



Region 6 - Enforcement & Compliance Assurance Division
INSPECTION REPORT

Inspection Date(s):	05/06/2024	
Media Program:	Air	
Regulatory Program(s)	SIP, Title V, NSPS, NESHAP, MACT	
Company Name:	Braskem America, Inc.	
Facility Name:	La Porte Plant	
Facility Physical Location:	8811 Strang Rd.	
(city, state, zip code)	La Porte, TX 77571	
Mailing address:	8811 Strang Rd.	
(city, state, zip code)	La Porte, TX 77571	
County/Parish:	Harris	
Facility Phone Number	(281) 930-2007	
Facility Contact:	Jeremy Holton	Site Leader
	Jeremy.Holton@braskem.com	
FRS Number:	110000463631	
Identification/Permit Number:	RN102888328 / Permits: O1424, 5572B	
Media Identifier Number:	AFS # 48-201-00485	
NAICS:	325211 – Plastics Material and Resin Manufacturing	
SIC:	2821 – Plastic Materials, Synthetic Resins & Nonvulcanizable Elastomers	
Personnel participating in inspection:		
Sophia Ong	EPA Region 6, ECADAT	Physical Scientist
James Haynes	EPA Region 6, ECADAT	Physical Scientist
Colleen McCarthy	EPA Region 6, ECADAT	Life Scientist
Ben Rosenthal	EPA Region 6, ECADAT	Physical Scientist
Sydney Knodl	EPA Region 6, ECADAT	Physical Scientist
Jeremy Holton	Braskem America, Inc.	Site Leader
Clint Penrose	Braskem America, Inc.	Environmental Lead
Geetha Ganesan	Braskem America, Inc.	Environmental Engineer
Gary Rabik	Braskem America, Inc.	Lead Environmental Engineer
Thomas Cubler	Braskem America, Inc.	US HES Leader
Patrick Cumberland	Braskem America, Inc.	Attorney
EPA Lead Inspector Signature/Date		
	Sophia Ong	Date
Supervisor Signature/Date		
	James Leathers	Date

Section I – INTRODUCTION

PURPOSE OF THE INSPECTION

EPA Region 6 inspectors James Haynes, Colleen McCarthy, Ben Rosenthal, Sydney Knodl, and I, Sophia Ong, (“we” or “us”) arrived at the Braskem America, Inc.’s La Porte Plant (“Braskem” or the “Facility”) at 8:50 on May 6, 2024, for an unannounced inspection. We met with Braskem representatives Jeremy Holton, Site Leader; Clint Penrose, Environmental Lead; and Geetha Ganesan, Environmental Engineer in a conference room of the site’s main administrative building. Gary Rabik, Lead Environmental Engineer; Thomas Cubler, US HES Leader; and Patrick Cumberland, Attorney, for Braskem joined the opening conference remotely via Microsoft Teams video call. Credentials were presented to Mr. Holton at 9:30 and we informed him that this was an EPA inspection to determine compliance with the facility’s Title V Air Permit and the Clean Air Act (“CAA”). The scope of the inspection is a partial compliance evaluation (“PCE”) focusing on the Facility’s flares and includes an evaluation of the facility’s Title V operating permit, the Texas State Implementation Plan (“SIP”), and applicable Clean Air Act Regulations listed under Parts 60 and 63 of Title 40 of the Code of Federal Regulations (“CFR”).

FACILITY DESCRIPTION

Braskem America, Inc. owns and operates a polypropylene production facility in La Porte, Texas. The La Porte facility has approximately 160 Braskem employees and approximately 100 contractors. The Facility operates 24 hours a day, 7 days a week, for a total of 8,760 hours per year. Braskem operates under CAA Part 70 Operating Permit No. O1424 and New Source Review Permit No. 5572B issued by the Texas Commission on Environmental Quality (“TCEQ”). According to Mr. Holton, the facility’s daily production rate is 5 million pounds (2,500 tons) of polypropylene and the UTEC process unit, previously referred to as the B-Line Production Unit produces 100 metric tons.

The Facility consists of three production lines. The B-Line Production Unit produces powdered Ultra High Molecular Weight Polyethylene (“UHMWPE”) based on a slurry process from the polymerization of ethylene in hexane solvent using a high efficiency catalyst. The C-Line Production Unit produces polypropylene pellets through the polymerization of polymer grade and chemical grade propylene. D-Line Production Unit produces homo, random, and impact polypropylene through the polymerization of polymer grade propylene. Each production unit has a flare (EPNs 44, 140, and 202) to control routine process vents, maintenance/startup/shutdown process vents, and emergency vents.

Section II - OBSERVATIONS

We watched a visitor orientation training safety video in the conference room at 9:35. We met with Braskem representatives Mr. Holton, Mr. Penrose, and Ms. Ganesan in the conference room to discuss the scope of the inspection and planned inspection activities. We shared our intent to tour of the facility and conduct interviews with facility personnel. The sign-in sheet for the opening conference is attached as Appendix 3. Mr. Holton provided us with an overview of the Facility’s operations and current

conditions. Mr. Holton informed us that at the time of the inspection, propylene distillation was down resulting in increased flaring to the C-Line Flare. We were also informed that the B-Line Production Unit was down for baghouse maintenance. Mr. Holton explained that the B-Line Production Unit was modified and rebranded in 2017 and is now referred to as UTEC-1.

I stated we would inspect the Facility's flares. According to Mr. Holton, each production unit has a flare to control volatile organic compounds ("VOCs") that are not recycled through the flare gas recovery system. The B-Line Flare is steam assisted. The C-Line Flare is always operated as an air assisted flare and steam added as needed. The D-Line Flare is a totally enclosed ground flare ("TEGF"). I explained that we would use a FLIR Gx620 Optical Gas Imaging Camera ("OGIC") to observe equipment at the site.

After discussing site processes, we entered the Facility at 10:55. Mr. Holton, Mr. Penrose, and Ms. Ganesan accompanied us during the Facility tour. Colleen McCarthy, James Haynes, and Ben Rosenthal operated the OGIC while in the field. Logs of photographs and videos taken during the inspection are found in Appendix 1 and 2, respectively.

At 11:00, we made entry into the UTEC-1 (B-Line) Control Room and met Chris Alvarado, Process Board Operator, and Jared Roth, Shift Supervisor. Mr. Alvarado explained there are two headers sent to the B-Line Flare: Main and Auxiliary. The two headers are monitored using two flow meters and two gas chromatography ("GC") analyzers for composition. According to Mr. Alvarado, the British Thermal Unit ("BTU") value of the vent gas is calculated from the GCs data. Mr. Roth stated UTEC-1 was down and in maintenance status for cleaning the reactors and centrifuge dryers until approximately Friday.

Following the UTEC-1 Control Room, we began the facility tour at the B-Line Flare. Ms. McCarthy used the OGIC to observe the B-Line Flare and did not observe emissions (Appendix 1, Photographs 1-2). Mr. Penrose explained the B-Line Production Unit is subject to 40 CFR Part 63 Subpart FFFF – National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Manufacturing ("MON"), in part, because of the use of hexane, a hazardous air pollutant ("HAP").

We proceeded to the D-Line TEGF. Ms. McCarthy used the OGIC to observe the D-Line TEGF (Appendix 1, Photograph 3). Ms. McCarthy observed uncombusted hydrocarbon emissions from the D-Line TEGF using the OGIC (Appendix 2, Video 1) [AOC 1]. The TEGF is a John Zink Hamworthy Combustion enclosed ground flare system manufactured in 2019 according to the data plate located on the TEGF (Appendix 1, Photograph 4). I observed heat signature from the burners through the TEGF viewing port window. Mr. Penrose explained that the TEGF has nine pilots with thermocouples and operates by stages. When the TEGF sees different pressures, different stage burners turn on when more flow is detected.

We proceeded to the North Control Room. During the walk to the North Control Room, Ms. McCarthy used the OGIC to observe the C-Line Flare. During the observation, trailing uncombusted hydrocarbon emissions were observed from the C-Line Flare (Appendix 2, Video 2) [AOC 2]. Using the OGIC, Mr. Haynes also observed the trailing hydrocarbon plume from the C-Line Flare (Appendix 2, Video 3). Mr. Haynes captured a visible light video of the C-Line Flare as well (Appendix 2, Video 4).

At 12:00, we made entry into the North Control Room and met Steve Bowerman, North Foreman Shift Supervisor for the D-Line Production Unit, and Jimmy Barham, Board Operator Production Trainer for the C-Line Production Unit. We first viewed the D-Line Flare controls with Mr. Bowerman. At the time of inspection, the D-Line Production Unit was in operation. The speciated chemical composition of the flare gas was available for review on the monitors. Mr. Bowerman explained that nitrogen is the purge gas.

We continued through the North Control Room to the C-Line Flare controls with Mr. Barham. Mr. Barham explained that the C-Line Flare has two air assist blowers: one blower is always on, and one blower is manually added as necessary. Steam is also added manually when necessary to the C-Line Flare. At the time of inspection, both blowers were operating at approximately 40% speed.

Following the North Control Room, we proceeded to the C-Line Flare. We observed the two blowers in series at the base of the C-Line Flare. Mr. Rosenthal used the OGIC to observe the C-Line Flare (Appendix 1, Photograph 5).

At 12:38, we arrived at the hexane storage tanks area located in the B-Line Production Unit. According to Mr. Holton, the hexane storage tanks are vertical fixed roof under nitrogen purge. We climbed hexane storage tank D-706 to survey with the OGIC. Mr. Rosenthal used the OGIC to observe the pressure relief device ("PRD") and gooseneck vent on hexane tank D-706 (Appendix 1, Photograph 6). No emissions were observed with the OGIC. Mr. Holton explained that Braskem operators conduct visual inspections four times a day to monitor pressure at the PRD. We concluded our site tour at 12:52.

Section III – AREAS OF CONCERN

EPA Region 6 Inspectors Sophia Ong, James Haynes, Colleen McCarthy, Ben Rosenthal, and Sydney Knodl ("we") conducted a closing conference at Braskem America, Inc. – La Porte Plant at 13:05 on May 6, 2024, for the inspection. The facility representatives Jeremy Holton, Clint Penrose, Geetha Ganesan, and Gary Rabik (virtual) were present for the closing conference. See the closing sign-in sheet in Appendix 3. During the closing conference, we summarized the facility tour and presented our observations, including the Areas of Concern ("AOC") noted below. The facility made no claims of confidential business information regarding the videos taken on-site. The facility was informed that copies of the videos would be made available to the facility following the inspection. We departed the facility at 13:13.

- 1) EPA Inspectors observed uncombusted hydrocarbon emissions from the D-Line TEGF with the OGIC. This indicates that the flare may be operating with poor combustion efficiency resulting in excess emissions.
- 2) EPA Inspectors observed uncombusted hydrocarbon emissions with the OGIC from the C-Line Flare. This indicates that the flare may be operating with poor combustion efficiency resulting in excess emissions.

Section IV – FOLLOW UP

On May 16, 2024, Sophia Ong provided electronic copies of the photographs and videos recorded during the inspection to Mr. Penrose and Mr. Holton.

On May 16, 2024, EPA requested additional documentation relating to flare information and data, and records associated with pressure relief devices in organic HAP service in the B-Line Production Unit following the inspection.

On May 31, 2024, Mr. Penrose provided the requested records to EPA.

Section V – LIST OF APPENDICES

Appendix 1 – Photo Log – 6 photos taken 05/06/2024

Appendix 2 – Video Log – 4 FLIR videos taken 05/06/2024

Appendix 3 – Opening and closing conference sign-in sheets

Appendix 1

Photograph Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 1

Location: Braskem America, Inc. / La Porte Plant		
City: La Porte	County: Harris	State: Texas



Photo File Name: FLIR0024.jpg

Date of Photo: 05/06/2024

Time of Photo: 11:30

Photographer: Colleen McCarthy

Description: Two flare headers observed at the B-Line Flare.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 2

Location: Braskem America, Inc. / La Porte Plant		
City: La Porte	County: Harris	State: Texas



Photo File Name: FLIR0025.jpg

Date of Photo: 05/06/2024

Time of Photo: 11:36

Photographer: Colleen McCarthy

Description: B-Line Flare.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 3

Location: Braskem America, Inc. / La Porte Plant		
City: La Porte	County: Harris	State: Texas



Photo File Name: FLIR0027.jpg

Date of Photo: 05/06/2024

Time of Photo: 11:37

Photographer: Colleen McCarthy

Description: D-Line Totally Enclosed Ground Flare.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 4

Location: Braskem America, Inc. / La Porte Plant		
City: La Porte	County: Harris	State: Texas



Photo File Name: FLIR0030.jpg

Date of Photo: 05/06/2024

Time of Photo: 11:43

Photographer: Colleen McCarthy

Description: Data plate on D-Line Totally Enclosed Ground Flare.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 5

Location: Braskem America, Inc. / La Porte Plant		
City: La Porte	County: Harris	State: Texas



Photo File Name: FLIR0035.jpg

Date of Photo: 05/06/2024

Time of Photo: 12:28

Photographer: Ben Rosenthal

Description: C-Line Flare.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Photograph Log

Photo No. 6

Location: Braskem America, Inc. / La Porte Plant		
City: La Porte	County: Harris	State: Texas



Photo File Name: FLIR0036.jpg

Date of Photo: 05/06/2024

Time of Photo: 12:43

Photographer: Ben Rosenthal

Description: Pressure relief device and gooseneck vent on hexane tank D-706.

Appendix 2

Video Log



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

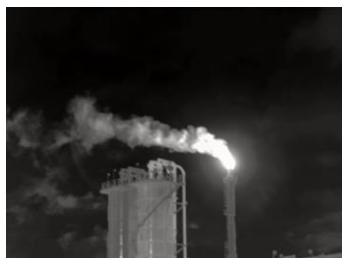
Video Log

Location: Braskem America, Inc. / La Porte Plant		
City: La Porte	County: Harris	State: Texas



Video 1

Video File Name: [FLIR0028.mp4](#)
 Date of Video: 05/06/2024
 Time of Video: 11:38
 Videographer: Colleen McCarthy
 Description: Hydrocarbon emissions observed from D-Line Totally Enclosed Ground Flare.



Video 2

Video File Name: [FLIR0031.mp4](#)
 Date of Video: 05/06/2024
 Time of Video: 11:53
 Videographer: Colleen McCarthy
 Description: Hydrocarbon emissions observed from C-Line Flare.



Video 3

Video File Name: [FLIR0032.mp4](#)
 Date of Video: 05/06/2024
 Time of Video: 11:55
 Videographer: James Haynes
 Description: Hydrocarbon emissions observed from C-Line Flare.



Video 4

Video File Name: [FLIR0033.mp4](#)
 Date of Video: 05/06/2024
 Time of Video: 11:56
 Videographer: James Haynes
 Description: Visible light video of C-Line Flare.

Appendix 3
Opening and Closing Conference
Sign-in Sheets

Opening/Pre-Inspection Meeting

Commence opening/pre-inspection meeting Time: 09:30

Name	Title	Representing	Telephone No.
Gary Rabik	(Corporate) Env. Engineer	Braskem	610-304-7307
Thomas Cuhler	Support	Braskem	484-844-7990
Geetha Ganesen	Env. Engineer	Braskem	770-823-4649
Clint Benrose	ENV Lead	Braskem	713 252 0089
Jeray Holton	Site Leader	Braskem	304-633-6324
Ben Kounthel	EPA RG insp.	EPA RG	
Colleen McCarthy	EPA inspector	EPA RG	214-665-7334
Sophro Ong	EPA inspector	EPA RG	214-665-2778
James Haynes	Physical Scientist	EPA RG	214-665-6546
Sydney Knoll	EPA inspector	EPA RG	214-665-6536
Patrick Cumberland	Attorney	Braskem	

Conclude opening/pre-inspection meeting Time: 10:34Initials / Date: SL / 5/6/24

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Exit interview / Out-briefing MeetingCommenced meeting..... Time: 1305

Name	Title	Representing	Telephone No.
Geetha Ganesan			
Clint Benrose			
Jeremy Holt			
Gary /			
James			
Sophia			
Colleen			
Ben			
Sydney			
Thomas			

Conclude meeting..... Time: 1305
Exit interview / Out-briefing Meeting Notes: SK

Initials / Date: SK 15/6/24