6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OAR-2014-0738; FRL-10009-62-OAR]

Notice of Request for Approval of Alternative Means of Emission Limitation

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice and request for comments.

SUMMARY: This action provides public notice and solicits comment on the alternative means of emission limitation (AMEL) request from Lyondell Chemical Company (Lyondell), under the Clean Air Act (CAA), for the multi-point ground flares (MPGFs) at its Channelview chemical plant in Houston, Texas.

DATES: *Comments*. Comments must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].**

Public hearing: If anyone contacts us requesting a public hearing on or before **[INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, the EPA will hold a virtual public hearing on **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Please refer to the **SUPPLEMENTARY INFORMATION** section for additional information on the public hearing.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2014-0738, by any of the following methods:

- Federal eRulemaking Portal: *https://www.regulations.gov/* (our preferred method). Follow the online instructions for submitting comments.
- Email: *a-and-r-docket@epa.gov*. Include Docket ID No. EPA-HQ-OAR-2014-0738 in the subject line of the message.

Instructions. Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2014-0738, at *https://www.regulations.gov/*. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov, Regulations.gov is our preferred method of receiving comments. All submissions received must include the Docket ID No. for this rulemaking. For detailed instructions on sending comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document. Out of an abundance of caution for members of the public and our staff, the EPA Docket Center and Reading Room was closed to public visitors on March 31, 2020, to reduce the risk of transmitting COVID-19. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via *https://www.regulations.gov/* or email, as there is a temporary suspension of mail delivery to the EPA, and no hand deliveries are currently accepted. For further information on EPA Docket Center services and the current status, please visit us online at *https://www.epa.gov/dockets*.

If requested, the virtual hearing will be held on **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].** The hearing will convene at 9:00 a.m. Eastern Standard Time (EST) and will conclude at 3:00 p.m. EST. The EPA will announce further details on the virtual public hearing website at *https://www.epa.gov/stationary-sources-air-pollution/alternative-means-emission-limitation-flares*. Refer to the **SUPPLEMENTARY INFORMATION** section below for additional information.

FOR FURTHER INFORMATION CONTACT: For questions about this action, contact Ms. Angela Carey, Sector Policies and Programs Division (E143-01), Office of Air Quality Planning and Standards (OAQPS), U.S. Environmental Protection Agency, Research Triangle Park, North

Carolina 27711; telephone number: (919) 541-2187; fax number: (919) 541-0516; and email address: *carey.angela@epa.gov*.

SUPPLEMENTARY INFORMATION:

Participation in virtual public hearing. Please note that the EPA is deviating from its typical approach because the President has declared a national emergency. Due to the current Centers for Disease Control and Prevention (CDC) recommendations, as well as state and local orders for social distancing to limit the spread of COVID-19, the EPA cannot hold in-person public meetings at this time.

If a public hearing is requested, the EPA will begin pre-registering speakers for the hearing upon publication of this document in the **Federal Register**. To register to speak at the virtual hearing, please use the online registration form available at *https://www.epa.gov/stationary-sources-air-pollution/alternative-means-emission-limitation-flares* or contact Virginia Hunt at 919-541-0832 or by email at *hunt.virginia@epa.gov* to register to speak at the virtual hearing. The last day to pre-register to speak at the hearing will be **[INSERT DATE 13 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. On **[INSERT DATE 14 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, the EPA will post a general agenda for the hearing that will list pre-registered speakers in approximate order at: *https://www.epa.gov/stationary-sources-air-pollution/alternative-means-emission-limitation-flares*.

The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearing to run either ahead of schedule or behind schedule.

Each commenter will have 5 minutes to provide oral testimony. The EPA encourages commenters to provide the EPA with a copy of their oral testimony electronically (via email) by emailing it to Angela Carey and Virginia Hunt. The EPA also recommends submitting the text of your oral testimony as written comments to the rulemaking docket.

The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during the comment period will be considered with the same weight as oral testimony and supporting information presented at the public hearing.

Please note that any updates made to any aspect of the hearing will be posted online at *https://www.epa.gov/stationary-sources-air-pollution/alternative-means-emission-limitation-flares*. While the EPA expects the hearing to go forward as set forth above, if requested, please monitor our website or contact Virginia Hunt at 919-541-0832 or *hunt.virginia@epa.gov* to determine if there are any updates. The EPA does not intend to publish a document in the **Federal Register** announcing updates.

If you require the services of a translator or a special accommodation such as audio description, please pre-register for the hearing with Virginia Hunt and describe your needs by **[INSERT DATE 7 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The EPA may not be able to arrange accommodations without advance notice.

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2014-0738. All documents in the docket are listed in Regulations.gov. Although listed, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as

copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available electronically in Regulations.gov.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2014-0738. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *https://www.regulations.gov/*, including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit electronically any information you consider to be CBI or other information whose disclosure is restricted by statue. This type of information should be submitted by mail as discussed below.

The EPA may publish any comment received to its public docket. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the Web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets*.

The *https://www.regulations.gov/* website allows you to submit your comment anonymously, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through *https://www.regulations.gov/*, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you

include your name and other contact information in the body of your comment and with any digital storage media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at *https://www.epa.gov/dockets*.

The EPA is temporarily suspending its Docket Center and Reading Room for public visitors to reduce the risk of transmitting COVID-19. Written comments submitted by mail are temporarily suspended and no hand deliveries will be accepted. Our Docket Center staff will continue to provide remote customer service via email, phone, and webform. We encourage the public to submit comments via *https://www.regulations.gov/*. For further information and updates on EPA Docket Center services, please visit us online at *https://www.epa.gov/dockets*.

The EPA continues to carefully and continuously monitor information from the CDC, local area health departments, and our Federal partners so that we can respond rapidly as conditions change regarding COVID-19.

Submitting CBI. Do not submit information containing CBI to the EPA through *https://www.regulations.gov/* or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on any digital storage media that you mail to the EPA, mark the outside of the digital storage media as CBI and then identify electronically within the digital storage media the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI directly to the public docket through the procedures outlined in *Instructions* section above. If you submit any digital storage

media that does not contain CBI, mark the outside of the digital storage media clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 Code of Federal Regulations (CFR) part 2. Send or deliver information identified as CBI only to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA-HQ-OAR-2014-0738. Note that written comments containing CBI and submitted by mail may be delayed and no hand deliveries will be accepted.

Acronyms and abbreviations. We use multiple acronyms and terms in this document. While this list may not be exhaustive, to ease the reading of this document and for reference purposes, the EPA defines the following terms and acronyms here:

AMEL	alternative means of emission limitation
BTU/scf	British thermal units per standard cubic foot
CAA	Clean Air Act
CBI	Confidential Business Information
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
Eqn	equation
HAP	hazardous air pollutants
MPGF	multi-point ground flare
NESHAP	national emission standards for hazardous air pollutants
NHV	net heating value
NHV_{cz}	net heating value of combustion zone gas
NHV_{vg}	net heating value of flare vent gas
NSPS	new source performance standards
OAQPS	Office of Air Quality Planning and Standards
POTBA	propylene oxide tertiary butyl alcohol unit
scf	standard cubic feet
SKEC	steam-assisted kinetic energy combustor
VOC	volatile organic compounds

Organization of this document. The information in this document is organized as follows:

I. Background

In this action, the U.S. Environmental Protection Agency (EPA) is soliciting comment on all aspects of this AMEL request by Lyondell, including the corresponding operating conditions that would demonstrate that the requested AMEL would achieve a reduction in emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAP) at least equivalent to the reduction in emissions required by the applicable standards in 40 CFR parts 60 and 63. Lyondell is requesting an AMEL for the MPGFs to be used at a new propylene oxide tertiary butyl alcohol ("POTBA") unit at Lyondell's Channelview facility. According to Lyondell, the POTBA unit is subject to the new source performance standards (NSPS) and national emission standards for hazardous air pollutants (NESHAP) for source categories identified in Table 1 below. These NSPS and NESHAP incorporate the flare design and operating requirements in the 40 CFR parts 60 and 63 General Provisions (*i.e.*, 40 CFR 60.18(b) and 63.11(b)) into the individual subparts.

This AMEL request was submitted to the EPA because the MPGFs for the new POTBA unit would not be able to comply with the applicable flare tip velocity requirements in the General Provisions to 40 CFR parts 60 and 63. These maximum flare tip velocity requirements ensure that the flame does not "lift off" or separate from the flare tip, which could cause flame instability and/or potentially result in a portion of the flare gas being released without proper

combustion. Proper combustion for flares is considered to be 98-percent destruction efficiency or greater for organic HAP and VOC. The MPGFs in this AMEL request are designed to operate with tip exit velocities greater than those allowed in 40 CFR 60.18 and 63.11, while achieving ≥ 96.5-percent combustion efficiency and 98-percent destruction efficiency.

Provided below in Table 1 is a list of regulations, by subparts, that Lyondell has identified as applicable to the new POTBA unit's MPGFs described in this section above. The middle column identifies the requirement in each cited NSPS or NESHAP that flares used to satisfy the NSPS or NESHAP must meet flare design and operating requirements in the 40 CFR parts 60 and 63 General Provisions (*i.e.*, 40 CFR 60.18(b) and 63.11(b)). Lyondell is seeking an AMEL for these flare requirements.

TABLE 1 — SUMMARY OF APPLICABLE RULES TO EMISSIONS CONTROLLED BY MPGFS FOR THE POTBA

Applicable rules with vent streams going to control device(s)	Emission Reduction Requirements (Allowing for Use of a Flare)	Provisions for Alternative Means of Emission Limitation
NSPS subpart VV	60.482-1 60.482-10(d)	60.484
NSPS subpart VVa	60.482-1a 60.482-10a(d)	60.484a
NSPS subpart III	60.612(b)	
NSPS subpart NNN	60.662(b)	
NSPS subpart RRR	60.702(b)	
NSPS subpart Kb	60.112b(a)(3)(ii)	60.114b
NESHAP subpart V	61.242-1 61.242-11(d)	63.6(g)
NESHAP subparts F, G	63.102, 63.112(e), 63.113(a)(1)(i), 63.116(a)(2), 63.116(a)(3), 63.119(e)(1), 63.120(e)(1) through (4), 63.126(b)(2)(i), 63.128(b), 63.139(c)(3), 63.139(d)(3), 63.145(j)	63.6(g)
NESHAP subpart H	63.162 63.172(d), 63.180(e)	63.162(b) 63.177

The provisions in each NSPS and NESHAP Table 1, cited above, which ensure that flares meet certain specific operating requirements when used to satisfy the requirements of the NSPS or NESHAP, were established as work practice standards pursuant to CAA sections 111(h)(1) or 112(h)(1). For standards established according to these provisions, CAA sections 111(h)(3) and 112(h)(3) allow the EPA to permit the use of an AMEL by a source if, after notice and opportunity for comment,[1] it is established to the Administrator's satisfaction that such an AMEL will achieve emissions reductions at least equivalent to the reductions required under the applicable CAA section 111(h)(1) or 112(h)(1) standards. As noted in Table 1 of this document, many of the identified NSPS and NESHAP also include specific regulatory provisions allowing sources to request an AMEL.

Lyondell submitted an AMEL request to operate above the applicable maximum permitted velocity requirements for flares in the General Provisions in 40 CFR parts 60 and 63. Lyondell provided information that the flare designs for the POTBA MPGFs achieve a reduction in emissions at least equivalent to the reduction in emissions for flares complying with the applicable General Provisions requirements. Lyondell's AMEL request was submitted on July 9, 2019, according to the framework for pressure assisted MPGFs that was published in the **Federal Register** on April 21, 2016 (see 81 FR 23486). The MPGF designs in this request are multi-point tip designs which employ large numbers of tips at heights close to ground level. The EPA has reviewed this request and has deemed the application to be complete. For further information on Lyondell's AMEL requests, see supporting materials from Lyondell at Docket ID No. EPA-HQ-OAR-2014-0738.

II. Request for AMEL

A. Propylene Oxide Tertiary Butyl Alcohol Unit (POTBA) MPGFs

[1] CAA section 111(h)(3) requires that the EPA provide an opportunity for a hearing.

Lyondell is seeking an AMEL for operating MPGFs at its new POTBA unit during both routine and emergency vent gas flows. Specifically, the AMEL is for a small MPGF for routine vent gas flows, as well as a separate larger MPGF for emergency vent gas flows.

Both MPGFs are designed as an integral part of a larger control system that will control waste gases in stages. Vent gases are captured and routed back into the process and/or fuel systems to minimize environmental impact. Gases not returned back to process or to fuel gas systems are directed to a control system with two separate dispositions: a low pressure (LP) MPGF and a high pressure (HP) MPGF. The LP continuous or routine stages for the POTBA MPGF will be in one burner field and the HP emergency stages will be in a separate burner field. The planned POTBA LP MPGF is designed to have two stages with a total of 12 John Zink SKEC steam assist burners. Each steam assisted burner will have a natural gas fired direct spark electronic ignition pilot. Each stage will also have at least two pilots with a continuously lit pilot flame. The planned POTBA HP MPGF is designed to have nine stages with six John Zink SKEC steam assist burners and 694 John Zink LRGO-HC pressure assist burners. Each steam assisted burner will have a natural gas fired direct spark electronic ignition pilot. Each stage of the pressure assisted burners will have two continuously lit pilots. As mentioned in section I above, both MPGFs are designed to operate with tip exit velocities greater than those allowed in 40 CFR 60.18 and 63.11, while achieving ≥ 96.5-percent combustion efficiency and 98-percent destruction efficiency.

B. Information Supporting AMEL Request for POTBA MPGFs

As mentioned in section I above, Lyondell provided the information specified in the 2016 flare AMEL framework to support its AMEL request. The information provided by Lyondell includes: (1) details on the project scope and background; (2) information on applicable NSPS

and NESHAP; (3) flare test data on destruction efficiency/combustion efficiency; (4) flare stability testing data; (5) flare cross-light testing data; (6) information on flare reduction considerations; and (7) information on appropriate flare monitoring and operating conditions. (For further information on the supporting materials provided, see Docket ID No. EPA-HQ-OAR-2014-0738.)

Information supplied by Lyondell indicates that both MPGFs can achieve≥ 96.5-percent combustion efficiency and 98-percent destruction efficiency if operated under certain conditions. Generally, testing of burners for the vent gas mixture determined to be representative of the flare operation was used to set the appropriate combustion zone net heating value (NHV_{cz}) minimum limit. However, EPA recently proposed amendments to the Ethylene Production NESHAP, 40 CFR part 63, subpart YY (84 FR 54278, October 9, 2019), and the Miscellaneous Organic NESHAP (MON), 40 CFR part 63, subpart FFFF (84 FR 69182, December 17, 2019), for MPGFs. These rules proposed that owners or operators of MPGF: (1) maintain an $NHV_{cz} \geq 800$ British thermal units per standard cubic foot (BTU/scf); (2) continuously monitor the NHV_{cz} and flare vent gas flow rate; (3) continuously monitor for the presence of a pilot flame, and if cross-lighting is used on a particular stage of burners because there is no pilot on each burner, then continuously monitor to ensure that the stage has a minimum of two pilots per stage that will ignite all flare vent gases sent to that stage; (4) operate the MPGF with no visible emissions (except for 5 minutes during any 2 consecutive hours); (5) maintain a distance of no greater than 6 feet between any two burners in series on a stage of burners that do not have a continuously lit pilot; and (6) monitor to ensure staging valves for each stage of the MPGF operate properly so that the flare will control vent gases within the proper flow and pressure ranges based on the flare manufacturer's recommendations. For the reasons stated in those two proposed rules, we

are including in this document these same requirements as operating conditions for the requested AMEL, as specified in section III below.

III. AMEL for the POTBA MPGFs

Based upon our review of the AMEL request, we believe that, by complying with the operating conditions specified in Table 2 and accompanying paragraphs below, the MPGFs for the new POTBA at Lyondell's Channelview facility will achieve emission reductions at least equivalent to reduction in emissions being controlled by MPGFs complying with the flare requirements under the applicable NSPS and NESHAP identified in Table 1 of this document. We are seeking the public's input on this request. Specifically, the EPA seeks the public's input on the conditions specified in this document in the following paragraphs.

TABLE 2 – PROPOSED ALTERNATIVE OPERATING CONDITIONS

AMEL Submitted	Company	Affected Facilities	Flare Type(s)	Proposed Alternative Operating Conditions
7/9/19	Lyondell	Channelview, TX, small MPGF for routine vent gas flows; and a separate larger MPGF for emergency vent gas flows	MPGFs	≥800 BTU/scf NHV_{cz}

(1) All MPGFs must be operated such that the combustion zone gas net heating value (NHV_{cz}) is ≥800 BTU/scf. Owners or operators must demonstrate compliance with the applicable NHV_{cz} on a 15-minute block average. Owners or operators must calculate and monitor for the NHV_{cz} according to the following:

(a) Calculation of NHV_{cz}

(i) If an owner or operator elects to use a monitoring system capable of continuously measuring (*i.e.*, at least once every 15 minutes), calculating, and recording the individual

component concentrations present in the flare vent gas, NHV_{vg} shall be calculated using the following equation:

$$NHV_{vg} = \sum_{i=1}^{n} x_i NHV_i \qquad \text{(Eqn. 1)}$$

where:

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

Flare vent gas means all gas found just prior to the tip. This gas includes all flare waste gas (*i.e.*, gas from facility operations that is directed to a flare for the purpose of disposing 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 fraction.

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 are converted to a volumetric basis using 20 °C for "standard temperature." Table 3 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 NHV_{vg} for each sample measured via the net heating value monitoring system.

$$NHV_{vg} = NHV_{measured} + 938x_{H2} \quad \text{(Eqn. 2)}$$

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, /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) NHV_{cz} shall be calculated using Equation 3.

$$NHV_{cz} = \frac{Q_{vg} \times NHV_{vg} + Q_{ag} \times NHV_{ag}}{(Q_{vg} + Q_{ag})} \quad \text{(Eqn. 3)}$$

where:

NHV_{cz} = Net heating value of combustion zone gas, BTU/scf.

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

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

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

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

(b) For all flare systems specified in this document, the operator shall install, operate, calibrate, and maintain a monitoring system capable of continuously measuring the volumetric flow rate of flare vent gas (Q_{vg}), the volumetric flow rate of total assist steam (Q_s), the volumetric flow rate of total assist air (Q_a), and the volumetric flow rate of total assist gas (Q_{ag}).

(i) The flow rate monitoring systems 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 °C (68 °Fahrenheit) 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:

$$Q_{vol} = \frac{Q_{mass} \times 385.3}{MW_t} \qquad \text{(Eqn. 6)}$$

where:

Q_{vol} = Volumetric flow rate, scf/second (sec).

Q_{mass} = Mass flow rate, pounds per sec.

385.3 = Conversion factor, scf per pound-mole.

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

(c) For each measurement produced by the monitoring system used to comply with (1)(a)(ii), 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.

(d) The operator must follow the calibration and maintenance procedures according to Table 4. Total time spent on maintenance, 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.

TABLE 3 — INDIVIDUAL COMPONENT PROPERTIES

Component	Molecular Formula	MW_i (pounds per pound-mole)	NHV_i (BTU/scf)	LFL_i (volume %)
Acetylene	C_2H_2	26.04	1,404	2.5
Benzene	C_6H_6	78.11	3,591	1.3
1,2-Butadiene	C_4H_6	54.09	2,794	2.0
1,3-Butadiene	C_4H_6	54.09	2,690	2.0
iso-Butane	C_4H_{10}	58.12	2,957	1.8
n-Butane	C_4H_{10}	58.12	2,968	1.8
cis-Butene	C_4H_8	56.11	2,830	1.6
iso-Butene	C_4H_8	56.11	2,928	1.8
trans-Butene	C_4H_8	56.11	2,826	1.7
Carbon Dioxide	CO_2	44.01	0	∞
Carbon Monoxide	CO	28.01	316	12.5
Cyclopropane	C_3H_6	42.08	2,185	2.4
Ethane	C_2H_6	30.07	1,595	3.0
Ethylene	C_2H_4	28.05	1,477	2.7
Hydrogen	H_2	2.02	1,212*	4.0
Hydrogen Sulfide	H_2S	34.08	587	4.0
Methane	CH_4	16.04	896	5.0
Methyl-Acetylene	C_3H_4	40.06	2,088	1.7
Nitrogen	N_2	28.01	0	∞
Oxygen	O_2	32.00	0	∞
Pentane+ (C5+)	C_5H_{12}	72.15	3,655	1.4
Propadiene	C_3H_4	40.06	2,066	2.16
Propane	C_3H_8	44.10	2,281	2.1
Propylene	C_3H_6	42.08	2,150	2.4
Water	H_2O	18.02	0	∞

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

TABLE 4 — 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 foot per sec. ±5 percent of flow rate at	Evaluate performance biennially (every 2 years) and following any period of more than 24 hours throughout which the flow rate exceeded the

	velocities greater than 1 foot per sec.	maximum rated flow rate of the sensor, or the data recorder was off scale. Check all mechanical connections for leakage monthly. Visually inspect and check 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 percent over the normal range of flow measured or 1.9 liters per minute (0.5 gallons per minute), whichever is greater, for liquid 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.
	±5 percent over the normal range of flow measured or 280 liters per minute (10 cubic feet per minute), whichever is greater, for gas flow.	At least quarterly, inspect all components for leakage, unless the continuous parameter monitoring system (CPMS) has a redundant flow sensor.
	±5 percent over the normal range measured for mass flow.	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. Evaluate performance 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. Check all mechanical connections for leakage monthly. Visually inspect 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	Calibrate according to 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 2 equivalent diameters downstream from and 0.5 equivalent diameters upstream from the nearest disturbance. Select 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 or emission rate occurs.
Net Heating Value by Gas Chromatograph	As specified in Performance Standard (PS) 9 of 40 CFR part 60, appendix B.	Follow the procedure in PS 9 of 40 CFR part 60, appendix B, except that a single daily mid-level calibration check can be used (rather than triplicate analysis), 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 percent over the concentration measured, or 0.1 volume, percent,	Specify calibration requirements in your site specific CPMS monitoring plan. Calibrate according to

	whichever is greater.	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.

(2) The flare system must be operated with a flame present at all times when in use. Additionally, each stage must have at least two pilots with a continuously lit pilot flame. Each pilot flame must be continuously monitored by a thermocouple or any other equivalent device used to detect the presence of a flame. The time, date, and duration of any complete loss of pilot flame on any of the burners must be recorded. Each monitoring device must be maintained or replaced at a frequency in accordance with the manufacturer's specifications.

(3) The MPGF system shall be operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. 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. 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.

(4) The operator of the MPGF system shall install and operate pressure monitor(s) on the main flare header, as well as a valve position indicator monitoring system capable of monitoring and recording the position for each staging valve to ensure that the flare operates within the range of tested conditions or within the range of the manufacturer's specifications. The pressure monitor

shall meet the requirements in Table 4. Total time spent on 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.

(5) Recordkeeping Requirements

(a) All data must be recorded and maintained for a minimum of 3 years or for as long as required under applicable rule subpart(s), whichever is longer.

(6) Reporting Requirements

(a) The information specified in sections III (6)(b) and (c) below must be reported in the timeline specified by the applicable rule subpart(s) for which the MPGFs will control emissions.

(b) Owners or operators shall include the final AMEL operating requirements for each flare in their initial Notification of Compliance status report.

(c) The owner or operator shall notify the Administrator of periods of excess emissions in their Periodic Reports. The notification shall include:

(i) Records of each 15-minute block for both MPGFs during which there was at least 1 minute when regulated material was routed to the flare and a complete loss of pilot flame on a stage of burners occurred, and for both MPGFs, records of each 15-minute block during which there was at least 1 minute when regulated material was routed to the flare and a complete loss of pilot flame on an individual burner occurred.

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

(iii) Records of each 15-minute block period for which an applicable combustion zone operating limit (*i.e.*, NHV_{cz}) is not met for the flare when regulated material is being combusted in the flare. Indicate the date and time for each period, the NHV_{cz} 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 also indicate which high-pressure stages were in use.

(iv) Records of 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) Records of when the staging valve position indicator monitoring system indicates a stage of the flare should not be in operation and is or when a stage of the flare should be in operation and 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.

IV. Request for Comments

We solicit comments on all aspects of Lyondell's requests for approval of an AMEL for MPGFs to be used to comply with the standards specified in Table 1 of this document. We specifically seek comment regarding whether or not the MPGF operating requirements listed in section III above will achieve emission reductions at least equivalent to emissions being controlled by flares complying with the applicable flare requirements in 40 CFR 60.18(b) and 63.11(b).

Dated: May 22, 2020.

Panagiotis Tsirigotis,

Director, Office of Air Quality Planning and Standards.

[FR Doc. 2020-11541 Filed: 5/28/2020 8:45 am; Publication Date: 5/29/2020]