tested conditions or manufacturer's specifications.

v. Periods when the staging valve position indicator monitoring system indicates a stage of the flare system should not be in operation, but is; or when a stage of the MPGF should be in operation, but is not. Indicate the date and time for each period, whether the stage was supposed to be open but was closed or vice versa and the stage(s) and number of flare burners affected.

vi. Flare systems at refineries shall meet the following additional requirements of §63.655(g)(11)(i)-(iii): Record the 15-minute block periods for which the applicable operating limits specified in F.(1) of this Plan are not met. Indicate the date and time for the period, the net heating value operating parameter(s) determined following the methods in §63.670(k) through (n) as applicable.

vii. Flare systems at refineries shall include the following records for flaring events meeting the criteria of §63.670(o)(3): the start and stop time and date of the flaring event; the length of time for which emissions were visible from the flare during the event; the periods of time that the flare tip velocity exceeds the maximum flare tip velocity determined using the methods in §63.670(d)(2) and the maximum 15-minute block average flare tip velocity recorded during the event; and results of the root cause and corrective actions analysis completed during the reporting period, including the corrective actions implemented during the reporting period and, if applicable, the implementation schedule for planned corrective actions to be implemented subsequent to the reporting period.

Table 1 — Individual Component Properties

Component	Molecular Formula	MWi (lb/ lb mol)	NHVi (Btu/scf)	LFLi (volume %)
Acetylene	C2H2	26.04	1,404	2.5
Benzene	C6H6	78.11	3,591	1.3
1,2- Butadiene	C4H6	54.09	2,794	2.0
1,3- Butadiene	C4H6	54.09	2,690	2.0
iso-Butane	C4H10	58.12	2,957	1.8
n-Butane	C4H10	58.12	2,968	1.8
cis-Butene	C4H8	56.11	2,830	1.6
iso-Butene	C4H8	56.11	2,928	1.8
trans-Butene	C4H8	56.11	2,826	1.7
Carbon Dioxide	CO2	44.01	0	∞
Carbon Monoxide	CO	28.01	316	12.5
Cyclopropane	C3H6	42.08	2,185	2.4
Ethane	C2H6	30.07	1,595	3.0
Ethylene	C2H4	28.05	1,477	2.7
Hydrogen	H2	2.02	1,212(*)	4.0
Hydrogen Sulfide	H2S	34.08	587	4.0
Methane	CH4	16.04	896	5.0
MethylAcetylene	C3H4	40.06	2,088	1.7
Nitrogen	N2	28.01	0	∞
Oxygen	O2	32.00	0	∞
Pentane+ (C5+)	C5H12	72.15	3,655	1.4
Propadiene	C3H4	40.06	2,066	2.16
Propane	C3H8	44.10	2,281	2.1
Propylene	C3H6	42.08	2,150	2.4
Water	H2O	18.02	0	∞

** The theoretical net heating value for hydrogen is 274 BTU/scf, but for the purposes of the flare requirement, a net heating value of 1,212 BTU/scf shall be used.*

Table 2 — Accuracy and Calibration Requirements

Parameter	Accuracy requirements	Calibration requirements
Flare Vent Gas Flow Rate	±20 percent of flow rate at velocities ranging from 0.1 to 1 feet per second. ±5 percent of flow rate at velocities greater than 1 foot per second.	Performance evaluation biennially (every two years) and following any period of more than 24 hours throughout which the flow rate exceeded the maximum rated flow rate of the sensor, or the data recorder was off scale. Conduct monthly AVO fugitive emission monitoring on each connection point. Visual inspections and checks of system operation every 3 months, unless the system has a redundant flow sensor. Select a representative measurement location where swirling flow or abnormal velocity distributions due to upstream and downstream disturbances at the point of measurement are minimized.
Flow Rate for All Flows Other Than Flare Vent Gas	± 5% over normal range of flow measured or 0.5 gal/min whichever greater for liquid flow. ± 5% over normal range of flow measured 10 ft3/min, whichever greater for gas flow. ± 5% over normal range measured for mass flow	Conduct a flow sensor calibration check at least biennially (every 2 years); conduct a calibration check following any period of more than 24 hours throughout which the flow rate exceeded the manufacturer's specified maximum rated flow rate or install a new flow sensor. At least quarterly, inspect all components for leakage, unless the continuous parameter monitoring system (CPMS) has a redundant flow sensor. Record the results of each calibration check and inspection. Locate the flow sensor(s) and other necessary equipment (such as straightening vanes) in a position that provides representative flow; reduce swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.
Pressure	±5 percent over the normal range measured or 0.12 kilopascals (0.5 inches of water column), whichever is greater.	Review pressure sensor readings at least once a week for straight-line (unchanging) pressure and perform corrective action to ensure proper pressure sensor operation if blockage is indicated. Performance evaluation annually and following any period of more than 24 hours throughout which the pressure exceeded the maximum rated pressure of the sensor, or the data recorder was off scale. Checks of all mechanical connections for leakage monthly. Visual inspection of all components for integrity, oxidation, and galvanic corrosion every 3 months, unless the system has a redundant pressure sensor. Select a representative measurement location that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.
Net Heating Value by Calorimeter	±2 percent of span	Calibration requirements should follow manufacturer's recommendations at a minimum. Temperature control (heated and/or cooled as necessary) the sampling system to ensure proper year-round operation. Where feasible, select a sampling location at least two equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select the sampling location at least two equivalent duct diameters from the nearest control device, point of pollutant generation, air in leakages, or other point at which a change in the pollutant concentration or emission rate occurs.
Net Heating Value by Gas Chromatograph	As specified in Performance Specification 9 of 40 CFR part 60 Appendix B.	Follow the procedure in Performance Specification 9 of 40 CFR Part 60 Appendix B, except that a single daily mid-level calibration check can be used, a triplicate mid-level check weekly, and the multi-point calibration can be conducted quarterly (rather than monthly), and the sampling line temperature must be maintained at a minimum temperature of 60 °C (rather than 120 °C).
Hydrogen Analyzer	± 2% over concentration measured or 0.1 vol% whichever is greater	Specify calibration requirements in your site specific CPMS monitoring plan. Calibration requirements should follow manufacturer's recommendations at a minimum. Specify the sampling location at least 2 equivalent duct diameters from the nearest control device, point of pollutant generation, air in-leakages, or other point at which a change in the pollutant concentration occurs.
ADDITIONAL REQUIREMENTS FOR FLARES AT REFINERIES		
Temperature	±1 percent over the normal range of temperature measured, expressed in degrees Celsius (C), or 2.8 degrees C, whichever is greater	Locate the temperature sensor in a position that provides a representative temperature; shield the temperature sensor system from electromagnetic interference and chemical contaminants. Conduct calibration checks at least annually; conduct calibration checks following any period of more than 24 hours throughout which the temperature exceeded the manufacturer's specified maximum rated temperature or install a new temperature sensor. At least quarterly, inspect all components for integrity and all electrical connections for continuity, oxidation, and galvanic corrosion, unless the CPMS has a redundant temperature sensor. Record the results of each calibration check and inspection.
Pressure	Same as above	Same as above with the following additional requirements: Use an instrument recommended by the sensor's manufacturer for calibration checks. Alternative option for calibration check after period of exceeding specified maximum rated pressure, may install new pressure sensor.
Net Heating Value by Calorimeter	Same as above	Same as above with the following additional requirements: Specify calibration requirements in your site specific CPMS monitoring plan.

Amber OLAH

From: Don CLAUSON
Sent: Monday, February 24, 2020 1:24 PM
To: 'Jasmine Yuan'
Cc: Lorentine SAVOY; Damian FRYOUX; Eric MILLER
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Follow Up Flag: Follow up
Flag Status: Flagged

Please see my response in red text.

From: Jasmine Yuan [mailto:Jasmine.Yuan@tceq.texas.gov]
Sent: Friday, February 21, 2020 4:17 PM
To: Don CLAUSON <don.clauson@total.com>
Cc: Lorentine SAVOY <lorentine.savoy@total.com>; John David MURPHY <john-david.murphy@total.com>; Trisha Froemming (tfroem@buell-consulting.com) <tfroem@buell-consulting.com>; Eric MILLER <eric.miller@total.com>; Damian FRYOUX <damian.fryoux@total.com>
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Hello Don,
First, I understand you want to have ground flare XF-4601 AMOC in the Title V permit. I will do that for sure. The AMOC Term 2 (a)(b)(c) are consistent with the CAM-FL-001 option, saying a flame present all times. Therefore, I am going to use the CAM-FL-001 for the ground flare CAM option.

> The only concern I have is simply stating that "a flame shall be present at all times" is not very descriptive and could create confusion for both Operators and TCEQ Staff. As discussed in the AMOC, this flare will have 11 stages and 304 burners. Each stage will have 2 pilots. The AMOC requires that at least 1 pilot in each of the 11 stages must operate with a flame present at all times. Operations could interpret "a flame present at all times" as meaning only one pilot in the flare needs to be present at all times. In other words, as long as one of the pilots in the flare is lit, the flare is in compliance. On the other hand, the statement "a flame shall be present at all times" could be interpreted by the TCEQ to suggest each of the 304 burners must have a flame present at all times. Both of these interpretations are incorrect. I believe the CAM requirement is meant to add value to assuring compliance and should avoid future confusion. I suggest that it be made clear that CAM will require each of the 11 stages shall have two pilots and that at least one pilot be lit at all times.

Secondly, the second PM frequency for group furnace is weekly, which satifies your need. Thanks

The third CAM has the deviation limit of temperature. Do you know the temperature yet? Can you give me an minimum estamte, such as 1400F, or 1300F? I need to send to our technical speclist for his review.

> As directed by NSR Permit 122353 Special Condition 15, until the initial performance test is completed, the fire box temperature shall be maintained above 1,400 °F. During the performance test, the actual firebox temperature shall be recorded and will become the final fire box temperature limit (providing exhaust gas is less than 10 ppmvd @ 3% O2 or 99.9% during the test).

Thanks,
Jasmine Yuan
5122396090

From: Don CLAUSON <don.clauson@total.com>
Sent: Thursday, February 20, 2020 9:32 AM
To: Jasmine Yuan <Jasmine.Yuan@tceq.texas.gov>
Cc: Lorentine SAVOY <lorentine.savoy@total.com>; John David MURPHY <john-david.murphy@total.com>; Trisha Froemming (tfroem@buell-consulting.com) <tfroem@buell-consulting.com>; Eric MILLER <eric.miller@total.com>; Damian FRYOUX <damian.fryoux@total.com>
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

I have responded to each of your comments below in red text. We are also working on a response to your 11-Feb-2020 email and will respond by 25-Feb-2020 as requested. Please let me know if you have any questions.

Don Clauson
Environmental Coordinator

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Don

From: Jasmine Yuan [mailto:Jasmine.Yuan@tceq.texas.gov]
Sent: Monday, February 10, 2020 4:11 PM
To: Don CLAUSON <don.clauson@total.com>
Cc: Eric MILLER <eric.miller@total.com>; Damian FRYOUX <damian.fryoux@total.com>; Lorentine SAVOY <lorentine.savoy@total.com>
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Hello Don,

I have reviewed your responses. Everything looks good.
Regarding the CAM/PM, I have discussed it with our technical specialist Alfredo Mendoza. We suggest you should use the cam/pm options listed in the guidance, instead of case by case (you need to provide justification for using case by case. However, you did not provide justification).
Because your proposed case by case is very similar to the options in our guidance. I am providing the option details below. Please review and confirm it is okay to use the suggested options.
Otherwise, you will need to provide your case by case option justifications, and minimum frequency. Then, I will ask our tech spec to review.

1. Device ID: XF-4601, CAM Case by Case. The proposal does not look like case by case. It should be CAM Option No. CAM-FL-001. The Minimum frequency should be continuous per the flare pilot flame monitoring and NSPS 60.18.

INDICATOR MONITORED	SIZE	MONITORING SPECIFICATIONS AND PROCEDURES
CONTROL DEVICE: FLARE		
1. Pilot Flame	Small/ Large	Monitor the presence of a flare pilot flame using a thermocouple or other equivalent devic to detect the presence of a flame or using an alarm that uses a thermocouple or other equivalent device to detect the absence of a flame. Maintain records of alarm events and duration of alarm events. Each monitoring device shall be accurate to within manufacturer's recommendations. Each monitoring device shall be calibrated at a frequency in accordance with the manufacturer's specifications or other written procedure that provide an adequate assurance that the device is calibrated accurately. Deviation Limit: No pilot flame.

EPN XF-4601 is a Multi-Point Ground Flare (MPGF) with 11 stages and a total of 304 burners. Each stage will have 2 pilots. When we submitted the Title V Permit Application you are currently reviewing, we had not yet received an Alternative Means of Control (AMOC) for this MPGF. The AMOC was approved by the TCEQ on 21-jun-2019. I have attached a copy of the AMOC to this email. Of particular importance, Condition 2(a) of the AMOC states that each of the 11 stages will be equipped with two pilots with at least 1 of the 2 pilots lit at all times. The AMOC is now an attachment to our NSR Permit. Would it be possible to make it an attachment to the Title V Permit also?

2. Group GRP-FURNCAP. The PM Option should be PM-P-033. This option is not in the guidance yet. We developed recently. Visible emissions, minimum frequency : once per week.

   PM text: Visible emissions observations shall be made and recorded. Note that to properly determine the presence of visible emissions, all sources must be in clear view of the observer. The observer shall be at least 15 feet, but not more than 0.25 miles, away from the emission source during the observation. The observer shall select a position where the sun is not directly in the observer's eyes. If the observations cannot be conducted due to weather conditions, the date, time, and specific weather conditions shall be recorded. When condensed water vapor is present within the plume, as it emerges from the emissions outlet, observations must be made beyond the point in the plume at which condensed water vapor is no longer visible. When water vapor within the plume condenses and becomes visible at a distance from the emissions outlet, the observation shall be evaluated at the outlet prior to condensation of water vapor.

   If visible emissions are observed, the permit holder shall report a deviation. As an alternative, the permit holder may determine the opacity consistent with Test Method 9, as soon as practicable, but no later than 24 hours after observing visible emissions. If the result of the Test Method 9 is opacity above the opacity limit in the applicable requirement, the permit holder shall report a deviation.

This is acceptable. Special Condition 13(A) of the NSR permit requires EPA Test Method 22 to be conducted on the Decoke Cyclone Stacks at least once per day. We will likely change our current procedures to require Operations to conduct Method 22 on the furnace stacks at the same time. If Operations observes visible emissions, they will mobilize a certified smoke reader to conduct EPA Method 9 to determine the opacity of the emissions. Even though we will likely perform daily Method 22 of the furnace stacks, can you please leave the requirement at weekly. This will keep us in compliance if we miss a day. Also, we are in the process of preparing an "as-built" permit amendment application and would like to add this requirement to the special conditions of the NSR permit. Operations tend to reach for the NSR permit as their primary compliance tool and it will be good to have the requirement in both permits.

3. Unit X3800 VENT. It should use CAM Option No. CAM-TI-002. Minimum frequency is 4 times per hour.

		recommendations, engineering calculations, and/or historical data.
	Small/ Large	The monitoring device should be installed in the combustion chamber or immediate downstream of the combustion chamber. Each monitoring device shall be calibrated frequency in accordance with the manufacturer's specifications, other written proce that provide an adequate assurance that the device is calibrated accurately, or at leas annually, whichever is more frequent, and shall be accurate to within one of the foll • ± 0.75% of the temperature being measured expressed in degrees Celsius; o • ± 2.5degrees Celsius. Deviation Limit: A minimum combustion temperature shall be established using the appropriate of the following: the most recent performance test data, manufacturer's recommendations, engineering calculations, and/or historical data.

We accept monitoring the temperature four time per hour. However, we would like to maintain the requested case-by-case language for Emission Unit X3800 VENT. This language mirrors similar language for vapor control devices in Title V permits at other Baystar and Total facilities. Aligning this language will ensure system consistency across plants within the organization.

Please respond as soon as you can.
Thank you very much!
Sincerely,

Jasmine Yuan
Operating Permits Section
Air Permits Division
Texas Commission on Environmental Quality
MC-163, P.O. Box 13087
Austin, TX 78711-3087
Jasmine.yuan@tceq.texas.gov

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From: Don CLAUSON <don.clauson@total.com>
Sent: Wednesday, November 20, 2019 3:14 PM
To: Jasmine Yuan <Jasmine.Yuan@tceq.texas.gov>
Cc: Eric MILLER <eric.miller@total.com>; Damian FRYOUX <damian.fryoux@total.com>; Lorentine SAVOY <lorentine.savoy@total.com>
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Hi Jasmine,

Please see your original email for a response to your questions. Also, attached is a pdf with the relevant supporting documents.

Please let Lorentine or myself know if you have any additional questions.

Don Clauson
Environmental Coordinator

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From: Jasmine Yuan [mailto:Jasmine.Yuan@tceq.texas.gov]
Sent: Tuesday, November 19, 2019 1:32 PM
To: Don CLAUSON <don.clauson@total.com>
Cc: Eric MILLER <eric.miller@total.com>; Damian FRYOUX <damian.fryoux@total.com>; Lorentine SAVOY <lorentine.savoy@total.com>
Subject: FW: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Hello All,
Upon review of the above referenced application we have determined that the application is deficient and additional information to complete the permit review is needed.
Pleas furnish the following information within 30 days or sooner.

1. UA-2, engines EMERGEN and GENERATOR, Table 1a Functionally identical replacement code should be YES or NO. The code your provided is FCD+, which is incorrect. Please double check and submit the updated forms by following the instruction. The UA2 instruction link is below

   https://www.tceq.texas.gov/assets/public/permitting/air/Forms/Title_V/Unit_Attributes/10003.pdf

Response: The code "FCD+" belongs in the column entitled RACT Date Placed in Service. No additional form completion is necessary per the form instructions. An OP-UA2 has been attached noting this changes.

2. UA12, the Unit ID you provided is 0. Please correct the form and submit the new one. Again on UA12, Page 37, the Index number is provided as 60VVa-ALL. However, the rule is not 60VVa. Should it be 60VV-ALL, or 60V-ALL ? Please double check and submit updated forms, if necessary.

Response: Emission Unit ID no. SCFUG has been added to OP-UA12. A revised OP-UA12 has been attached. 40 CFR 60 Subpart VVa applies to sources in which construction, reconstruction, or modification commenced after November 7, 2006. Since the Ethane Cracker is a new unit, 40 CFR 60 Subpart VVa applies rather than 40 CFR 60 Subpart VV.

3. For the GRP-FURNCAP, ~~the~~ 111.111(a)(1) requires the PM or CAM monitoring. If the group does not meet CAM criteria and you do not have CAM associated with them, it is okay. The PM is still required due to the lack of the monitoring in the rules. Please select a PM option fitting your current monitoring plan and submit the OP-MON. The PM guidance link is provided below:

   https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/periodicmon.pdf

Response: Form OP-MON has been attached indicating which PM option has been included.

4. There is no attributes on the UA 3 Form provided in the application for Unit V-1291. Please submit the associated form if there are applicable requirements for the unit.

Response: A revised form OP-UA3 is attached. Form OP-REQ2 has also been attached for this emission unit.

5. Tank T-1202 and T-5672 do not contain sufficient and accurate attributes for the Index R5112. For instance, the code of tank description is missing. Please update the forms.

Response: A revised form OP-UA3 is attached.

6. OP-1 contains an invalid combination of affected states. It seems your site is within 50 miles of Louisiana. So please double check the OP-1 Section II.D. instruction. Update OP-1 by checking the states you may affect or checking N/A if there are not any.

Response: A revised form OP-1 is attached indicating that the site is located within 50 miles of Louisiana.

7. OP-1 Section I. E. question, please answer it by marking the major contaminates and submit the updated forms.

Response: A revised form OP-1 is attached indicating that the site is not a major source for SO2.

8. GHGPSDTX 114 was last updated on 10/09/2019, as shown in our system. NSR 122353 and PSD permit were last revised on 08/20/2019. Do you want to incorporate these most recent PC authorizations by updating the OP-REQ1 form? If so, please submit OP-REQ1, PCA pages 86, 87.

Response: Form OP-REQ1 is attached with the necessary updates to page 86 to reflect the most currently issued PCAs.

If you have questions, free feel to contact me.

Sincerely,

Jasmine Yuan
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Texas Commission on Environmental Quality
MC-163, P.O. Box 13087
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From: Don CLAUSON <don.clauson@total.com>
Sent: Friday, November 8, 2019 8:52 AM
To: Jasmine Yuan <Jasmine.Yuan@tceq.texas.gov>
Cc: Eric MILLER <eric.miller@total.com>; Damian FRYOUX <damian.fryoux@total.com>; Lorentine SAVOY <lorentine.savoy@total.com>
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Jasmine,

Please find attached a scanned copy of the OP-DEL for assigning Tommy Chavez as a DAR for the Bayport Polymers, LCC Port Arthur Ethane Cracker. The original signed document will be forwarded to the TCEQ via certified mail

Have a good weekend.

Don Clauson
Environmental Coordinator

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From: Jasmine Yuan [mailto:Jasmine.Yuan@tceq.texas.gov]
Sent: Monday, November 04, 2019 11:27 AM
To: Don CLAUSON <don.clauson@total.com>; Ethan SNELL <ethan.snell@baystar.com>; Lorentine.Savory@baystar.com; Lorentine.Savory@total.com
Cc: Eric MILLER <eric.miller@total.com>
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Hello Don,

How are you? I remember you and others. It was 2013 or 2014 Spring. Mat, Beth, Cheryl, and myself visited your site. Thank you again for your gracious hospitality: professionalism, knowledge, and lunch 😊.
Mat is now working for Toyota in Dallas.

Right now, we have Mr. Riffer as RO in TCEQ system. I do not know why it was entered like that.
Therefore, you need to submit OP-CRO2 to change the RO to Ms. Chamberlain. Then, let her sign OP-DEL to reassign Mr. Riffer as DAR again.

Please email me the major NSR summary table at your convenient time. No rush. I will need it at the end of the review.

I am glad I can help y'all with this project.

Sincerely,

Jasmine Yuan
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From: Don CLAUSON <don.clauson@total.com>
Sent: Monday, November 4, 2019 11:15 AM
To: Jasmine Yuan <Jasmine.Yuan@tceq.texas.gov>; Ethan SNELL <ethan.snell@baystar.com>; Lorentine.Savory@baystar.com; Lorentine.Savory@total.com
Cc: Eric MILLER <eric.miller@total.com>
Subject: RE: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Good Morning Jasmine,

I believe we met a few years ago when you visited the La Port Polypropylene Plant with a group of TCEQ permit writers. It will be good finally working with you.

The RO for Bayport Polymers is Diane Chamberlain. Her office is located at the Bayport Polymers Site in Pasadena, Texas. She has been, and will continue to be the RO for the Bayport Polymer, LCC Site. Ryan Riffer is the Operations Manager at the Total Petrochemicals and Refining, USA, Inc. Port Arthur Refinery (PAR). Because of the proximity to the refinery, Total will operate the Bayport Polymers LCC, Port Arthur Ethane Cracker. At the time of the original application submittal, Mr. Riffer was acting as the refinery's Plant Manager and he was assigned by Diane Chamberlain as a DAR for the Ethane Cracker. Since the time we submitted the original application, Mr. Tommy Chavez was hired as the new plant manager. He should also be assigned by Diane Chamberlain as a DAR. It is Total's understanding that Diane Chamberlain can assign multiple DARs. If this is correct, we will likely keep Ryan Riffer as a DAR, as well as add Tommy Chavez as the primary DAR. Mr. Riffer will remain a DAR to backup Mr. Chavez.

Can you please check to make sure Diane Chamberlain is the current RO for the site?

The NAICS Code for the site is: 325110. The official name of the site is Bayport Polymers, LCC, Port Arthur Ethane Cracker.

Once again, I am looking forward to assisting you in your review of the application.

Don Clauson
Environmental Coordinator

REFINING & CHEMICALS

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From: Jasmine Yuan [mailto:Jasmine.Yuan@tceq.texas.gov]
Sent: Monday, November 04, 2019 10:43 AM
To: Don CLAUSON <don.clauson@total.com>; Ethan SNELL <ethan.snell@baystar.com>; Lorentine.Savory@baystar.com; Lorentine.Savory@total.com
Subject: Technical Review -- FOP O4161/Project 29330, Bayport Polymers LLC

Good Morning,

I have been assigned to the Federal Operating Permit (FOP) initial issuance permit application of Permit No. O4161 for Bayport Polymers LLC. This application has been assigned Project No. 29330. Please address all correspondence pertaining to this permit application, including any updates, to me at the address below, and use both the Permit and Project reference numbers above to facilitate tracking.

After a quick review, I have several questions.
Who are the RO and DAR now? If I am understanding correct, you will need to fill OP-CRO2 to change RO from Mr. Riffer to Ms. Diane Chamberlain. Then, Ms. Chamberlain will assign Mr. Riffer as DAR by submitting OP-DEL.
Second, please email me the major NSR summary table in word document so that I can edit on it.
Third, what is the NAICS code and name for the site?

Please submit the above requested forms and table within 14 days, due 11/18/2019.

Thank you for your cooperation.

Sincerely,

Jasmine Yuan
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