Blue Cube Operations LLC

604 Texas Hwy 332
Lake Jackson, TX 77566
www.Olin.com

March 14, 2025

E-PERMIT SUBMISSION

STEERS MC-226
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: Turnaround fugitive components
Chlorine 5 Plant, A-13
Blue Cube Operations LLC*
CN604930784, RN108772245, Acct No. BL-A044-R
PBR §106.262 Registration

Dear APIRT Team Leader:

Blue Cube Operations LLC* (Blue Cube) is submitting the following Permit by Rule (PBR) §106.262 registration to authorize the installation of additional fugitive components resulting from a project involving additional plug valves to optimize Cell Body Leak Tests and start-ups in the Chlorine 5 Plant in Freeport, Texas.

The attachments to this submittal are:

- Form PI-7 CERT
- §106.4 Demonstration of Compliance
- Process Flow Diagram and Process Description
- Table 1 Emission Limits
- PBR Compliance Table
- PBR General Facilities Workbook
- Emission Calculations

Blue Cube has included in this PBR registration information that is confidential. The confidential information is labeled and included in a separate section. For future correspondence, please contact me at (979) 529-3065 or via email at ikotsiourouba@olin.com.

Sincerely,

Ivan Kotsiourouba
Air Permit Manager
Blue Cube Operations LLC*

Certification and Registration for Permits by Rule
Form PI-7-CERT
Page 1
Texas Commission on Environmental Quality

I. Registrant Information
A. Company or Other Legal Customer Name:
Company Official Contact Information (☐ Mr. ☒ Mrs. ☐ Ms. ☐ Other _____)
Name: **Gretchen Abney**
Title: **Site Leveraged EH&S Leader**
Mailing Address: **604 Highway 332**
City: **Lake Jackson**
State: **Texas**
ZIP Code: **77566**
Phone: **(979) 529-3050**
Fax: **N/A**
Email Address: **GBAbney@Olin.com**
All PBR registration responses will be sent via email.
A. Technical Contact Information (☒ Mr. ☐ Mrs. ☐Ms. ☐ Other _____)
Name: **Ivan Kotsiourouba**
Title: **Air Permit Manager**
Company Name: **Blue Cube Operations LLC**
Mailing Address: **604 Highway 332**
City: **Lake Jackson**
State: **Texas**
ZIP Code: **77566**
Phone Number: **(979) 529-3065**
Fax Number: **N/A**
Email Address: **ikotsiourouba@olin.com**

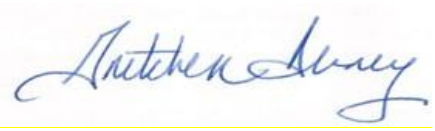
Certification and Registration for Permits by Rule
Form PI-7-CERT
Page 2
Texas Commission on Environmental Quality

II. Facility and Site Information
A. Name and Type of Facility
Facility Name: **Chlorine 5 Plant, A-13**
Facility Type: ☒ Permanent ☐ Temporary
For portable units, please provide the serial number of the equipment being authorized below.
Serial No(s):
B. Facility Location Information
Street Address: **2301 N. Brazosport Blvd**
If there is no street address, provide written driving directions to the site and provide the closest city or town, county, and ZIP code for the site (attach description if additional space is needed).
City: **Freeport**
County: **Brazoria**
ZIP Code: **77541-3257**
C. TCEQ Core Data Form
Is the Core Data Form (TCEQ Form Number 10400) attached? ☐ YES ☒ NO
If "NO," provide customer reference number (CN) and regulated entity number (RN) below.
Customer Reference Number (CN): **CN604930784**
Regulated Entity Number (RN): **RN108772245**
D. TCEQ Account Identification Number (if known): **BL-A044-R**
E. Type of Action
☒ Initial Application ☐ Change to Registration
For Change to Registration provide the Registration Number:
F. PBR number(s) claimed under 30 TAC Chapter 106
(List all the individual rule number(s) that are being claimed.)
106.**262**
106.
106.

II. Facility and Site Information *(continued)*	
G. Historical Standard Exemption or PBR	
Are you claiming a historical standard exemption or PBR?	☐ YES ☒ NO
If "YES," enter rule number(s) and associated effective date in the spaces provided below.	
Rule Number:	Effective Date:
Rule Number:	Effective Date:
H. Previous Standard Exemption or PBR Registration Number	
Is this authorization for a change to an existing facility previously authorized under a standard exemption or PBR?	☐ YES ☒ NO
If "YES," enter previous standard exemption number(s) and PBR registration number(s) and associated effective dates in the spaces provided below.	
Standard Exemption and PBR Registration Number:	
Effective Date:	
I. Other Facilities at this Site Authorized by Standard Exemption, PBR, or Standard Permit	
Are there any other facilities at this site that are authorized by an Air Standard Exemption, PBR, or Standard Permit?	☒ YES ☐ NO
If "YES," enter standard exemption number(s), PBR registration number(s), and Standard Permit registration number(s), and associated effective date in the spaces provided below. **There are many PBR's and Standard Permits registered at this site. A list can be provided if necessary for review of this project.**	
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s):	
Effective Date:	
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s):	
Effective Date:	
Standard Exemption, PBR Registration, and Standard Permit Registration Number(s):	
Effective Date:	
J. Other Air Preconstruction Permits	
Are there any other air preconstruction permits at this site?	☒ YES ☐ NO
If "YES," enter permit number(s) in the spaces provided below.	
There are many NSR permits issued for this site. A list can be provided if necessary for review of this project.	
K. Affected Air Preconstruction Permits	
Does the PBR being claimed directly affect any permitted facility?	☒ YES ☐ NO

II. Facility and Site Information *(continued)*	
If "YES," enter the permit number(s) in the spaces provided below.	
NSR #4022	
L. Federal Operating Permit (FOP) Requirements (30 TAC Chapter 122 Applicability)	
1. Is this facility located at a site that is required to obtain an FOP pursuant to 30 TAC Chapter 122?	☒ YES ☐ NO ☐ To Be Determined
If the site currently has an existing FOP, enter the permit number: **Title V #2202**	
Check the requirements of 30 TAC Chapter 122 that will be triggered if this certification is accepted. *(check all that apply)*	
☐ Initial Application for a FOP	☐ Significant Revision for an SOP ☐ Minor Revision for an SOP
☐ Operational Flexibility/Off Permit Notification for an SOP	☐ Revision for a GOP
☐ To be Determined	☒ None
2. Identify the type(s) of FOP issued and/or FOP application(s) submitted/pending for the site. *(check all that apply)*	
☒ SOP	☐ GOP ☐ GOP application/revision (submitted or under APD review)
☐ N/A	☒ SOP application/revision (submitted or under APD review)
III. Fee Information (*See Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online.)*	
A. Fee Requirements	
Is a fee required per Title 30 TAC § 106.50?	☒ YES ☐ NO
If "NO," specify the exception. There are three exceptions to paying a PBR fee. (*check all that apply*)	
1. Registration is solely to establish a federally enforceable emission limit.	☐
2. Registration is within six months of an initial PBR review, and it is addressing deficiencies, administrative changes, or other allowed changes.	☐
3. Registration is for a remediation project (30 TAC § 106.533).	☐
B. Fee Amount	
1. A $100 fee is required if *any* of the answers in III.B.1 are "YES."	
This business has less than 100 employees.	☐ YES ☒ NO
This business has less than $6 million dollars in annual gross receipts.	☐ YES ☒ NO
This registration is submitted by a governmental entity with a population of less than 10,000.	☐ YES ☒ NO
This registration is submitted by a non-profit organization.	☐ YES ☒ NO

III.	**Fee Information (***See Section VII. for address to send fee or go to www.tceq.texas.gov/epay to pay online.) (continued)*
2.	A $450 fee is required for all other registrations
A.	Payment Information
Check/money order/transaction or voucher number: **Paid via STEERS**	
Individual or company name on check: **N/A**	
Fee Amount: **$450**	
Was the fee paid online?	☒ YES ☐ NO
IV.	**Technical Information Including State aAnd Federal Regulatory Requirements** **Check the appropriate box to indicate what is included in your submittal.** **NOTE:** *Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in a deficiency of the project.*
A.	PBR requirements (Checklists are optional; however, your review will go faster if you provide applicable checklists.)
Did you demonstrate that the general requirements in 30 TAC § 106.4 are met?	☒ YES ☐ NO
Did you demonstrate that the individual requirements of the specific PBR are met?	☒ YES ☐ NO
B	Confidential Information Included (If confidential information is submitted with this registration, all confidential pages must be properly marked “CONFIDENTIAL.”) ☒ YES ☐ NO
C.	Process Flow Diagram: ☒ YES ☐ NO
D.	Process Description: ☒ YES ☐ NO
E.	Maximum Emissions Data and Calculations: ☒ YES ☐ NO
Note: *If the facilities listed in this registration are subject to the Mass Emissions Cap & Trade program under* ***30 TAC Chapter 101, Subchapter H, Division 3,*** *the owner/operator of these facilities must possess NO_x allowances equivalent to the actual NO_x, emissions from these facilities.*	
F.	Is this certification being submitted to certify the emissions for the entire site? ☐ YES ☒ NO
If “NO,” include a summary of the specific facilities and emissions being certified.	
G.	Table 1(a) (Form 10153) Emission Point Summary: ☒ YES ☐ NO
H.	Distances from Property Line and Nearest Off-Property Structure
Distance from this facility’s emission release point to the nearest property line:	**>2000** feet
Distance from this facility’s emission release point to the nearest off-property structure:	**>2000** feet

IV. Technical Information Including State and Federal Regulatory Requirements **Check the appropriate box to indicate what is included in your submittal.** **NOTE:** *Any technical or essential information needed to confirm that facilities are meeting the requirements of the PBR must be provided. Not providing key information could result in a deficiency of the project.*
I. Project Status
Has the company implemented the project or waiting on a response from TCEQ? ☒ Implemented ☐ Waiting
J. Projected Start of Construction and Projected Start of Operation Dates:
Projected Start of Construction (provide date): **04/01/2025**
Projected Start of Operation (provide date): **05/15/2025**
V. Delinquent Fees
This form **will not be processed** until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ is paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ website at: www.tceq.texas.gov/agency/financial/fees/delin/index.html.
VI. Signature For Registration and Certification
The signature below confirms that I have knowledge of the facts included in this application and that these facts are true and correct to the best of my knowledge and belief. I further state that to the best of my knowledge and belief, the project for which this application is made will not in any way violate any provision of the Texas Water Code (TWC), Chapter 7; the Texas Health and Safety Code, Chapter 382, the Texas Clean Air Act (TCAA); the air quality rules of the Texas Commission on Environmental Quality; or any local governmental ordinance or resolution enacted pursuant to the TCAA. I further state that I understand my signature indicates that this application meets all applicable nonattainment, prevention of significant deterioration, or major source of hazardous air pollutant permitting requirements. The signature further signifies awareness that intentionally or knowingly making or causing to be made false material statements or representations in the application is a criminal offense subject to criminal penalties.
Name (printed):
Gretchen Abney
Signature (original signature required)

Date: **March 14, 2025**

Blue Cube Operations LLC

Permit by Rule

Turnaround fugitive components

Chlorine 5 Plant, A-13

March 14, 2025

Project Description

Overview	Blue Cube Operations LLC (Blue Cube) is proposing to install new fugitive components under PBR §106.262 at the Chlorine 5 Plant, A-13, in Freeport, Texas. The purpose of the project is to add 2" plug valves to the anolyte sight glass overflow lines on multiple Electrolyzers. This will allow Blue Cube Operations to perform Cell Body Leak Test (CBLT) and startups more efficiently. All applicable requirements will be maintained, and no new requirements are triggered.
Affected sources	The following EPN is being affected by this project: ▪ A19FU7 – Process Area fugitives
Upstream and downstream impacts	The project will have no upstream or downstream impacts.
Impact on central wastewater and solid waste facilities	There will be no impact on the central wastewater treatment facilities or the solid waste facilities.
Emission Calculations	The emission calculations contain confidential information and can be found in the confidential section of this submittal.
MSS Emissions	There are no changes to MSS Emissions as part of this application.
Air Pollutant Watch List	This project occurs within an Air Pollutant Watch List area (APWL1201) but does not include any increases or decreases of any pollutant of concern for that area (arsenic, cobalt, nickel or vanadium).
Title V and Other Regulations	This plant is authorized under the Title V Permit 4022. The affected fugitive area for this project is existing. This change does not require notification under Title V since the addition of components to a fugitive emission source is not considered an "addition of an emission source". This exclusion from notification is documented in TCEQ's "Site Operating Permit (SOP) Revision Application Guidance", APDG 5951v16, revised 01/21, middle of page 7 under "Note" in section VII, part D.

General Information

In this section

The permit by rule requirements specified on Form PI-7 CERT are addressed in this section as follows:

PI-7 CERT Section	Description
IV	Process Description (Non-Confidential)
IV	Process Flow Diagram
IV	Regulatory Requirements

Process Description

Introduction

In this process, chlorine, sodium hydroxide and hydrogen are produced by the electrolysis of brine. In addition, the chlorine processing area is designed to recover other chlorine streams from within Chlorine 5, the chlorine liquefaction process and distribution system. The fugitive area for the facility is EPN A13FU7.

Diaphragm and Membrane Cell Areas

Chlorine, sodium hydroxide, and hydrogen are produced in diaphragm and membrane cells by the electrolysis of brine using DC power.

The diaphragm cell hydrogen vent stacks (EPNs A13SV7 through A13SV10) are routinely used for the purpose of managing hydrogen supply from the diaphragm cell to the hydrogen forwarding system. Each stack is equipped to scrub entrained salt and caustic particulate from the hydrogen.

The membrane cell hydrogen vent stacks (EPNs A13SV11 and A13SV12) are routinely used for the purpose of managing hydrogen supply from the membrane cells to the hydrogen forwarding system.

Chlorine Cooling, Drying & Compression (CDC)

Chlorine is cooled, dried using concentrated sulfuric acid, compressed, and then forwarded to the chlorine distribution system. Dilute sulfuric acid is forwarded to the Spent Acid Neutralization system.

Hydrochloric Acid

Hydrochloric acid is received and stored in the plant, where it is then distributed to the membrane cells or the anolyte tanks. It is also diluted and distributed for use in the diaphragm cells. HCl is added to remove entrained carbon dioxide (CO2).

T-206A Diaphragm Cell Header Pressure Control and Shutdown Scrubber

The T-206A Diaphragm Cell Header Pressure Control and Shutdown Scrubber, J-201A/J-202A/D- 206A/T-206A (EPN A13SV1) scrubs the chlorine emission generated from the diaphragm cells when activated.

Brine Absorber (T-104)

The Brine Absorber's (EPN A13SV5) primary function is to recover the chlorine from the liquefaction process tailgas and may work in conjunction with the Superscrubber and the Backup Vent Scrubber. If needed, the exit gas from the Brine Absorber can be routed automatically from the atmosphere into the Backup Vent Scrubber or the Superscrubber for additional scrubbing.

The Brine Absorber's secondary function is to be used in series with the Backup Vent Scrubber to scrub chlorine vent streams normally scrubbed by the Superscrubber in the event the Superscrubber is out of service.

Superscrubber (T-204)

The Super scrubber (EPN A13SV3) scrubbing system receives various gas streams containing up to 100% chlorine gas, and neutralizes the chlorine using alkaline liquid.

Backup Vent Scrubber (T-105)

The Backup Vent Scrubber's (EPN A13SV6) primary function is to operate in conjunction with the Brine Absorber (T-104). In the event there is excess chlorine from the Brine Absorber exit gas stream, this gas can be routed to the Backup Vent Scrubber for added scrubbing using alkaline liquid.

The Backup Vent Scrubber's secondary function is to operate in series with the Brine Absorber to scrub chlorine vent streams normally scrubbed by the Super-scrubber in the event the Super-scrubber is out of service.

By-Product Alkalinity Treatment

Weak start up cell effluent from the cells, spent effluent from all scrubbers, as well as drainage from process area containment systems are collected for hypochlorite removal and forwarded to the by-product alkalinity (BPA) distribution system. Sodium thiosulfate is used to decompose hypochlorite in the BPA.

Hydrogen Forwarding

Hydrogen from the diaphragm and membrane cells is cooled, compressed, and forwarded to the hydrogen distribution system. Hydrogen vents (EPNs A13V6, A13V7) are routinely used to manage hydrogen supply to Hydrogen Distribution.

Diaphragm Cells Cell Effluent Forwarding

The aqueous sodium hydroxide product (cell effluent) from the diaphragm train is pumped into a distribution system serving a variety of user plants.

Cell Effluent Tank Vent Scrubber

Cell effluent vapors are collected from the Diaphragm Cell Effluent Forwarding system and sent to the tank vent scrubber (EPN A13SV4).

Membrane Cells Caustic Evaporation

Sodium hydroxide from the membrane cells is collected and steam evaporated to form a 50% caustic solution. The 50% caustic is then forwarded to the caustic distribution system.

Membrane Anolyte Treatment

Anolyte from the membrane cell area is collected, and the chlorine content is recovered with the aid of aqueous HCl added to the spent anolyte. The recovered chlorine is then forwarded to (CDC). The anolyte liquid is then treated using cell effluent and an inorganic reducing agent, and then forwarded to the Anolyte Distribution system.

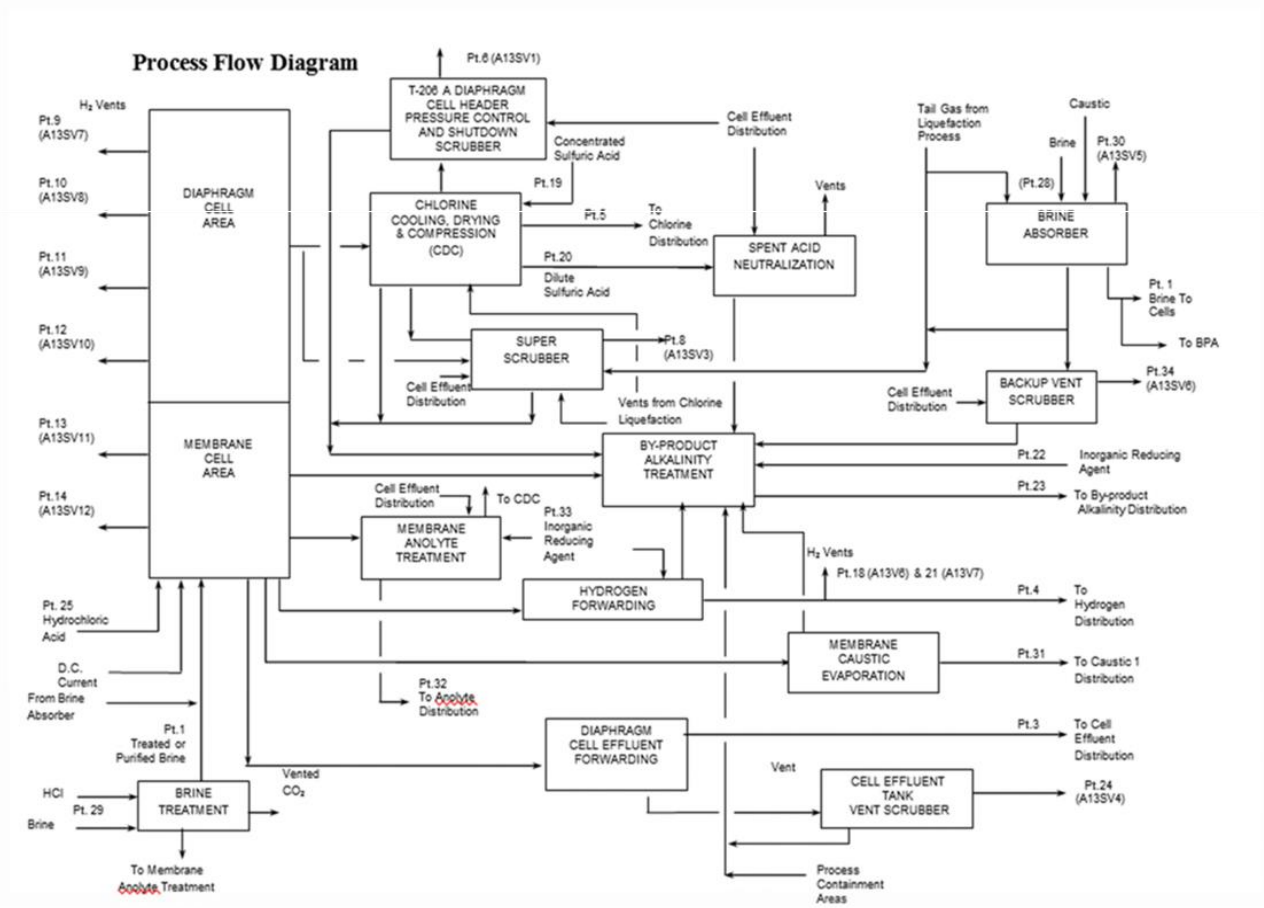
Brine Treatment

Sodium Hydroxide from the membrane cells is collected, steam evaporated and forwarded to the caustic distribution system.

Spent Acid Neutralization

Dilute sulfuric acid is collected and forwarded to the Spent Acid Neutralization system. The sulfuric acid is neutralized using an alkaline liquid. The liquid is forwarded to the By-Product Alkalinity Treatment system.

Chlorine 5 Facility Process Diagram



Regulatory Requirements

In this section Following is a list of topics in this section:

Description
§106.4 General Requirements for Permitting by Rule

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

The following checklist was developed by the Texas Commission on Environmental Quality (TCEQ), **Air Permits Division**, to assist applicants in determining whether or not a facility meets all of the applicable requirements. Before claiming a specific Permit by Rule (PBR), a facility must first meet all of the requirements of **Title 30 Texas Administrative Code § 106.4** (30 TAC § 106.4), "Requirements for Permitting by Rule." Only then can the applicant proceed with addressing requirements of the specific Permit by Rule being claimed.

The use of this checklist is not mandatory; however, it is the responsibility of each applicant to show how a facility being claimed under a PBR meets the general requirements of 30 TAC § 106.4 and also the specific requirements of the PBR being claimed. If all PBR requirements cannot be met, a facility will not be allowed to operate under the PBR and an application for a construction permit may be required under 30 TAC § 116.110(a).

Registration of a facility under a PBR can be performed by completing **Form PI-7** (Registration for Permits by Rule) or **Form PI-7-CERT** (Certification and Registration for Permits by Rule). The appropriate checklist should accompany the registration form. Check the most appropriate answer and include any additional information in the spaces provided. If additional space is needed, please include an extra page and reference the question number. The PBR forms, tables, checklists, and guidance documents are available from the TCEQ, Air Permits Division website at: www.tceq.texas.gov/permitting/air/nav/air_pbr.html.

1. 30 TAC § 106.4(a)(1) and (4): Emission Limits	**Answer**
List emissions in tpy for **each** facility (add additional pages or table if needed): **See Table 1(a)**	
Are the SO_2, PM_{10}, VOC, or other air contaminant emissions claimed for **each** facility in this PBR submittal less than 25 tpy?	☒ YES ☐ NO
Are the NO_x and CO emissions claimed for each facility in this PBR submittal less than 250 tpy?	☒ YES ☐ NO
If the answer to both is "Yes," continue to the question below. If the answer to either question is "No," a ***PBR cannot be claimed****.*	
Has any facility at the property had public notice and opportunity for comment under 30 TAC Section 116 for a regular permit or permit renewal? (This does not include public notice for voluntary emission reduction permits, grandfathered existing facility permits, or federal operating permits.)	☒ YES ☐ NO
If "Yes," skip to Section 2. If "No," continue to the questions below.	
If the site has had no public notice, please answer the following:	
Are the SO_2, PM_{10}, VOC, or other emissions claimed for **all** facilities in this PBR submittal less than 25 tpy?	☐ YES ☐ NO
Are the NO_x and CO emissions claimed for all facilities in this PBR submittal less than 250 tpy?	☐ YES ☐ NO
If the answer to both questions is "Yes," continue to Section 2.	
If the answer to either question is "No," ***a PBR cannot be claimed****. A permit will be required under Chapter 116.*	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

2. 30 TAC § 106.4(a)(2): Nonattainment Check	**Answer**
Are the facilities to be claimed under this PBR located in a designated ozone nonattainment county?	☒ YES ☐ NO
If "Yes," please indicate which county by checking the appropriate box to the right.	
(Moderate) - Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller counties:	☒ HGB
(Moderate) - Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise counties:	☐ DFW
If "Yes," to any of the above, continue to the next question. If "No," continue to Section 3.	
1. Does this project trigger a nonattainment review?	☐ YES ☒ NO
2. Is the project's potential to emit (PTE) for emissions of VOC or NO_x increasing by 100 tpy or more?	☐ YES ☒ NO
PTE is the maximum capacity of a stationary source to emit any air pollutant under its worst-case physical and operational design unless limited by a permit, rules, or made federally enforceable by a certification.	
Is the site an existing major nonattainment site and are the emissions of VOC or NO_x increasing by 40 tpy or more?	☐ YES ☒ NO
If needed, attach contemporaneous netting calculations per nonattainment guidance.	
Additional information can be found at: www.tceq.texas.gov/permitting/air/forms/newsourcereview/tables/nsr_table8.html and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
*If "Yes," to any of the above, the project is a major source or a major modification and **a PBR may not be used**. A Nonattainment Permit review must be completed to authorize this project. If "No," continue to Section 3.*	
3. 30 TAC § 106.4(a)(3): Prevention of Significant Deterioration (PSD) check	
Does this project trigger a review under PSD rules? **No**	
To determine the answer, review the information below:	
Are emissions of any regulated criteria pollutant increasing by 100 tpy of any criteria pollutant at a named source?	☐ YES ☒ NO
Are emissions of any criteria pollutant increasing by 250 tpy of any criteria pollutant at an unnamed source?	☐ YES ☒ NO
Are emissions increasing above significance levels at an existing major site?	☐ YES ☒ NO
PSD information can be found at: www.tceq.texas.gov/assets/public/permitting/air/Forms/NewSourceReview/Tables/10173tbl.pdf and www.tceq.texas.gov/permitting/air/nav/air_docs_newsource.html	
*If "Yes," to any of the above, **a PBR may not be used**. A PSD Permit review must be completed to authorize the project.*	
If "No," continue to Section 4.	

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

4. 30 TAC § 106.4(a)(6): Federal Requirements	**Answer**
Will all facilities under this PBR meet applicable requirements of Title 40 Code of Federal Regulations (40 CFR) Part 60, New Source Performance Standards (NSPS)?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 63, Hazardous Air Pollutants Maximum Achievable Control Technology (MACT) standards?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
Will all facilities under this PBR meet applicable requirements of 40 CFR Part 61, National Emissions Standards for Hazardous Air Pollutants (NESHAPs)?	☐ YES ☐ NO ☒ NA
If "Yes," which Subparts are applicable? *(answer below.)*	
If "Yes" to any of the above, please attach a discussion of how the facilities will meet any applicable standards.	
5. 30 TAC § 106.4(a)(7): PBR prohibition check	
Are there any air permits at the site containing conditions which prohibit or restrict the use of PBRs?	☐ YES ☒ NO
If "Yes," PBRs may not be used or their use must meet the restrictions of the permit. A new permit or permit amendment may be required.	
List permit number(s):	
6. 30 TAC § 106.4(a)(8): NO_x Cap and Trade	
Is the facility located in Harris, Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?	☒ YES ☐ NO
If "Yes," answer the question below.	
If "No," continue to Section 7.	
Will the proposed facility or group of facilities obtain required allowances for NO_x if they are subject to 30 TAC Chapter 101, Subchapter H, Division 3 (relating to the Mass Emissions Cap and Trade Program)?	☐ YES ☐ NO ☒ NA

Texas Commission on Environmental Quality
Permit by Rule Applicability Checklist
Title 30 Texas Administrative Code § 106.4

7. Highly Reactive Volatile Organic Compounds (HRVOC) check		
Is the facility located in Harris County?		☐ YES ☒ NO
If "Yes," answer the next question. If "No," skip to the box below.		
Will the project be constructed after June 1, 2006?		☐ YES ☐ NO
If "Yes," answer the next question.		
If "No," skip to the box below.		
Will one or more of the following HRVOC be emitted as a part of this project?		☐ YES ☐ NO
If "Yes," complete the information below:		
Information	**lb/hr**	**tpy**
► 1,3-butadiene		
► all isomers of butene (e.g., isobutene [2-methylpropene or isobutylene])		
► alpha-butylene (ethylethylene)		
► beta-butylene (dimethylethylene, including both cis- and trans-isomers)		
► ethylene		
► propylene		
Is the facility located in Brazoria, Chambers, Fort Bend, Galveston, Liberty, Montgomery, or Waller County?		☒ YES ☐ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
Will the project be constructed after June 1, 2006?		☒ YES ☐ NO
If "Yes," answer the next question. If "No," the checklist is complete.		
Will one or more of the following HRVOC be emitted as a part of this project?		☐ YES ☒ NO
If "Yes," complete the information below:		
Information	**lb//hr**	**tpy**
► ethylene		
► propylene		

TCEQ - 10149 (APDG 4999v18, revised 12/19) 106.4 Checklist for Permits by Rule General Requirements
This form for use by facilities subject to air quality permit requirements and may be revised periodically.

APPENDICES

In this section Following is a list of topics in this section:

Appendix A

PBR Compliance Table

Table 2 PBR Compliance

EPN	Air Contaminant	Project Increase		TLV or L Value	PBR Limt		Limit Citation	In Compliance
		lb/hr	T/yr	mg/m3	lb/hr	T/yr		
A13FU7	Chlorine	0.008	0.035					
	Total Chlorine	**0.008**	**0.035**	1.5	**0.11**	**0.47**	106.262(a)(2)	**YES**

Note: Emissions shown as 0.00 are <0.01 but > zero.

A-13	2,000	ft. from the nearest off-site receptor.
Therefore in 106.262, the value for K is:	14	

Appendix B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Table 1(a) Emissions Point Summary

Date:	**March 2025**	Permit Number:	**4022**	RN Number:	**108772245**
Area Name:	**Blue Cube Operations LLC**			CN Number:	**604930784**

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this Table.

AIR CONTAMINANT DATA							
1. Emission Point			2. Component or Air Contaminant Name	3. Air Contaminant Emission Rate		PBR EMISSIONS	
EPN (A)	FIN (B)	NAME (C)		Pound Per Hour [A]	Ton Per Year [B]	Pound Per Hour [A]	Ton Per Year [B]
A13FU7	A13C5FU3	Process Area Fugitives	Chlorine (Cl_2)	<0.01	0.035	0.0079	0.035

TCEQ - 10153 (Revised 04/08) Table 1(a)
This form is for use by sources subject to air quality permit requirements and may be revised periodically. (APDG 5178 v5)

Blue Cube Operations LLC

Permit by Rule

Turnaround fugitive components

Chlorine 5 Plant, A-13

March 14, 2025

CONFIDENTIAL INFORMATION

Appendix C

Emission Calculations

CONFIDENTIAL