Public Notice of Application and Intent to Obtain Air Permit Amendment and Renewal

Equistar Chemicals, LP

New Source Review (NSR) Permit 9423

Permit Renewal and Amendment Application

Regulated Entity No. RN100216761

Customer No. CN600124705

Bayport Polypropylene Plant

Bayport Polymers Plant (BYO)

Pasadena, TX; Harris County

June 2020

Copy placed in LaPorte Public Library on June 26, 2020 through book drop-off

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June 01, 2020

Air Permits Initial Review Team (APIRT) – MC 161
Office of Permitting, Remediation, and Registration
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

ELECTRONIC SUBMISSION

Re: New Source Review (NSR) Permit Renewal and Amendment Application
NSR Permit Number: 9423
Equistar Chemicals, LP
Bulk Plant Polypropylene Production Unit
Customer Number CN600124705
Regulated Entity Number RN100216761

Attn: APIRT

Equistar Chemicals, L.P. (Equistar) is submitting the enclosed concurrent permit renewal and amendment application for the above-referenced facility to include emissions authorized under New Source Review (NSR) Permit Number 9423 and referenced Permits by Rule (PBRs).

With this permit renewal and amendment application, Equistar is requesting:

- Nomenclature changes of various emission point numbers (EPNs) and source names to better align with the plant equipment naming convention.
- Updates to existing sources:
  - Low Off Gas (LOG) Flare
  - Elevated Flare
  - Cooling Towers
  - Process Vessels
  - Stabilizer Additive Drums
  - Polymer Handling Sources
  - Fugitives
  - Mineral Oil Storage Tanks
  - Analyzer vents
- Addition of new EPNs to address:
  - MSS activity profile for reactor dumps
  - Vacuum cleaning systems associated with MSS
  - Plant-wide sampling vents.
  - MSS activities to the lists of Routine Maintenance Activities
- Deletion of:
  - Additive Metering Drum EPN
  - Flare EPN

Equistar Chemicals, LP
12001 Bay Area Blvd
Pasadena, Texas 77507

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Furthermore, previously identified authorized sources and changes occurred under the PBR requirements of 30 TAC 106 and these PBRs will be incorporated by consolidation or incorporated by reference in this permit renewal and amendment process

Included in this submittal are all required components, documents, and analyses regarding this permit renewal and amendment. This includes CONFIDENTIAL information which is segregated and clearly labeled in the appendix of the application package. Please handle this information accordingly. If you have any questions or need additional information, please contact Carlisa Navy at (281) 474-0727 or by email at Carlisa.Navy@lyondellbasell.com.

Sincerely,

Gerald Crawford
Manager, Environmental – Bayport Complex

Attachments

cc:

Harris County Pollution Control Services
Dr. Latrice Babin, Director
101 S. Richey, Suite H
Pasadena, TX 77506

Air Section Manager
TCEQ Region 12
5425 Polk Street, Suite H
Houston, TX 77023-1452

NEW SOURCE REVIEW
AIR QUALITY PERMIT 9423 RENEWAL
AND AMENDMENT APPLICATION

Equistar Chemicals, L.P.

Bayport Polymers Plant

Bulk Plant Polypropylene Production Unit

12001 Bay Area Blvd.
Pasadena, Texas

June 2020

Prepared by:
BGE, Inc

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COPY OF CHECK (Submitted separately - USPS Tracking # 9405 5036 9930 0399 8710 44)

ORIGINAL CHECK HAS MULTIPLE SECURITY FEATURES. PRINTED ON CHEMICAL REACTIVE TONER FUSE PAPER-SEE BACK FOR DETAILS

EQUISTAR
A Lyondell Company

1221 McKinney Street
Houston, TX 77010

JPMorgan Chase Bank NA
Syracuse, NY
50 - 937
213

CHECK DATE	CHECK NO.	NET AMOUNT
05/27/2020	580301	$******6,983.12

VOID AFTER 180 DAYS

$6,983 DOLLARS AND 12 CENTS

PAY TO THE ORDER OF:

TX COMMISSION ON ENVIRONMENTAL
QUALITY
PO Box 13088
Austin TX 78711-3088

⑈580301⑈ ⑆021309379⑆ 964256796⑈

PLEASE DETACH BEFORE DEPOSITING

Equistar Chemicals LP
VENDOR NO. 32007
NAME: TX COMMISSION ON ENVIRONMENTAL

DATE: 05/27/2020
Check No. 580301

Doc. No.	Invoice No.	Invoice Date	Gross Amount	Discount	Net Amount
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Section 1 Project Information

Equistar Chemicals, LP (Equistar), a wholly owned subsidiary of LyondellBasell Industries, owns and operates the Bayport Polymers Plant at 12001 Bay Area Blvd., in Pasadena, Harris County, Texas, which is part of the Bayport Chemicals Complex. The Bayport Polymers Plant consists of Bulk Plant and Catalloy Polypropylene Production Units. The Bulk Plant process unit operates three process lines (C, D, and E-Lines).

Air emissions from Equistar's Bulk Plant unit are authorized under the Texas Commission on Environmental Quality (TCEQ) New Source Review (NSR) Permit No. 9423, several permits by rule, and Title V Operating Permit No. O1419. This document constitutes an application to the TCEQ for a concurrent permit renewal and amendment for NSR Permit No. 9423. In conjunction with this application package, the TCEQ's PI-1 General Application Workbook and the Electronic Modeling Evaluation Workbook (EMEW) have been submitted along with the associated fees paid via check.

With this permit renewal and amendment application, Equistar is requesting:

- Nomenclature changes of various emission point numbers (EPNs) and source names to better align with the plant equipment naming convention. These changes are reflected in the following 2020 Maximum Allowable Emissions Rate Table (MAERT) EPN And Source Name Changes Table;
- Updates to existing sources:
  - Low Off Gas (LOG) Flare (formerly EPN: 30): Removed this source as it has been permanently shut down. This resulted in changing the flare emission factor for CO, for the remaining Elevated Flare, to reflect only a steam-assisted flare.
  - Elevated Flare: The ethylene emissions from the flare during MSS activities have been increased to equal the total VOC emissions during MSS to allow for operational flexibility during these activities.
  - Cooling Towers: Revising the emissions calculations to use the more accurate circulation rate representations based on design data for the hourly emissions and the average circulation rate for the annual emissions.
  - Process Vessels – VOC Emissions: Revising the emission calculation basis for the oil/grease mixing drums, catalyst dispersion drums, donor drums, liquid additive drums, stabilizer additive drums, and TEAL seal pot drums. Previously most of these sources were treated as storage tanks. Emissions calculations now reflect the batch operation of these vessels and use engineering calculation methodologies (i.e. Ideal Gas Law, etc.) to calculate the emissions.
  - Stabilizer Additive Drums – Particulate Matter Emissions: Revising the emission calculation methodology to use AP-42 emission factors and charge rate to estimate the PM, PM_{10}, and $PM_{2.5}$ emissions. In addition, PM, PM_{10}, and $PM_{2.5}$ emissions were added to EPN: D-6504 (formerly EPN: 51) to be consistent with these other drums.

  - Polymer Handling Sources: Revising the emission calculations to use the maximum design flow rates resulting in both increases and decreases in emissions. Additionally, newly identified sources are being added to this group as well as some existing permitted sources where the emissions representations are being revised to reflect particulate matter emissions. Process knowledge has been used to speciate the PM_{10} and $PM_{2.5}$ emissions for these sources.
  - Fugitives: Updating the fugitive component counts for EPNs C-FUG, D-FUG, and E-FUG (former EPNs: 35, 41, and 52, respectively) based upon more accurate data. Natural gas components and other fugitive components related to skids, bullets, and OSBL sources that were previously attributed to EPNs C-FUG, D-FUG, and E-FUG have been separated into a new fugitive EPN U-FUG. Because the emissions now associated with new EPN U-FUG were existing and are merely being re-allocated to a new EPN, these emissions are not being considered new and are not addressed in the Federal NSR or BACT analyses.
  - Mineral Oil Storage Tanks: Updating to reflect the AP-42 revisions published in November 2019.
  - Analyzer vents: Adding additional analyzers and changing the existing permit calculations to reflect more accurate vent flowrates.
- Addition of new sources:
  - Addition of four new EPNs to address an MSS activity profile for reactor dumps with associated PM, PM_{10}, and $PM_{2.5}$ emissions.
  - Addition of two new EPNs to address vacuum cleaning systems associated with MSS with associated PM, PM_{10}, and $PM_{2.5}$ emissions.
  - Addition of a new EPN to address plant-wide sampling vents
- Addition of the following MSS activities to the lists of Routine Maintenance Activities found in Attachments B and C to NSR Permit No. 9423:
  - Plant-Wide Outages: Shutting down the entire facility, venting process off-gas, purging/degassing, and startup emissions venting to the Elevated Flare during plant-wide outages for turnarounds, etc. No additional emissions are needed for this activity as the emissions are addressed by the Flare MSS emissions and were authorized in the 2014 MSS amendment application.
  - Maintenance at Third-Party Facility: Venting process off-gas to the Elevated Flare (former EPN: 30, new EPN: FL-3706) during planned maintenance events at the third-party facility. No additional emissions are needed for this activity as the emissions are addressed by the Flare MSS emissions.
  - Use of Propane for Pilot Operations: During periods when natural gas in unavailable, propane is used to operate flare pilots. No additional emissions are needed for this activity as the emissions are addressed by the Flare MSS emissions.

- Deletion of sources:
  - Deletion of former EPN 148 (Additive Metering Drum) as this process vessel is not open to the atmosphere as it vents to process vessel D-6112 (EPN: D-6113).
  - Deletion of EPN MSS45 as this maintenance, startup, and shutdown activity does not vent to the atmosphere.

Furthermore, previously identified authorized sources and changes occurred under the Permits by Rule (PBR) requirements of 30 TAC §106 as shown below. These PBRs will be incorporated by consolidation or incorporated by reference in this permit renewal and amendment process.

PERMITS BY RULE TO BE INCORPORATED

Registration No.	PBR	Date Complete	Incorporation Method
N/A	30 TAC §106.371 Cooling Water Units CLX Cooling Tower (formerly EPN: 150, new EPN: E-5128) Currently incorporated in NSR Permit No. 9423 Special Condition 36	Effective 03/14/1997 Amended 09/04/2000	By reference
N/A	30 TAC §106.472 Organic and Inorganic Liquid Loading and Unloading Diesel Storage Tank (EPN: TK-153)	Effective 03/14/1997 Amended 09/04/2000	By reference
N/A	30 TAC §106.472 Organic and Inorganic Liquid Loading and Unloading Two Sodium Hypochlorite Tanks (EPNs: TK-23632 and TK-31460)	Effective 03/14/1997 Amended 09/04/2000	By reference
N/A	30 TAC §106.472 Organic and Inorganic Liquid Loading and Unloading In addition to Corrosion Inhibitor and Anti-Foulant Totes/Tanks (EPNs: CHEMTOTE-1, CHEMTOTE-2, CHEMTOTE-3, CHEMTOTE-4, CHEMTOTE-5, CHEMTOTE-6, TK-30841, and TK-30842)	Effective 03/14/1997 Amended 09/04/2000	By reference
N/A	30 TAC §106.473 Organic Liquid Loading and Unloading Gasoline Storage Tank (EPN: TK-152)	Effective 03/14/1997 Amended 09/04/2000	By reference
N/A	30 TAC §106.511: Firewater Pumps (P-902A/B/D/E) and Back-up Emergency Generator (EPN: B-GEN)	Effective 03/14/1997 Amended 09/04/2000	By reference

Registration No.	PBR	Date Complete	Incorporation Method
N/A	30 TAC §106.472 Storage Tanks Two Sulfuric Acid Storage Tanks (EPNs: TK-884 and TK-895) The emissions associated with this PBR will be reflected in the proposed allowables in the MAERT. A BACT evaluation has been conducted as described in Section 8.	Effective 03/14/1997 Amended 09/04/2000	By consolidation
146105	30 TAC §106.261: Authorized fugitive changes. The emissions increases associated with this PBR will be reflected in the proposed allowables for the fugitive sources. A BACT evaluation has been conducted as described in Section 8.	05/24/2017	By consolidation
156193	30 TAC §106.261: Authorized fugitive changes. The emissions increases associated with this PBR will be reflected in the proposed allowables for the fugitive sources. A BACT evaluation has been conducted as described in Section 8.	04/19/2019	By consolidation
160781	30 TAC §106.261: Authorized fugitive changes. The emissions increases associated with this PBR will be reflected in the proposed allowables for the fugitive sources. A BACT evaluation has been conducted as described in Section 8.	04/15/2020	By consolidation

Last, there is a pending amendment to NSR Permit No. 9423 (project number 299187 "Add Emissions from Visbreaking") that is at the draft permit/final public notice stage and final permit issuance is expected soon. This renewal application has incorporated the changes authorized by that amendment as per the draft MAERT and the required analyses (Federal NSR review, BACT, air dispersion modeling, health effects review) for the sources in that amendment are not repeated in this renewal application.

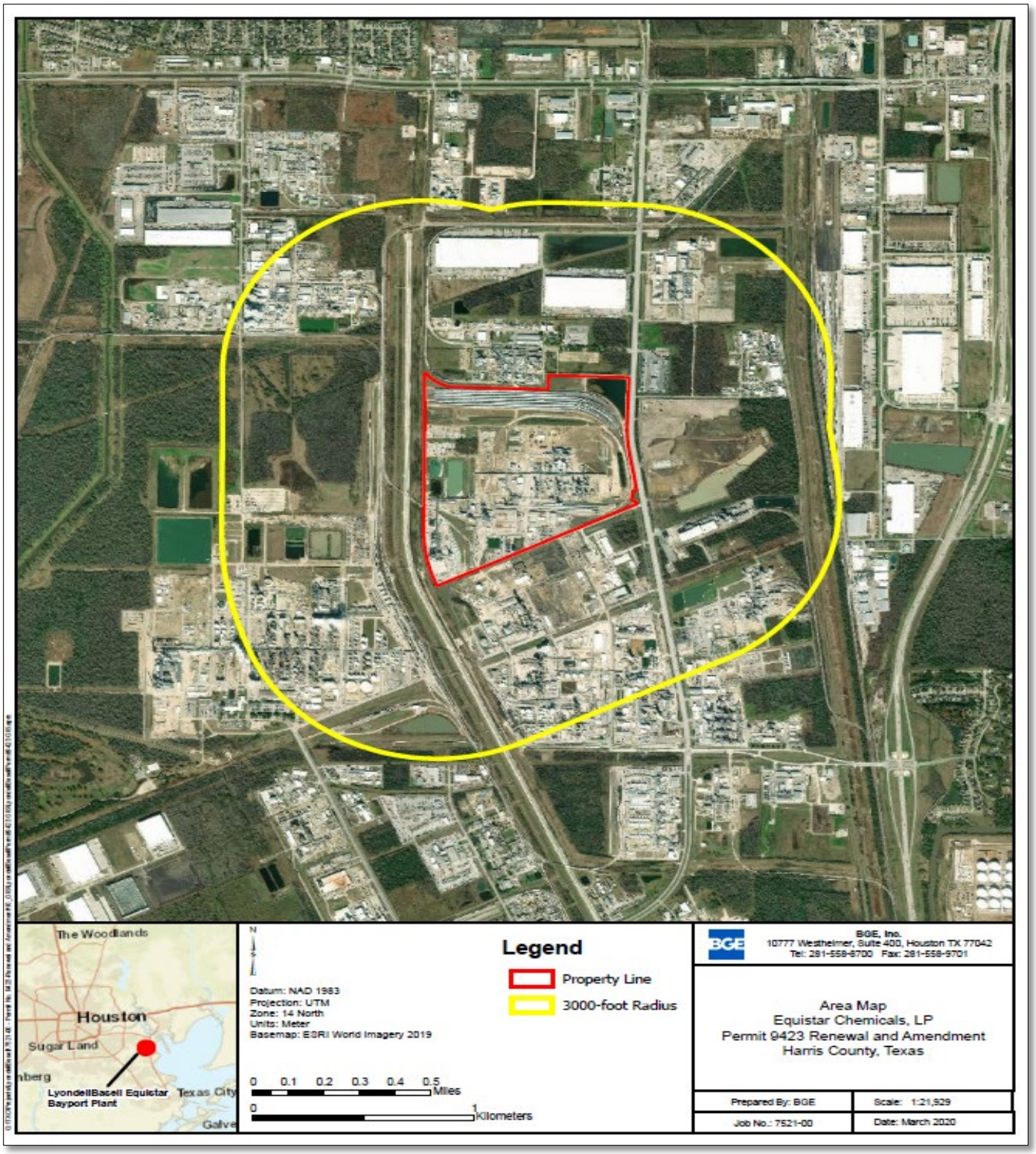
This application includes all required components, documents, and analyses for this permit renewal and amendment.

2020 MAERT EPN AND SOURCE NAME CHANGES TABLE

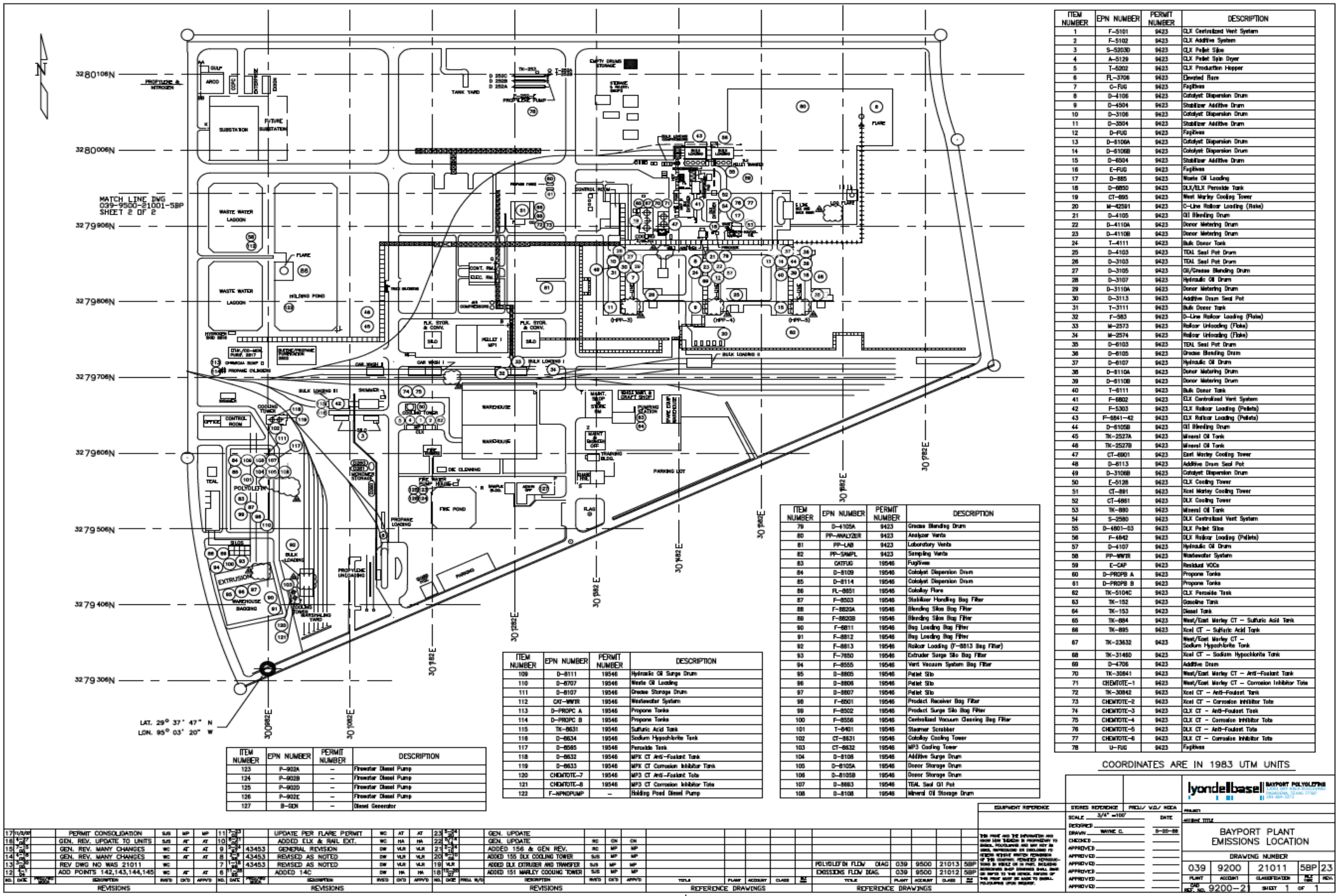
Existing EPN	Existing Source Name	New EPN	New Source Name
14C	Pellet Transfer System	F-5101	CLX Centralized Vent System
30 + 34	LOG Flare (EPN 30) and Elevated Flare (EPN 34) LOG Flare and Elevated Flare MSS Activities	FL-3706	Elevated Flare
35	Fugitives	C-FUG	Fugitives
37	D-4106 Catalyst Unloading	D-4106	Catalyst Dispersion Drum
38	D-4504 Stabilizer Addition	D-4504	Stabilizer Additive Drum
39	D-3106 Catalyst Handling Drum	D-3106	Catalyst Dispersion Drum
40	D-3504 Stabilizer Additive Drum	D-3504	Stabilizer Additive Drum
41	Fugitives	D-FUG	Fugitives
50A	Catalyst Handling	D-6106A	Catalyst Dispersion Drum
50B	Catalyst Handling	D-6106B	Catalyst Dispersion Drum
51	Stabilizer Addition	D-6504	Stabilizer Additive Drum
52	Fugitives	E-FUG	Fugitives
98	D-885 Waste Oil Loading	D-885	Waste Oil Loading
99	West Marley Cooling Tower	CT-895	West Marley Cooling Tower
102	Railcar Loading/VOC Residual	M-42591	C-Line Railcar Loading (Flake)
103	D-4105 Oil and Grease Mixing	D-4105	Oil Blending Drum
104	D-4110A Donor Storage Drum	D-4110A	Donor Metering Drum
105	D-4110B Donor Storage Drum	D-4110B	Donor Metering Drum
106	TK-4111 Donor Storage Drum	T-4111	Bulk Donor Tank
107	D-4103 TEAL Seal Pot Drum	D-4103	TEAL Seal Pot Drum
109	D-3103 TEAL Seal Pot Drum	D-3103	TEAL Seal Pot Drum
110	D-3105 Oil and Grease Mixing	D-3105	Oil/Grease Blending Drum
111	D-3107 Hydraulic Oil Drum	D-3107	Hydraulic Oil Drum
112	D-3110A Donor Storage Drum	D-3110A	Donor Metering Drum
113	D-3110B Donor Storage Drum	D-3113	Additive Drum Seal Pot
114	TK-3111 Donor Storage Drum	T-3111	Bulk Donor Tank
116	Railcar Loading (Flake)	F-583	D-Line Railcar Loading (Flake)
120	M-574 Bag Filter	M-2573	Railcar Unloading (Flake)
122	M-2574 Bag Filter	M-2574	Railcar Unloading (Flake)
124	TEAL Seal Pot	D-6103	TEAL Seal Pot Drum
125	Oil and Grease Mixing	D-6105	Grease Blending Drum
126	Hydraulic Oil Drum	D-6107	Hydraulic Oil Drum
127	Donor Storage Drum	D-6110A	Donor Metering Drum

Existing EPN	Existing Source Name	New EPN	New Source Name
128	Donor Storage Drum	D-6110B	Donor Metering Drum
129	Donor Storage Drum	T-6111	Bulk Donor Tank
131	Pellet Transfer System	F-6802	ELX Centralized Vent System
132	Railcar Loading CLX	F-5303	CLX Railcar Loading (Pellets)
133	Railcar Loading ELX	F-6841-42	ELX Railcar Loading (Pellets)
135	Additive Surge Drum	D-6105B	Oil Blending Drum
143	Mineral Oil Tank	TK-2527A	CLX Mineral Oil Tank
144	Mineral Oil Tank	TK-2527B	CLX Mineral Oil Tank
146	East Marley Cooling Tower	CT-6901	East Marley Cooling Tower
147	Additive Storage	D-6113	Additive Drum Seal Pot
149	D-3106B Catalyst Handling Drum	D-3106B	Catalyst Dispersion Drum
151	Excel Marley 3 Cooling Tower	CT-891	Xcel Marley Cooling Tower
152	DLX Flake Transfer System	S-2580	DLX Centralized Vent System
153	DLX Pellet Silos	D-4801-03	DLX Pellet Silos
154	DLX Railcar Loading	F-4842	DLX Railcar Loading (Pellets)
155	DLX Cooling Tower	CT-4861	DLX Cooling Tower
156	D4107 Hydraulic Oil Drum	D-4107	Hydraulic Oil Drum
160	Mineral Oil Tank	T-880	Mineral Oil Tank

Section 2 Area Map



Section 3 Plot Plan



ITEM NUMBER	EPN NUMBER	PERMIT NUMBER	DESCRIPTION
1	F-5101	9423	CLX Centralized Vent System
2	F-5102	9423	CLX Additive System
3	S-52030	9423	CLX Pellet Silos
4	A-5129	9423	CLX Pellet Spin Dryer
5	T-5202	9423	CLX Production Hopper
6	FL-3706	9423	Elevated Flare
7	C-FUG	9423	Fugitives
8	D-4106	9423	Catalyst Dispersion Drum
9	D-4504	9423	Stabilizer Additive Drum
10	D-3106	9423	Catalyst Dispersion Drum
11	D-3504	9423	Stabilizer Additive Drum
12	D-FUG	9423	Fugitives
13	D-6106A	9423	Catalyst Dispersion Drum
14	D-6106B	9423	Catalyst Dispersion Drum
15	D-6504	9423	Stabilizer Additive Drum
16	E-FUG	9423	Fugitives
17	D-885	9423	Waste Oil Loading
18	D-6850	9423	DLX/ELX Peroxide Tank
19	CT-895	9423	West Marley Cooling Tower
20	M-42591	9423	C-Line Railcar Loading (Flake)
21	D-4105	9423	Oil Blending Drum
22	D-4110A	9423	Donor Metering Drum
23	D-4110B	9423	Donor Metering Drum
24	T-4111	9423	Bulk Donor Tank
25	D-4103	9423	TEAL Seal Pot Drum
26	D-3103	9423	TEAL Seal Pot Drum
27	D-3105	9423	Oil/Grease Blending Drum
28	D-3107	9423	Hydraulic Oil Drum
29	D-3110A	9423	Donor Metering Drum
30	D-3113	9423	Additive Drum Seal Pot
31	T-3111	9423	Bulk Donor Tank
32	F-583	9423	D-Line Railcar Loading (Flake)
33	M-2573	9423	Railcar Unloading (Flake)
34	M-2574	9423	Railcar Unloading (Flake)
35	D-6103	9423	TEAL Seal Pot Drum
36	D-6105	9423	Grease Blending Drum
37	D-6107	9423	Hydraulic Oil Drum
38	D-6110A	9423	Donor Metering Drum
39	D-6110B	9423	Donor Metering Drum
40	T-6111	9423	Bulk Donor Tank
41	F-6802	9423	ELX Centralized Vent System
42	F-5303	9423	CLX Railcar Loading (Pellets)
43	F-6841-42	9423	ELX Railcar Loading (Pellets)
44	D-6105B	9423	Oil Blending Drum
45	TK-2527A	9423	Mineral Oil Tank
46	TK-2527B	9423	Mineral Oil Tank
47	CT-6901	9423	East Marley Cooling Tower
48	D-6113	9423	Additive Drum Seal Pot
49	D-3106B	9423	Catalyst Dispersion Drum
50	E-5128	9423	CLX Cooling Tower
51	CT-891	9423	Xcel Marley Cooling Tower
52	CT-4861	9423	DLX Cooling Tower
53	TK-880	9423	Mineral Oil Tank
54	S-2580	9423	DLX Centralized Vent System
55	D-4801-03	9423	DLX Pellet Silos
56	F-4842	9423	DLX Railcar Loading (Pellets)
57	D-4107	9423	Hydraulic Oil Drum
58	PP-WWTR	9423	Wastewater System
59	E-CAP	9423	Residual VOCs
60	D-PROPB A	9423	Propane Tanks
61	D-PROPB B	9423	Propane Tanks
62	TK-5104C	9423	CLX Peroxide Tank
63	TK-152	9423	Gasoline Tank
64	TK-153	9423	Diesel Tank
65	TK-884	9423	West/East Marley CT – Sulfuric Acid Tank
66	TK-895	9423	Xcel CT – Sulfuric Acid Tank
67	TK-23632	9423	West/East Marley CT – Sodium Hypochlorite Tank
68	TK-31460	9423	Xcel CT – Sodium Hypochlorite Tank
69	D-4706	9423	Additive Drum
70	TK-30841	9423	West/East Marley CT – Anti-Foulant Tank
71	CHEMTOTE-1	9423	West/East Marley CT – Corrosion Inhibitor Tote
72	TK-30842	9423	Xcel CT – Anti-Foulant Tank
73	CHEMTOTE-2	9423	Xcel CT – Corrosion Inhibitor Tote
74	CHEMTOTE-3	9423	CLX CT – Anti-Foulant Tank
75	CHEMTOTE-4	9423	CLX CT – Corrosion Inhibitor Tote
76	CHEMTOTE-5	9423	DLX CT – Anti-Foulant Tote
77	CHEMTOTE-6	9423	DLX CT – Corrosion Inhibitor Tote
78	U-FUG	9423	Fugitives

ITEM NUMBER	EPN NUMBER	PERMIT NUMBER	DESCRIPTION
79	D-4105A	9423	Grease Blending Drum
80	PP-ANALYZER	9423	Analyzer Vents
81	PP-LAB	9423	Laboratory Vents
82	PP-SAMPL	9423	Sampling Vents
83	CATFUG	19546	Fugitives
84	D-8109	19546	Catalyst Dispersion Drum
85	D-8114	19546	Catalyst Dispersion Drum
86	FL-8851	19546	Catalloy Flare
87	F-8503	19546	Stabilizer Handling Bag Filter
88	F-8820A	19546	Blending Silos Bag Filter
89	F-8820B	19546	Blending Silos Bag Filter
90	F-8811	19546	Bag Loading Bag Filter
91	F-8812	19546	Bag Loading Bag Filter
92	F-8813	19546	Railcar Loading (F-8813 Bag Filter)
93	F-7650	19546	Extruder Surge Silo Bag Filter
94	F-8555	19546	Vent Vacuum System Bag Filter
95	D-8805	19546	Pellet Silo
96	D-8806	19546	Pellet Silo
97	D-8807	19546	Pellet Silo
98	F-8501	19546	Product Receiver Bag Filter
99	F-8502	19546	Product Surge Silo Bag Filter
100	F-8556	19546	Centralized Vacuum Cleaning Bag Filter
101	T-8401	19546	Steamer Scrubber
102	CT-8631	19546	Catalloy Cooling Tower
103	CT-8632	19546	MP3 Cooling Tower
104	D-8106	19546	Additive Surge Drum
105	D-8105A	19546	Donor Storage Drum
106	D-8105B	19546	Donor Storage Drum
107	D-8693	19546	TEAL Seal Oil Pot
108	D-8108	19546	Mineral Oil Storage Drum

ITEM NUMBER	EPN NUMBER	PERMIT NUMBER	DESCRIPTION
109	D-8111	19546	Hydraulic Oil Surge Drum
110	D-8707	19546	Waste Oil Loading
111	D-8107	19546	Grease Storage Drum
112	CAT-WWTR	19546	Wastewater System
113	D-PROPC A	19546	Propane Tanks
114	D-PROPC B	19546	Propane Tanks
115	TK-8631	19546	Sulfuric Acid Tank
116	D-8634	19546	Sodium Hypochlorite Tank
117	D-8565	19546	Peroxide Tank
118	D-8632	19546	MPX CT Anti-Foulant Tank
119	D-8633	19546	MPX CT Corrosion Inhibitor Tank
120	CHEMTOTE-7	19546	MP3 CT Anti-Foulant Tote
121	CHEMTOTE-8	19546	MP3 CT Corrosion Inhibitor Tote
122	F-NPNDPUMP	–	Holding Pond Diesel Pump

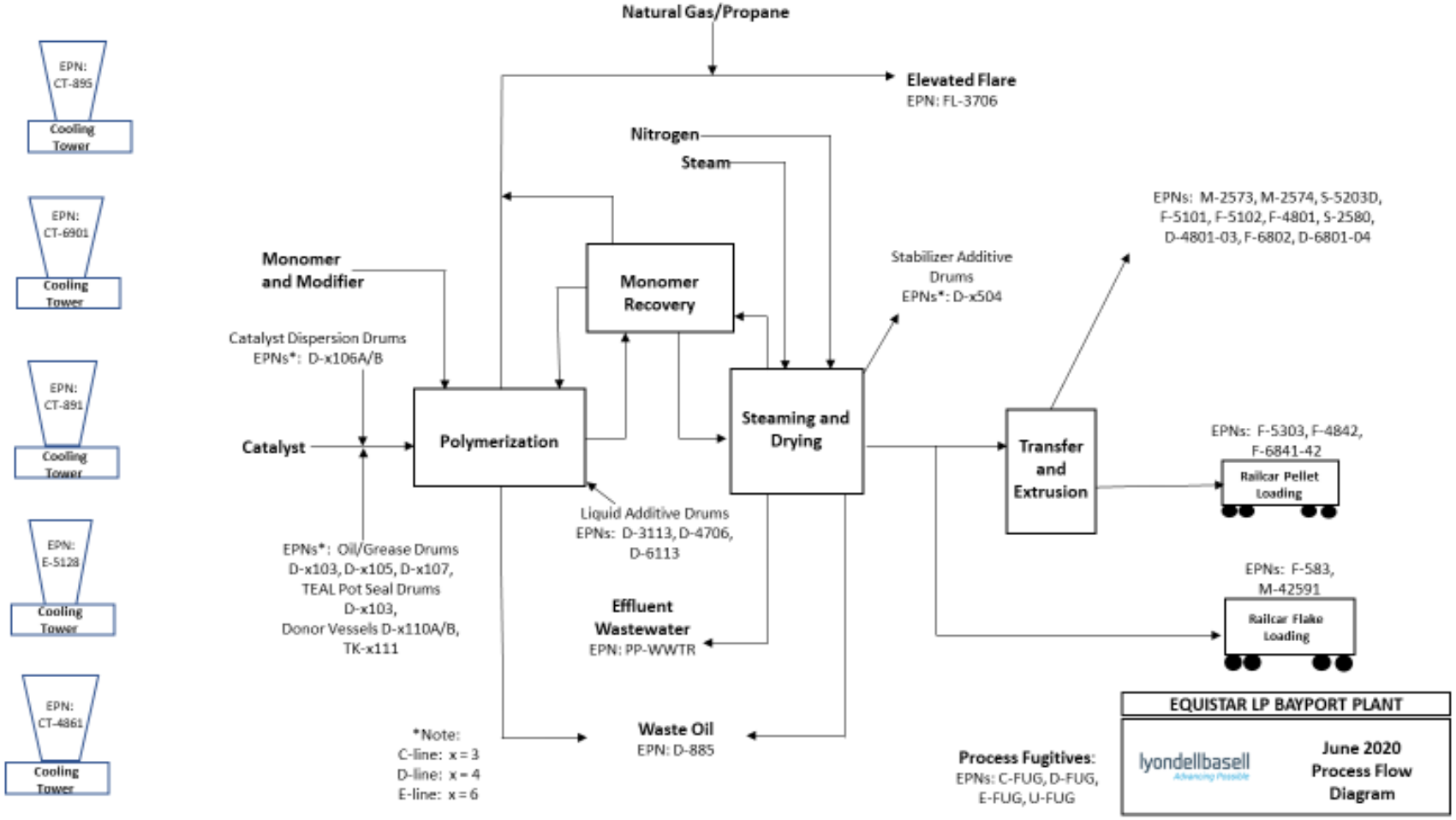
ITEM NUMBER	EPN NUMBER	PERMIT NUMBER	DESCRIPTION
123	P-902A	–	Firewater Diesel Pump
124	P-902B	–	Firewater Diesel Pump
125	P-902D	–	Firewater Diesel Pump
126	P-902E	–	Firewater Diesel Pump
127	B-GEN	–	Diesel Generator

Section 4 Process Description

Equistar Chemicals, LP – Bayport Polymers Plant operates the Bulk Plant unit located in Pasadena, Texas in Harris County. The facility consists of three process units (C-Line, D-Line and E-Line) that produce polypropylene homopolymers and copolymers authorized under NSR Permit No. 9423. The detailed process information is considered confidential. Therefore, the complete process description is included and submitted in this application under a separate confidential section.

In general, the process involves polymerization of raw material monomers along with catalysts and co-catalysts. Raw material monomers used in the process include propylene, ethylene, and propane. Following polymerization, the polymer slurry is heated, and flash separation occurs for monomer recovery and remove residual hydrocarbons to stop further polymerization. The polymer product (flake) is then dried and transferred either directly to a railcar for sale or transferred to one of three pelletizing extruders. After the extruder, the polymer product (pellets) are dewatered, dried, classified, and transferred to a storage silo or directly to railcar loading.

Section 5 Process Flow Diagram



Section 6 Emission Calculations

This section presents a discussion of the basis for the air emission calculations associated with this concurrent renewal and amendment to NSR Permit No. 9423. The supporting emission calculations are provided in Appendix B which is being submitted as confidential information. The summary of emissions [former Table 1(a)] has been submitted using the electronic PI-1 General Application Workbook. Below is a description of the emissions calculation basis for each emission source/unit type, including complete emission factor references.

6.1 FLARE

Vent gases from C-Line, D-Line, and E-Line are routed to the steam-assisted Elevated Flare as a control device. Natural gas or propane can be used as assist (supplemental) gas for Btu control and to operate the flare pilots.

The Elevated Flare is continuously monitored according to the requirements of 30 TAC 115, Subchapter H (HRVOC) and is equipped with a flow meter and a gas chromatograph (GC) for speciation of the vent gas.

Depending on the product type and process conditions, the composition is continuously variable (i.e., up to 100% propylene, 100% ethylene, 100% propane, or any combination of these three monomers and various other VOCs and non-organic compounds). The calculations and representations used in this permit renewal and amendment are based on best available estimates and should not be considered absolute values for all operating scenarios.

Flare emissions may result from: vent gas from the activation of pressure relief devices specifically designed to direct gases from units during normal operations; venting from equipment as designed including but not limited to: control valves, pump seal pots, etc. during normal operations, maintenance, shutdown, or startup; vent gas resulting from the implementation of procedures specifically designed to direct gases from units during normal operations, maintenance, shutdown, or startup; and vent gas resulting from the automatic or manual activation of interlocks and process safety systems specifically designed to direct gasses from units during normal operations, maintenance, shutdown, or startup.

The flare does not have a bypass, with the exclusion that "bypass" does not include authorized analyzer vents, highpoint bleeder vents, low point drains, or rupture discs upstream of pressure relief valves if the pressure between the disc and relief valve is monitored and recorded at least weekly.

The hourly emission rates for the flare are variable with a lower limit for routine flaring and a higher limit allowed for maintenance, startup, and shutdown (MSS) activities. The annual emissions include all routine and MSS emissions. The emissions from the flare are estimated in accordance with the emission factors and calculation methodology specified in the *TCEQ New Source Review (NSR) Emission Calculations: Flares* and the *TCEQ Technical Supplement: Flares.*

VOC Emissions

VOC emissions are calculated using a 99% DRE per the manufacturer's representations and TCEQ guidance for the VOCs present in the process, maximum hourly, and annual vent gas flow rates to the flare in pounds/hour (lbs/hr) and tons per year (tpy).

CO and NO_x Emissions

CO and NO_x emissions from combustion are calculated based on the heating value from the vent gas streams to the flare and the applicable emission factors for steam-assisted flares. The higher of the CO and NO_x emission factors for low-Btu and high-Btu steam-assisted flares is used to calculate the emissions.

SO_2 Emissions

Emissions of SO_2 from the flares are attributed to the combustion of natural gas fuel. The hourly and annual emissions of SO_2 from the flare are based on 100% conversion of sulfur (based on the total sulfur content) in the natural gas fuel to SO_2.

PM Emissions

The flare will operate as a smokeless flare. Therefore, the emissions of particulate matter (PM) are negligible and are not required to be estimated.

6.2 FUGITIVES

VOC emissions from equipment leak fugitives are calculated using the estimated number of actual components, the applicable emission factors, and control factors. The estimated emissions are using the calculation methodology in the *TCEQ Technical Guidance Package for Chemical Sources: Emission Factors for Equipment Leak Fugitives Components*. Components are monitored in accordance with the 28MID, 28CNTA, and 28PI Leak Detection and Repair (LDAR) programs.

6.3 PROCESS VESSELS

Vessels are utilized for in-process mixing and product preparations (i.e. catalyst, donor, liquid additives, solid additives, TEAL seal pots, and oil/grease drums) and have emissions from batch operations when vapor displacement occurs during vessel depressurization, material charges (filling), purging, and/or and heating.

VOC emissions are estimated from batch operations using engineering calculation methodologies (i.e. Ideal Gas Law, Raoult's Law). Particulate matter emissions (PM, PM_{10}, and $PM_{2.5}$) are estimated using the calculation methodology in *AP-42 Emission Factors, Chapter 9.9.1: Grain Elevators and Processes*.

6.4 STORAGE TANKS

AP-42 Emission Factors, Chapter 7: Liquid Storage Tanks is used to estimate the annual emissions from working and breathing losses from organic liquid storage tanks. Short-term maximum emissions are calculated using guidance from the TCEQ document *"Estimating Short Term Emission Rates from Fixed Roof Tanks"*.

6.5 WASTEWATER

Wastewater emissions are calculated using ToxChem modeling that reflects the wastewater collection systems in the unit. The Toxchem model for the Bulk Plant unit was developed to account for discharges into individual C-Line, D-Line, and E-Line trench systems in the process areas and downstream extruder areas.

6.6 COOLING TOWERS

Three (3) cooling towers service hydrocarbon-containing process fluids for C-Line, D-Line, and E-Line. These cooling towers are monitored according to the requirements of 30 TAC 115, Subchapter H (HRVOC) with a continuous flow meter and a gas chromatograph (GC) for speciation of the cooling tower water. VOC emissions are estimated using the calculation methodology as stated in the *TCEQ Sampling Procedures Manual: Appendix P Cooling Tower Monitoring.*

Two (2) cooling towers service the CLX (authorized by PBR which is incorporated by reference) and DLX extrusion areas and do not service process fluids in hydrocarbon service.

PM emissions are estimated based on the established correlation factor between total dissolved solids (TDS) and conductivity while using the calculation methodology as stated in *AP-42 Emission Factors, Chapter 13.4: Wet Cooling Towers* and *"Calculating Realistic PM10 Emissions from Cooling Towers"* by Joel Reisman and Gordon Frisbie (2002) is used to speciate the PM_{10} and $PM_{2.5}$ emissions.

6.7 SAMPLING AND ANALYSIS VENTS

Analyzer Vents
VOC emissions are estimated using flow data, sample volumes, and engineering calculation methodologies. The NO_x and CO combustion emissions are estimated using the calculation methodologies specified in the TCEQ New Source Review (NSR) Emission Calculations: Flares and Vapor Combustors and TCEQ Technical Supplement: Flares.

Sampling Vents
VOC emissions are estimated using flow data, sample volumes, frequency, composition data, and engineering calculation methodologies.

6.8 RESIDUAL EMISSIONS

Residual VOCs and acetone are emitted to the atmosphere during polypropylene flake and pellet production from uncontrolled emission sources downstream of the dryers and associated with transfer, extrusion, storage, and loading operations from the three process lines (C-Line, D-Line, and E-Line). Additionally, there are certain products that require visbreaking to adjust the viscosity by the addition of organic peroxide at the extruders. Product immediately following the dryers (pre-visbreaking) and product downstream of the extruders (post-visbreaking) are sampled and analyzed to quantify the contaminant concentrations. The contaminant concentrations are quantified via headspace analysis, and the emissions from all three process lines are represented under one emissions cap.

Emissions are estimated using the calculation methodology as stated in the *TCEQ NSR Guidance Polyethylene & Polypropylene Manufacturing (2006)*. Parameters used in the calculations are based on AP-42/TCEQ emission factors, design data, operational data, and/or process knowledge.

Please note that there are blanks listed in the PI-1 General Application Workbook Unit Type-Emission Types Tab related to the sources that are part of the emission cap (EPN: E-CAP). These emissions are described as such to reflect their relevance to each polymer transfer, extrusion, and loading source as represented in the emission summary of the emissions calculations (and consistent with the current MAERT) in the Confidential section of this application package.

6.9 POLYMER HANDLING SOURCES

Particulate matter emissions (PM, PM_{10}, and $PM_{2.5}$) are estimated using the calculation methodology as stated in the *TCEQ NSR Guidance Polyethylene & Polypropylene Manufacturing (2006).* Parameters used in the calculations are based on AP-42/TCEQ emission factors, design data, operational data, and/or process knowledge.

6.10 WASTE OIL LOADING

VOC emissions are estimated using the calculation methodology specified in *AP-42 Emission Factors, Section 5.2* and *TCEQ New Source Review (NSR) Emission Calculations for Loading Operations*.

6.11 MAINTENANCE, STARTUP, AND SHUTDOWN (MSS)

Planned MSS activities can result in emissions to the Elevated Flare or the atmosphere. The MSS activities that are routed to the flare are monitored and calculated as stated on section 6.1 above. The MSS activities that result in emissions to the atmosphere are estimated using flow data, volumes, frequency, and engineering calculation methodologies.

Planned MSS activities associated with reactor dumps during reactor de-inventory activities, polymer blow-down collection vessels can result in particulate matter emissions to the atmosphere during the process of emptying the polymer to the dumpsters and pans. The material drop point equation from *AP-42 Emission Factors Section 13.2.4 dated 11/2006* is used to estimate the PM, PM_{10}, and $PM_{2.5}$ emissions.

Planned MSS activities associated with vacuum cleaning systems that are used to maintain the operations/production areas can result in particulate matter emissions from the bag filters that control these vacuum cleaning systems. Particulate matter emissions (PM, PM_{10}, and $PM_{2.5}$) are estimated using the calculation methodology as stated in the *TCEQ NSR Guidance Polyethylene & Polypropylene Manufacturing (2006).* Parameters used in the calculations are based on AP-42/TCEQ emission factors, design data, operational data, and/or process knowledge.

Section 7 Federal New Source Review Applicability Analysis

The Bayport Polymers Bulk Plant unit is located in Harris County, which has been designated as a serious nonattainment area for the 2008 eight-hour ozone standard and is in attainment with the National Ambient Air Quality Standards (NAAQS) for all other pollutants. Therefore, this project was evaluated for Prevention of Significant Deterioration (PSD) applicability as well as Nonattainment New Source Review (NNSR) for ozone emissions.

Equistar performed an evaluation of total emission increases included as part of the permit amendment portion of this concurrent renewal and amendment application. The sources included in this evaluation include:

- Existing analyzer vent that is considered "modified" due to adding additional analyzers and changing the emission calculation methodology that results in increased emissions;
- Six existing Process Vessels (five Catalyst Dispersion Drums and one Seal Pot) that are considered "modified" due to a change in the emissions calculation methodology that results in increased VOC emission rates;
- One existing Process Vessel (Stabilizer Additive Drum) to reflect the inclusion of newly identified particulate matter emissions;
- Seven existing permitted controlled Polymer Handling Sources that are considered "modified" due to revised flow rates that result in an increase of the annual emission rate limits including two existing EPNs that now include particulate matter emissions;
- Existing fugitive source that is considered "modified" due to an increase in emissions due to revised component counts;
- Four newly identified controlled Polymer Handling Sources;
- Two newly identified Process Vessels;
- Newly identified sampling vents; and
- Four newly identified MSS polymer management sources.

Baseline actuals data were obtained from the Annual Emissions Inventory (AEI) for the site as follows:

- CO baseline data are from 2018-2019;
- VOC baseline data from 2013-2014, except the full (existing) potential-to-emit (PTE) is used for EPN E-FUG;
- PM and PM_{10} baseline data are from 2016-2017; and
- $PM_{2.5}$ baseline data are from 2014-2015.

The project increase was determined as the difference between the proposed allowable for the modified and new sources and the baseline actuals data. Baseline is zero for new sources.

The details of this project increase analysis are included in Table 1F and Table 2Fs for CO, VOC, PM_{10} and $PM_{2.5}$ which are included in this section, the Permit No. 9423 Renewal and Amendment Project Increase Table which is included with the emissions calculations in the Confidential portion of this application, and the summary of the analysis is presented in the Federal Applicability worksheet of the associated and submitted PI-1 General Application Workbook. As the project emissions increases are less than the NNSR and PSD significance thresholds, federal NSR review does not apply.

TABLE 1F
AIR QUALITY APPLICATION SUPPLEMENT

Permit No.: 9423	Application Submittal Date: June 2020
Company: Equistar Chemicals, L.P.	
RN: 100216761	Facility Location: 12001 Bay Area Blvd.
City: Pasadena	County: Harris
Permit Unit I.D.:	Permit Name: Bulk Plant Polypropylene Production Unit
Permit Activity: ☒ New Source ☒ Modification	

Complete for all Pollutants with a Project Emission Increase.	**POLLUTANTS**							
	Ozone							
	VOC	**NO_x**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**NO_X**	**SO_2**	**Other[1]**
Nonattainment?	Yes	Yes	No	No	No	No	No	No
PSD?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Existing site PTE (tpy)?	>100	<100	>100	<100	<100	<100	<100	<10
Proposed project emission increases (tpy from 2F[2])?	2.47	0	0.04	0.70	0.27	0	0	0
Is the existing site a major source?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
If not, is the project a major source by itself?	No	No	No	No	No	No	No	No
If site is major source, is project increase significant?	No	No	No	No	No	No	No	No
If netting required, estimated start of construction: N/A								
5 years prior to start of construction N/A								contemporaneous
Estimated start of operation N/A								period
Net contemporaneous change, including proposed project, from Table 3F. (tpy)	0	0	0	0	0	0	0	0
Major NSR Applicable?	No	No	No	No	No	No	No	No

Signature Carlisa Navy ***Title*** Sr. Environmental Engr. ***Date*** 6/1/2020

The representations made above and on the accompanying tables are true and correct to the best of my knowledge.

[1]Other pollutants. [Pb, H_2S, TRS, H_2SO_4, Fluoride excluding HF, etc.]
[2]Sum of proposed emissions minus baseline emissions, increases only.

TABLE 2F
PROJECT EMISSION INCREASE

Pollutant[1]: CO	**Permit:** 9423
Baseline Period: January 2018	**to** December 2019

	Affected or Modified Facilities[2] FIN	EPN	Permit No.	Actual Emissions[3] A	Baseline Emissions[4] B	Proposed Emissions[5]	Projected Actual Emissions	Difference (B-A)[6]	Correction[7]	Project Increase[8]
1.	PP-ANALYZER	PP-ANALYZER	9423	0.005	0.005	0.045	N/A	0.04	0	0.04
2.										
3.										
4										
5.										
6.										
7.										
8.										
								Page Subotal[9]	0	0.04
								Table Total	0	0.04

TABLE 2F
PROJECT EMISSION INCREASE

Pollutant[9]: VOC	**Permit:** 9423
Baseline Period: January 2013	**to** December 2014

					A	B				
	Affected or Modified Facilities[10]		**Permit No.**	**Actual Emissions[11]**	**Baseline Emissions[12]**	**Proposed Emissions[13]**	**Projected Actual Emissions**	**Difference (B-A)[14]**	**Correction[15]**	**Project Increase[16]**
	FIN	**EPN**								
1.	E-FUG	E-FUG	9423	33.78	33.78	34.83	N/A	1.05	0	1.05
2.	D-3106	D-3106	9423	0.0100	0.0100	0.015	N/A	0.0053	0	0.0053
3.	D-3106B	D-3106B	9423	0.0050	0.0050	0.17	N/A	0.16	0	0.16
4	D-4106	D-4106	9423	0.0100	0.0100	0.26	N/A	0.25	0	0.25
5.	D-6106A	D-6106A	9423	0.0100	0.0100	0.20	N/A	0.19	0	0.19
6.	D-6106B	D-6106B	9423	0.0100	0.0100	0.20	N/A	0.19	0	0.19
7.	D-6113	D-6113	9423	0.0100	0.0100	0.060	N/A	0.050	0	0.050
8.	MSS41	MSS41	9423	0.0000	0.0000	0.15	N/A	0.15	0	0.15
9.	MSS42	MSS42	9423	0.0000	0.0000	0.15	N/A	0.15	0	0.15

Page Subtotal[9]	0	2.21

TABLE 2F
PROJECT EMISSION INCREASE

Affected or Modified Facilities FIN	EPN	Permit No.	Actual Emissions	Baseline Emissions	Proposed Emissions	Projected Actual Emissions	Difference (B-A)	Correction	Project Increase
10. MSS43	MSS43	9423	0.0000	0.0000	0.26	N/A	0.26	0	0.26
11. D-4105A	D-4105A	9423	0.0000	0.0000	1.11E-06	N/A	1.11E-06	0	1.11E-06
12. D-4706	D-4706	9423	0.0000	0.0000	1.63E-03	N/A	1.63E-03	0	1.63E-03
13 PP-SAMPL	PP-SAMPL	9423	0.0000	0.0000	4.18E-04	N/A	4.18E-04	0	4.18E-04
							Page Subtotal	0	0.26
							Table Total	0	2.47

TABLE 2F
PROJECT EMISSION INCREASE

Pollutant[17]: PM10	**Permit:** 9423
Baseline Period: January 2013	**to** December 2014

					A	B				
Affected or Modified Facilities[18]	**FIN**	**EPN**	**Permit No.**	**Actual Emissions[19]**	**Baseline Emissions[20]**	**Proposed Emissions[21]**	**Projected Actual Emissions**	**Difference (B-A)[22]**	**Correction[23]**	**Project Increase[24]**
1.	D-6504	D-6504	9423	0.0000	0.0000	0.00019	N/A	0.00019	0	0.00019
2.	M-42591	M-42591	9423	0.0000	0.0000	0.056	N/A	0.056	0	0.056
3.	F-583	F-583	9423	0.0000	0.0000	0.056	N/A	0.056	0	0.056
4	F-5303	F-5303	9423	0.0700	0.0700	0.23	N/A	0.16	0	0.16
5.	F-5102	F-5102	9423	0.0000	0.0000	0.045	N/A	0.045	0	0.045
6.	S-5203D	S-5203D	9423	0.0000	0.0000	0.35	N/A	0.35	0	0.35
7.	F-6801	F-6801	9423	0.0000	0.0000	0.011	N/A	0.011	0	0.011
8.	F-4801	F-4801	9423	0.0000	0.0000	0.012	N/A	0.012	0	0.012
9.	PP-SAMPL	PP-SAMPL	9423	0.0000	0.0000	0.0076	N/A	0.0076	0	0.0076

Page Subtotal[17]	0	0.6965

TABLE 2F
PROJECT EMISSION INCREASE

Affected or Modified Facilities			Permit No.	Actual Emissions	Baseline Emissions	Proposed Emissions	Projected Actual Emissions	Difference (B-A)	Correction	Project Increase
	FIN	EPN								
10.	MSS61	MSS61	9423	0.0000	0.0000	7.85E-05	N/A	7.85E-05	0	7.85E-05
11.	MSS62	MSS62	9423	0.0000	0.0000	7.85E-05	N/A	7.85E-05	0	7.85E-05
12.	MSS63	MSS63	9423	0.0000	0.0000	7.85E-05	N/A	7.85E-05	0	7.85E-05
13	MSS64	MSS64	9423	0.0000	0.0000	7.85E-05	N/A	7.85E-05	0	7.85E-05
								Page Subtotal	0	3.14E-04
								Table Total	0	0.70

TABLE 2F
PROJECT EMISSION INCREASE

Pollutant[25]: PM2.5	**Permit:** 9423
Baseline Period: January 2014	**to** December 2015

					A	B				
	Affected or Modified Facilities[26] FIN	**EPN**	**Permit No.**	**Actual Emissions[27]**	**Baseline Emissions[28]**	**Proposed Emissions[29]**	**Projected Actual Emissions**	**Difference (B-A)[30]**	**Correction[31]**	**Project Increase[32]**
1.	D-6504	D-6504	9423	0.0000	0.0000	3.32E-05	N/A	3.32E-05	0	3.32E-05
2.	M-42591	M-42591	9423	0.0000	0.0000	0.028	N/A	0.028	0	0.028
3.	F-583	F-583	9423	0.0000	0.0000	0.028	N/A	0.028	0	0.028
4	F-5102	F-5102	9423	0.0000	0.0000	0.023	N/A	0.023	0	0.023
5.	PP-SAMPL	PP-SAMPL	9423	0.0000	0.0000	0.0038	N/A	0.0038	0	0.0038
6.	MSS61	MSS61	9423	0.0000	0.0000	1.19E-05	N/A	1.19E-05	0	1.19E-05

Continued on the next page

7.	S-5203D	S-5203D	9423	0.0000	0.0000	0.18	N/A	0.18	0	0.18
8	F-6801	F-6801	9423	0.0000	0.0000	0.005	N/A	0.005	0	0.005
9.	F-4801	F-4801	9423	0.0000	0.0000	0.006	N/A	0.006	0	0.006
								Page Subtotal[1]	0	0.27

TABLE 2F
PROJECT EMISSION INCREASE

Affected or Modified Facilities FIN	EPN	Permit No.	Actual Emissions	Baseline Emissions	Proposed Emissions	Projected Actual Emissions	Difference (B-A)	Correction	Project Increase
10. MSS62	MSS62	9423	0.0000	0.0000	1.19E-05	N/A	1.19E-05	0	1.19E-05
11. MSS63	MSS63	9423	0.0000	0.0000	1.19E-05	N/A	1.19E-05	0	1.19E-05
12. MSS64	MSS64	9423	0.0000	0.0000	9.78E-05	N/A	9.78E-05	0	9.78E-05
13									
							Page Subtotal	0	1.22E-04
							Table Total	0	0.27

Section 8 Best Available Control Technology (BACT)

TCEQ's NSR regulations [30 TAC §116.111(a)(2)(C)] require that Best Available Control Technology (BACT) be evaluated for new and physically modified facilities for pollutants that do not trigger PSD or NNSR review. Because this project is not triggering federal review for any pollutants, a federal BACT analysis is not required.

The new and modified sources included in the BACT evaluation for this concurrent renewal and amendment application include:

- Existing analyzer vent that is considered "modified" due to adding additional analyzers and changing the emission calculation methodology;
- Six existing Process Vessels (five Catalyst Dispersion Drums and one Seal Pot) that are considered "modified" due to a change in the emissions calculation methodology that results in increased VOC emission rates;
- One existing Process Vessel (Stabilizer Additive Drum) to reflect the inclusion of newly-identified particulate matter emissions;
- Seven existing permitted controlled Polymer Handling Sources that are considered "modified" due to revised flow rates that result in an increase of the annual emission rate limits including two existing EPNs that now include particulate matter emissions;
- Existing fugitive source that is considered "modified" due to an increase in emissions due to revised component counts. The incorporation by consolidation of three PBRs (Registration Nos.: 146105, 156193, and 160781) that authorized fugitive emissions increases is also addressed;
- Four newly identified controlled Polymer Handling Sources;
- Two newly identified Process Vessels;
- Newly identified sampling vents;
- Newly identified MSS polymer management sources; and
- Storage tanks previously authorized by PBR.

Additionally, the PI-1 General Application Workbook includes a review of existing, "renewal only" sources to ensure that these sources meet requirements that are "…economically reasonable and technically practicable give the age of the facility and the impacts of its emissions…"

The results of this BACT evaluation are included in the BACT worksheet of the associated and submitted PI-1 General Application Workbook.

Section 9 Regulatory Applicability Review

8.1 TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30

As described in this section, the Bulk Plant unit will comply with all air quality rules and regulations of the TCEQ and with the intent of the Texas Clean Air Act, including protection of the health and physical property of the public. The following Texas rules have been assessed for applicability to the emission sources regarding this renewal and amendment. The regulatory applicability review below is for the entire plant with consideration for the new units.

i. CHAPTER 39 - PUBLIC NOTICE

Air quality permit applications or registrations that are declared administratively complete by the Executive Director on or after September 1, 1999 are subject to this subchapter. Therefore, this renewal and amendment application will comply with the notice requirements. Additionally, upon receipt of written notice from the TCEQ Executive Director, Equistar will provide public notice of the application for permit renewal in accordance with this chapter.

ii. CHAPTER 101 - GENERAL RULES

The Bulk Plant unit will be operated according to the General Rules relating to circumvention, nuisance, traffic hazards, notification requirements for emissions events, notification requirements for scheduled maintenance/startup/shutdowns, sampling, sampling ports, emissions inventory requirements, sampling procedures and terminology, compliance with Environmental Protection Agency Standards, the National Primary and Secondary Air Quality Standards, inspection fees, emissions fees, and all other applicable General Rules.

iii. CHAPTER 106 – PERMITS BY RULE

The Bulk Plant unit previously identified authorized changes under the PBR requirements of 30 TAC §106. Those registered PBRs that will be incorporated in this permit renewal and amendment are listed in Section 1 - Project Information. PBR 30 TAC §106.433 and 106.452: Painting and Abrasive Blasting Facility (registration number 110593, completed 06/20/2013) will not be incorporated in this permit renewal and amendment as it a PBR authorizing sitewide activities associated with other permits in addition to NSR Permit No. 9423.

iv. CHAPTER 111 - CONTROL OF AIR POLLUTION FROM VISIBLE EMISSIONS AND PARTICULATE MATTER

The operation of several material handling sources at the Bulk Plant unit may result unit in occasional visible emissions, but they will not exceed the opacity limits specified in 30 TAC §111.111(a). PM emission rates from these sources will be less than the allowable limits outlined in 30 TAC §111.151.

v. CHAPTER 112 - CONTROL OF AIR POLLUTION FROM SULPHUR COMPOUNDS

The maximum ground level SO_2 concentration due to the SO_2 emissions at the site is expected to be below the limits specified in 30 TAC §112.3.

vi. CHAPTER 113 - CONTROL OF AIR POLLUTION FROM TOXIC MATERIALS

Chapter 113 regulates the emissions of radon from phosphogypsum stacks (40 CFR Part 61, Subpart R), hazardous air pollutants for source categories (40 CFR Part 63), designated facilities (municipal solid waste landfills and hospital/medical/infectious waste incinerators), and consolidated federal air rule SOCMI sources (40 CFR Part 65). There are no sources at the Bulk Plant unit that are subject to any of these standards.

vii. CHAPTER 114 - CONTROL OF AIR POLLUTION FROM MOTOR VEHICLES

The Bulk Plant unit will comply with applicable provisions of this regulation for motor vehicles operated at the plant, including maintenance and operation of air pollution control systems or devices and inspection requirements.

viii. CHAPTER 115 - CONTROL OF AIR POLLUTION FROM VOLATILE ORGANIC COMPOUNDS

This regulation requires control of VOC emissions from general sources, transfer operations, petroleum refining sources, natural gas processes, petrochemical processes, solvent-using processes, miscellaneous industrial sources, and consumer-related sources. The Bulk Plant unit is located in Harris County which is designated as serious ozone nonattainment and will comply with the applicable control, recordkeeping, reporting, and monitoring requirements.

ix. CHAPTER 116 - CONTROL OF AIR POLLUTION BY PERMITS FOR NEW CONSTRUCTION OR MODIFICATION

The Texas Administrative Code (TAC) Title 30, Chapter 116, Subchapter B requires permit applicants to submit information to demonstrate compliance with Federal Regulations and the Texas Clean Air Act (TCAA). 30 TAC §116, Subchapter D requires permit holders to submit information in support of the application to be granted a permit renewal. This section provides a summary demonstration that the emission units associated with this permit application will meet these requirements.

§116.111(a)(2)(A)(i) - Protection of Public Health and Welfare

The emissions from the Bulk Plant unit will comply with all rules and regulations of the commission and with the intent of the Texas Clean Air Act (TCAA), including protection of the health and property of the public.

§116.111(a)(2)(A)(ii)

There are no schools located within 3,000 feet of the Bulk Plant unit. Therefore, 116.111(a)(2)(A)(ii), which requires verification that the emissions from the facility will not result in any short-term or long-term side effects or nuisance odors upon any individual attending a school within 3,000 feet of the facility, does not apply.

§116.111(a)(2)(B) - Measurement of Emissions

The Bulk Plant unit will have provisions for measuring the emission of significant air contaminants to comply with source stack testing requirements as determined by the TCEQ.

§116.111(a)(2)(C) - Best Available Control Technology

The Bulk Plant unit will use the best available control technology with consideration given to the technical practicality and economic reasonableness of reducing or eliminating emissions from the new and modified sources as well as sources that are being renewed only as detailed in the TCEQ NSR PI-1 General Application Workbook.

§116.111(a)(2)(D) - New Source Performance Standards (NSPS)

The emissions from the Bulk Plant unit will meet the requirements of any applicable NSPS as listed under Title 40 Code of Federal Regulations (CFR) Part 60, promulgated by the EPA under FCAA, §111, as amended. Specifically, NSPS Subpart A, Subpart DDD, and Subpart VV are applicable to C, D, and E-Line process lines. The Bulk Plant unit will comply with all applicable control, recordkeeping, reporting, and monitoring requirements contained in these regulations.

§116.111(a)(2)(E) - National Emission Standards for Hazardous Air Pollutants

There are no sources subject to Part 61 National Emission Standards for Hazardous Air Pollutants (NESHAP), therefore these regulations do not apply.

§116.111(a)(2)(F) - NESHAP for Source Categories

The emissions from the Bulk Plant unit will meet the requirements of any applicable maximum achievable control technology standard as listed under 40 CFR Part 63, promulgated by the EPA under FCAA, §112 or as listed under Chapter 113, Subchapter C of this title (relating to National Emissions Standards for Hazardous Air Pollutants for Source Categories (FCAA §112, 40 CFR 63)). MACT Subpart A and Subpart FFFF are applicable to C, D, and E-Line process lines. The Bulk Plant unit will comply with all applicable control, recordkeeping, reporting, and monitoring requirements.

§116.111(a)(2)(G) - Performance Demonstration

The sources at the Bulk Plant unit will achieve the performance specified in the permit application. The applicant may be required to submit additional engineering data after a permit has been issued in order to demonstrate further that the proposed facility will achieve the performance specified in the permit application. In addition, dispersion modeling, monitoring, or stack testing may be required. The sources presented in this application will perform as represented. Source emissions will not exceed the rates represented in the "Unit Types – Emission Rates" tab in the PI-1 General Application Workbook.

§116.111(a)(2)(H) - Nonattainment Review

The Bulk Plant unit is located in Harris County, which is classified as nonattainment for the 2008 eight-hour ozone standard and is in attainment with the National Ambient Air Quality Standards (NAAQS) for all other pollutants. As shown in Section 7 and in the Federal Applicability worksheet of the TCEQ NSR PI-1 Permitting General Application Workbook, the total project increases for NO_x and VOC associated with this project are below the significance level for a serious nonattainment area; therefore, NNSR review is not triggered for these pollutants.

§116.111(a)(2)(I) - Prevention of Significant Deterioration (PSD) Review

The Bulk Plant unit is located in Harris County, which is classified as nonattainment for the 2008 eight-hour ozone standard and is in attainment with the National Ambient Air Quality Standards (NAAQS) for all other pollutants. As shown in Section 7 and in the Federal Applicability worksheet of the TCEQ NSR PI-1 Permitting General Application Workbook, the total project increases for CO, VOC, PM, PM_{10} and $PM_{2.5}$ associated with this project are below the significance level for these pollutants; therefore, PSD review is not triggered for these pollutants. There are no other pollutants with increases to the proposed allowable emission rate limits.

§116.111(a)(2)(J) - Air Dispersion Modeling

Computerized air dispersion modeling may be required by the executive director to determine air quality impacts from a proposed new facility or source modification. In determining whether to issue, or in conducting a review of, a permit application for a shipbuilding or ship repair operation, the commission will not require and may not consider air dispersion modeling results predicting ambient concentrations of non-criteria air contaminants over coastal waters of the state. The commission shall determine compliance with non-criteria ambient air contaminant standards and guidelines at land-based off-property locations.

The Bulk Plant unit has provided air dispersion modeling, described in Section 10, to satisfy this requirement.

§116.111(a)(2)(K) - Hazardous Air Pollutants (HAPs)

Affected sources (as defined in §116.15(1) of this title (relating to Section 112(g) Definitions)) for hazardous air pollutants shall comply with all applicable requirements under Subchapter E of this chapter (relating to Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources (FCAA, §112(g), 40 CFR Part 63)). Please note that the sources included in this application do not meet the definition of affected source as defined in §116.15(1) and §116.400(a); therefore, this section does not apply.

§116.111(a)(2)(L) - Mass Cap and Trade Allowances

The Bulk Plant unit is subject to Chapter 101, Subchapter H, Division 3, of this title (relating to Mass Emissions Cap and Trade Program) and has obtained the necessary allowances to operate. No additional allowances are expected to be required for this renewal and amendment.

Section 10 Modeling Analysis

The Bulk Plant unit has provided air dispersion modeling to demonstrate compliance with the minor NSR NAAQS, TCEQ state property line standards, the TCEQ's Modeling and Effects Review Applicability (MERA) guidance, and the TCEQ's Air Quality Modeling Guidelines. The modeling inputs and outputs are summarized in the TCEQ's Electronic Modeling Evaluation Workbook (EMEW). The EMEW and modeling files are provided electronically for review by TCEQ's Air Dispersion Modeling Team.

MERA Step 2 was used to demonstrate that proposed increases of grease, isobutene, butane, pentane, and hexane are de minimis. The following table shows that the criteria for MERA Step 2 are satisfied for each of these pollutants.

Pollutant	CAS#	Short-Term Increase (lb/hr)	Short-Term ESL ($\mu g/m^3$)	Long-Term ESL ($\mu g/m^3$)
Grease	Not Found	0.00013	1000	100
Isobutene	115-11-7	0.06	180000	32000
Butane	106-97-8	0.012	66000	7100
Pentane	109-66-0	0.0047	59000	7100
Hexane	Railcar Loading ELX	0.053	6200	200

MERA Step 6 was used to demonstrate acceptable impacts for 1-hour mineral oil. MERA Step 6 states that if the ratio of the maximum predicted impact from project increases (GLCmax) and the ESL is less than or equal to the ratio of the increased emissions and proposed sitewide emissions, then the MERA analysis is complete. The GLCmax for 1-hour mineral oil is 138.18 $\mu g/m^3$ and the ESL is 1000 $\mu g/m^3$. The resulting GLCmax/ESL ratio is 0.138. The increased emissions total 9.88 lb/hr and the proposed sitewide emissions of mineral oil total 13.01 lb/hr. The resulting emissions ratio is 0.759. Since the GLCmax/ESL ratio is less than the emissions ratio, MERA Step 6 is satisfied, and sitewide modeling is not required to demonstrate acceptable impacts for 1-hour mineral oil.

Form PI-1 General Application

Version 4.0 - 400 FINs

This workbook is a tool available for almost all action types for case-by-case NSR permits (see list below) to streamline the review process. Note: This workbook is required for all applications received on or after June 1, 2019.

Please check our website to be sure you **use the latest version of the workbook** for all the features and accurate information.

Complete the workbook in order of the sheets. Responses and data entered on previous sheets are used throughout the following sheets.

Questions? Contact the Air Permits Division at (512) 239-1250

Types of Permits and Actions Included

The following permit and actions types are included in the Form PI-1 General Application. Using it will streamline the review process and is highly encouraged. Note: This workbook is required for all applications listed below received on or after June 1, 2019.

Permit Type	Action Type
NSR Minor Permit (can be a Title V major source)	Initial
	Amendment
	Renewal
	Renewal Certification
	Renewal/Amendment
	Change of location
	Relocation
	Alteration
	Extension to Start of Construction
Special Construction Permit	Amendment
	Renewal
	Renewal Certification
	Renewal/Amendment
	Alteration
	Extension to Start of Construction
De Minimis	Initial
Flexible Permit	Initial
	Amendment
	Renewal
	Renewal Certification
	Renewal/Amendment
	Alteration
	Extension to Start of Construction
PSD	Initial
	Major Modification
GHG PSD	Initial
	Major Modification
	Voluntary Update
Nonattainment	Initial
	Major Modification
HAP (112 g)	Initial
	Major Modification
PAL	Initial
	Amendment
	Renewal
	Renewal/Amendment
	Alteration

Types of Permits and Actions Indirectly Included

These permit types are past the due dates for submitting initial projects. Renewals, amendments, and alteration projects can be submitted and follow the same requirements for the "NSR Minor Permits" listed above (Subchapter D for renewals and Subchapter B for amendments and alterations.) There are no specific questions using the terms below, i.e. no question "Is this a grandfathered facility?" Using the Form PI-1 General Application for these projects will streamline the review process and is highly encouraged. Note: This workbook is required for all applications listed below received on or after June 1, 2019.

Grandfathered Facilities Chapter 116, Subchapter H	Amendment
	Alteration
	Renewal
Electric Generating Facility Chapter 116, Subchapter I	Amendment
	Alteration
	Renewal
Permits for Specific Designed Facilities Chapter 116, Subchapter L	Amendment
	Alteration
	Renewal

Types of Permits and Actions Not Included

The following permit and actions types are not included in the Form PI-1 General Application. Submit these project types in accordance with the applicable rules and guidance. Many of these projects are required to be submitted through STEERS.

https://www3.tceq.texas.gov/steers/

Standard Permit Registrations (Chapter 116, Subchapter F)
Permit by Rule Registration and Certification (Chapter 106)
Federal Operating Permits (Chapter 122)
Multiple Plant Permits (Chapter 116, Subchapter J)
NSR Permit Qualified Facility Changes (30 TAC § 116.116(e))
NSR Permit Alternate Means of Compliance (AMOC) (Chapter 115, Subchapter J)

To Submit:

1. Complete all required sections leaving no blanks unless the question is optional. You may use the "tab" button or the arrow keys to move to the next available cell. Use "enter" to move down a line. Note: dropdowns are case-sensitive.
2. Sections of the workbook which are not applicable for this project will be blocked out as data is entered. For example, answering "No" to "Is this a project for a concrete batch plant?" will remove sections of the workbook required only for concrete batch plants. **Note: if you can see the sheet title, there are questions applicable to your project on that sheet.**
3. Follow the directions below to create the required workbook header.
4. **The preferred method for submitting NSR application materials is through STEERS as an ePermit application.**
   When submitting through STEERS:
   A. An original signature is not needed.
   B. The system notifies the appropriate regional office and local program of the application materials. You do not need to send anything submitted through STEERS.
   C. You do still need a hard copy for the public place if notice is required and for other applicable program areas listed on the Copies sheet, such as Federal Land Managers.
   D. You can submit attachments with the original submittal.
   E. Confidential information can be submitted without encryption.
5. The PI-1 can also be submitted through email. Email the workbook electronic file to the Air Permits Initial Review Team. The subject line should read "Company Name_Permit Number (don't include if unknown)_NSR Permit Application". The file name should be: Date_ApplicationWorkbook_Company name_Permit number (YYYYMMDD_Application Workbook_Company_Permit#). Email address:

apirt@tceq.texas.gov

5. **Print and sign the "General" sheet if the workbook indicates that an original signature is required. Some projects do not require an original signature and that section will be blocked out. Note, this is the only part of this workbook that is needed by the Air Permits Division as a hard copy. If submitting through STEERS, this step is not required.**
6. Follow the guide on the "Copies" guidance sheet for where to mail the application materials.
7. Do not begin construction until notified by the TCEQ. If the facility is already operating, an air authorization is still needed. Seek an authorization as soon as you become aware that this requirement applies.
8. Updates may be required throughout the review process. Updated workbooks can be submitted electronically. Be sure to change the headers accordingly.

Renewal Projects: Send the application to the TCEQ at least six months but no earlier than 18 months prior to permit expiration. A renewal application may accompany a permit amendment application if the permit is within three years of its expiration date and if the permit amendment is subject to public notice requirements. Facility operation may continue as long as the application and fee are received within the specified deadlines.

Consolidating a Permit within 6 years of expiration requires a Form PI-1 General Application and fee for each permit and will require Public Notice.

If you are requesting to **split one permit into multiple** (move FINs from Permit A to Permit B):
1. Submit two applications: one as an amendment to Permit A to remove the sources and one as an initial project to create Permit B.
2. The Permit A amendment application should contain all the FIN's from the current permit. Those moving to Permit B should be listed as "remove" in column A of the "Unit Types - Emission Rates" sheet.
3. The Permit B initial application should list all the sources to be in the new permit. Those moving from Permit A should be listed as "not new/modified" in column A of the "Unit Types - Emission Rates" sheet (unless you are also requesting changes to those FINs).

To Submit Other Application Materials:

APD's preference is to receive all application attachments electronically through STEERS, email, or FTP. When submitting electronically, hard copy courtesy copies are not needed by APD. Here are some tips:
1. Submit all attachments through STEERS as part of your ePermit application or submit the attachments with your email to APIRT with your Form PI-1 General Application.
2. Submit all workbook files as an electronic workbook (such as Excel) with all formulas viewable for review (rather than a PDF, for example).
3. For files that are too large to submit via email, files can be shared with Air Permits through a secure FTP. You will need to upload the files into the TCEQ FTPs and share the files with APIRT@tceq.texas.gov. Once your project has been assigned, contact your permit reviewer to set up an FTP.
4. If submitting hard copy originals, reference the date and email subject of the PI-1 submittal email.
5. **Confidential files** should be submitted through STEERS, as encrypted files through email or FTP, as a confidential hardcopy, or as a confidential disc or flash drive. All pages must be marked confidential and have confidential in the file name. Confidential submittals must be separate from non-confidential application materials.

   Please note that emails sent to the agency are not encryption protected via Secure Sockets Layers by our server and may be subject to interception by common third-party internet tools. Anything marked as confidential will be treated as such by APD staff upon receipt.

See the below link for additional information about submitting via FTP:
https://ftps.tceq.texas.gov/help/

Create Headers:

1. Right-click one of the workbook's sheet tabs and "Select All Sheets."
2. Enter the "Page Layout View" by using the navigation ribbon's View > Workbook Views > Page Layout, or by clicking the page layout icon in the lower-left corner of Excel.
3. Add the date, permit number (if known), and company name to the upper-right header. Note that this may take up to a minute to update your spreadsheet. Use a second line if the company name is more than 30 characters.

Printing Tips:

While APD does not need a hard copy of the full workbook (only the General sheet), you may need to print it for sending to the regional offices, local programs, and for public access if notice is required.

1. Do not print any sheets or pages without data entry. For example, do not print the renewal sheet if you are not submitting a renewal project. Also, do not print the entire Unit Types-Emission Rates sheet, only the pages showing the data you have entered.
2. The default printing setup for each sheet in the workbook is set for all columns on one sheet of paper. This will make the printout easier to review for future reference. We have also set the print areas to not include the instructions on each sheet.
3. You have access to change all printing settings to fit your needs and printed font size. Some common options include:
   -Change what area you are printing (whole active sheet or a selection);
   -Change the orientation (portrait or landscape);
   -Change the margin size;
   -Change the scaling (all columns on one sheet, full size, your own custom selection, etc.).

Table of Contents: *Click to jump to that worksheet tab.*

I. Applicant Information

I acknowledge that I am submitting an authorized TCEQ application workbook and any necessary attachments. Except for inputting the requested data and adjusting row height and column width, I have not changed the TCEQ application workbook in any way, including but not limited to changing formulas, formatting, content, or protections.	I agree

A. Company Information

Company or Legal Name:	Equistar Chemicals, L.P.

Permits are issued to either the facility owner or operator, commonly referred to as the applicant or permit holder. List the legal name of the company, corporation, partnership, or person who is applying for the permit. We will verify the legal name with the Texas Secretary of State at (512) 463-5555 or at:

https://www.sos.state.tx.us

Texas Secretary of State Charter/Registration Number (if given):	

B. Company Official Contact Information: must not be a consultant

Prefix (Mr., Ms., Dr., etc.):	Mr.
First Name:	Anthony
Last Name:	Wood
Title:	Site Manager
Mailing Address:	10801 Choate Roade
Address Line 2:	
City:	Pasadena
State:	TX
ZIP Code:	77507
Telephone Number:	281-474-0436
Fax Number:	
Email Address:	Anthony.wood@lyb.com

C. Technical Contact Information: This person must have the authority to make binding agreements and representations on behalf of the applicant and may be a consultant. **Additional technical contact(s) can be provided in a cover letter.**

Prefix (Mr., Ms., Dr., etc.):	Ms.
First Name:	Carlisa
Last Name:	Navy
Title:	Sr. Environmental Enginner
Company or Legal Name:	LyondellBasell Industries N.V.
Mailing Address:	10801 Choate Roade
Address Line 2:	
City:	Pasadena
State:	TX
ZIP Code:	77507
Telephone Number:	281-474-0727
Fax Number:	
Email Address:	Carlisa.Navy@lyondellbasell.com

D. Assigned Numbers

The CN and RN below are assigned when a Core Data Form is initially submitted to the Central Registry. The RN is also assigned if the agency has conducted an investigation or if the agency has issued an enforcement action. If these numbers have not yet been assigned, leave these questions blank and include a Core Data Form with your application submittal. See Section VI.B. below for additional information.

Enter the CN. The CN is a unique number given to each business, governmental body, association, individual, or other entity that owns, operates, is responsible for, or is affiliated with a regulated entity.	CN600124705
Enter the RN. The RN is a unique agency assigned number given to each person, organization, place, or thing that is of environmental interest to us and where regulated activities will occur. The RN replaces existing air account numbers. The RN for portable units is assigned to the unit itself, and that same RN should be used when applying for authorization at a different location.	RN100216761

II. Delinquent Fees and Penalties

Does the applicant have unpaid delinquent fees and/or penalties owed to the TCEQ? 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 are paid in accordance with the Delinquent Fee and Penalty Protocol. For more information regarding Delinquent Fees and Penalties, go to the TCEQ Web site at: https://www.tceq.texas.gov/agency/financial/fees/delin	No

III. Permit Information

A. Permit and Action Type (multiple may be selected, leave no blanks)

Additional information regarding the different NSR authorizations can be found at:
https://www.tceq.texas.gov/permitting/air/guidance/authorize.html

Select from the drop-down the type of action being requested for each permit type. **If that permit type does not apply, you MUST select "Not applicable".**

Provide all assigned permit numbers relevant for the project. Leave blank if the permit number has not yet been assigned.

Permit Type	Action Type Requested (do not leave blank)	Permit Number (if assigned)
Minor NSR (can be a Title V major source): *Not applicable, Initial, Amendment, Renewal, Renewal Certification, Renewal/Amendment, Relocation/Alteration, Change of Location, Alteration, Extension to Start of Construction*	Renewal/Amendment	9423
Special Permit: *Not applicable, Amendment, Renewal, Renewal Certification, Renewal/Amendment, Alteration, Extension to Start of Construction*	Not applicable	
De Minimis: *Not applicable, Initial*	Not applicable	
Flexible: *Not applicable, Initial, Amendment, Renewal, Renewal Certification, Renewal/Amendment, Alteration, Extension to Start of Construction*	Not applicable	
PSD: *Not applicable, Initial, Major Modification*	Not applicable	
Nonattainment: *Not applicable, Initial, Major Modification*	Not applicable	

HAP Major Source [FCAA § 112(g)]: *Not applicable, Initial, Major Modification*	Not applicable	
PAL: *Not applicable, Initial, Amendment, Renewal, Renewal/Amendment, Alteration*	Not applicable	
GHG PSD: *Not applicable, Initial, Major Modification, Voluntary Update*	Not applicable	

B. MSS Activities

How are/will MSS activities for sources associated with this project be authorized?	Combination (list below)
List the permit number, registration number, and/or PBR number.	Permit No. 9423 PBR Reg. No. 110593 for Painting and Abrasive Blasting.

C. Consolidating NSR Permits

Will this permit be consolidated into another NSR permit with this action?	No
Will NSR permits be consolidated into this permit with this action?	No

D. Incorporation of Standard Permits, Standard Exemptions, and/or Permits By Rule (PBR)

To ensure protectiveness, previously issued authorizations (standard permits, standard exemptions, or PBRs) including those for MSS, are incorporated into a permit either by consolidation or by reference. At the time of renewal and/or amendment, consolidation (in some cases) may be voluntary and referencing is mandatory. More guidance regarding incorporation can be found in 30 TAC § 116.116(d)(2), 30 TAC § 116.615(3) and in this memo:

https://www.tceq.texas.gov/assets/public/permitting/air/memos/pbr_spc06.pdf

Are there any standard permits, standard exemptions, or PBRs to be incorporated by reference?	Yes

If yes, list any PBR, standard exemptions, or standard permits that need to be referenced:	30 TAC §106.511: Firewater Pumps (P-902A/B/D/E) and Back-up Emergency Generator, 30 TAC §106.371 Cooling Water Units (CLX Cooling Tower), 30 TAC §106.472 Organic and Inorganic Liquid Loading and Unloading (Diesel Storage Tank), 30 TAC §106.472 Organic and Inorganic Liquid Loading and Unloading (Two Sodium Hypochlorite Tanks), 30 TAC §106.472 Organic and Inorganic Liquid Loading and Unloading regarding additonal Corrosion Inhibitor and Anti-Foulant Totes/Tanks, and 30 TAC §106.473 Organic Liquid Loading and Unloading (Gasoline Storage Tank) were all effective 03/14/1997 and amended in 09/04/2000.
Are there any PBR, standard exemptions, or standard permits associated to be incorporated by consolidation? **Note:** Emission calculations, a BACT analysis, and an impacts analysis must be attached to this application at the time of submittal for any authorization to be incorporated by consolidation.	Yes
If yes, list any PBR, standard exemptions, or standard permits that need to be consolidated:	PBR Reg. No. 156193 for fugitive changes; PBR Reg. No. 146105 for fugitive changes: PBR Reg. No. 160781 for fugitive changes , and 30 TAC §106.472 Storage Tanks (Two Sulfuric Acid Storage Tanks),
If yes, are emission calculations, BACT analysis, and an impacts analysis included for each authorization to be consolidated? **If any required information is not provided, the authorization will be incorporated by reference.**	Yes

E. Associated Federal Operating Permits

Is this facility located at a site required to obtain a **site operating permit (SOP)** or **general operating permit (GOP)?**	Yes
Is a **SOP** or **GOP** review pending for this source, area, or site?	No
If required to obtain a **SOP** or **GOP**, list all associated permit number(s). If no associated permit number has been assigned yet, enter "TBD":	O1419

IV. Facility Location and General Information

A. Location

County: Enter the county where the facility is physically located.	Harris
TCEQ Region	Region 12
County attainment status as of Sept. 23, 2019	Serious Ozone nonattainment

Street Address:	12001 Bay Area Blvd.
City: If the address is not located in a city, then enter the city or town closest to the facility, even if it is not in the same county as the facility.	Pasadena
ZIP Code: Include the ZIP Code of the physical facility site, not the ZIP Code of the applicant's mailing address.	77507
Site Location Description: If there is no street address, provide written driving directions to the site. Identify the location by distance and direction from well-known landmarks such as major highway intersections.	Not applicable
Use USGS maps, county maps prepared by the Texas Department of Transportation, or an online software application such as Google Earth to find the latitude and longitude.	
Latitude (in degrees, minutes, and nearest second (DDD:MM:SS)) for the street address or the destination point of the driving directions. Latitude is the angular distance of a location north of the equator and will always be between 25 and 37 degrees north (N) in Texas.	29 37' 54" N
Longitude (in degrees, minutes, and nearest second (DDD:MM:SS)) for the street address or the destination point of the driving directions. Longitude is the angular distance of a location west of the prime meridian and will always be between 93 and 107 degrees west (W) in Texas.	95 3' 6" W
Is this a project for a lead smelter, concrete crushing facility, and/or a hazardous waste management facility?	No

B. General Information

Site Name:	Bayport Polymers Plant
Area Name: Must indicate the general type of operation, process, equipment or facility. Include numerical designations, if appropriate. Examples are Sulfuric Acid Plant and No. 5 Steam Boiler. Vague names such as Chemical Plant are not acceptable.	Bulk Plant Polypropylene Production Unit
Are there any schools located within 3,000 feet of the site boundary?	No

C. Portable Facility

Permanent or portable facility?	Permanent

D. Industry Type

Principal Company Product/Business:	Plastic Materials
A list of SIC codes can be found at: https://www.naics.com/sic-codes-industry-drilldown/	
Principal SIC code:	2821
NAICS codes and conversions between NAICS and SIC Codes are available at:	

https://www.census.gov/eos/www/naics/

Principal NAICS code:	325211

E. State Senator and Representative for this site

This information can be found at (note, the website is not compatible to Internet Explorer):
https://wrm.capitol.texas.gov/

State Senator:	Senator Larry Taylor
District:	11
State Representative:	Representative Dennis Paul
District:	129

V. Project Information

A. Description

Provide a brief description of the project that is requested. (Limited to 500 characters).	This project is a renewal and amendment of the New Source Review Permit 9423.

B. Project Timing

Authorization must be obtained for many projects before beginning construction. Construction is broadly interpreted as anything other than site clearance or site preparation. Enter the date as "Month Date, Year" (e.g. July 4, 1776).

Projected Start of Construction:	N/A
Projected Start of Operation:	N/A

C. Enforcement Projects

Is this application in response to, or related to, an agency investigation, notice of violation, or enforcement action?	No

D. Operating Schedule

Will sources in this project be authorized to operate 8760 hours per year?	Yes

VI. Application Materials

All representations regarding construction plans and operation procedures contained in the permit application shall be conditions upon which the permit is issued. (30 TAC § 116.116)

A. Confidential Application Materials

Is confidential information submitted with this application?	Yes
If yes, is each confidential page marked "CONFIDENTIAL" in large red letters?	Yes

THSC §382.041 requires us not to disclose any information related to manufacturing processes that is marked Confidential. Mark any information related to secret or proprietary processes or methods of manufacture Confidential if you do not want this information in the public file. All confidential information should be separated from the application and submitted as a separate file. Additional information regarding confidential information can be found at:
https://www.tceq.texas.gov/permitting/air/confidential.html

B. Is the Core Data Form (Form 10400) attached?	No

https://www.tceq.texas.gov/assets/public/permitting/centralregistry/10400.docx	
C. Is a current area map attached?	Yes
Is the area map a current map with a true north arrow, an accurate scale, the entire plant property, the location of the property relative to prominent geographical features including, but not limited to, highways, roads, streams, and significant landmarks such as buildings, residences, schools, parks, hospitals, day care centers, and churches?	Yes
Does the map show a 3,000-foot radius from the property boundary?	Yes
D. Is a plot plan attached?	Yes
Does your plot plan clearly show a north arrow, an accurate scale, all property lines, all emission points, buildings, tanks, process vessels, other process equipment, and two bench mark locations?	Yes
Does your plot plan identify all emission points on the affected property, including all emission points authorized by other air authorizations, construction permits, PBRs, special permits, and standard permits?	Yes
Did you include a table of emission points indicating the authorization type and authorization identifier, such as a permit number, registration number, or rule citation under which each emission point is currently authorized?	N/A
E. Is a process flow diagram attached?	Yes
Is the process flow diagram sufficiently descriptive so the permit reviewer can determine the raw materials to be used in the process; all major processing steps and major equipment items; individual emission points associated with each process step; the location and identification of all emission abatement devices; and the location and identification of all waste streams (including wastewater streams that may have associated air emissions)?	Yes
F. Is a process description attached?	Yes
Does the process description emphasize where the emissions are generated, why the emissions must be generated, what air pollution controls are used (including process design features that minimize emissions), and where the emissions enter the atmosphere?	Yes
Does the process description also explain how the facility or facilities will be operating when the maximum possible emissions are produced?	Yes
G. Are detailed calculations attached? Calculations must be provided for each source with new or changing emission rates. For example, a new source, changing emission factors, decreasing emissions, consolidated sources, etc. You do not need to submit calculations for sources which are not changing emission rates with this project. Please note: the preferred format is an electronic workbook (such as Excel) with all formulas viewable for review. It can be emailed with the submittal of this application workbook.	Yes
Are emission rates and associated calculations for planned MSS facilities and related activities attached?	Yes
H. Is a material balance (Table 2, Form 10155) attached?	Yes
Table 2 (Form 10155), entitled Material Balance: A material balance representation may be required for all applications to confirm technical emissions information. Typically this is required for refining and chemical manufacturing processes involving reactions, separations, and blending. It may also be requested by the permit reviewer for other applications. Table 2 should represent the total material balance; that is, all streams into the system and all streams out. Additional sheets may be attached if necessary. Complex material balances may be presented on spreadsheets or indicated using process flow diagrams. All materials in the process should be addressed whether or not they directly result in the emission of an air contaminant. All production rates must be based on maximum operating conditions.	
I. Is a list of MSS activities attached?	Yes

Are the MSS activities listed and discussed separately, each complete with the authorization mechanism or emission rates, frequency, duration, and supporting information if authorized by this permit?	Yes
J. Is a discussion of state regulatory requirements attached, addressing 30 TAC Chapters 101, 111, 112, 113, 115, and 117?	Yes
For all applicable chapters, does the discussion include how the facility will comply with the requirements of the chapter?	Yes
For all not applicable chapters, does the discussion include why the chapter is not applicable?	Yes
K. Are all other required tables, calculations, and descriptions attached?	Yes

VII. Signature

The owner or operator of the facility must apply for authority to construct. The appropriate company official (owner, plant manager, president, vice president, or environmental director) must sign all copies of the application. The applicant's consultant cannot sign the application. **Important Note: Signatures must be original in ink, not reproduced by photocopy, fax, or other means, and must be received before any permit is issued.**

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 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:	Anthony Wood
Signature:	
Original signature is required.	
Date:	

I. Type of Permit Renewal and Associated Actions

A. Current Operations

Do all dockside vessel emissions associated with the facility comply with all rules and regulations of the commission and with the intent of the TCAA, including protection of the health and property of the public and minimization of emissions to the extent possible, consistent with good air pollution practices? (30 TAC § 116.311(a)(1))	N/A
Is the facility being operated in accordance with all requirements and conditions of the existing permit, including representations in the application for permit to construct and subsequent amendments, and any previously granted renewal, unless otherwise authorized for a qualified facility?	Yes
Are there any permit actions pending before the TCEQ?	Yes

If Yes, list actions and dates of submittal:

Permit Action:	Date Submitted:
Amendment (Project No. 299187)	3/29/2019

Have any qualified facility changes under 30 TAC § 116.116(e) occurred since originally issued or last renewed?	No
Have emission factors changed since the last permitting action?	Yes

B. Changes Made Since Last Amendment or Renewal

Have any of the following changes been made to or proposed for the facilities covered by this permit since it was last amended or renewed and are not currently authorized by a PBR, standard permit, or other authorization? *Select "Yes" or "No" to answer each question.*

Construction of a new emission source?	No
The emission of new chemical species or a change in character of emissions?	No
An increase in emission rates on a short term or annual basis? (This includes increases of a criteria pollutant as well as increases of a chemical species.)	Yes
A change in the method of emission control if the emission control is a source itself, such as a thermal oxidizer or flare?	No
Are new pollutants being added in the renewal process, not currently listed in the permit?	No

If "yes" to any question in Section B above is selected, a concurrent permit amendment is required before the permit can be renewed.

II. Federal Regulatory Questions

Indicate if any of the following requirements apply to the proposed facility. Note that some federal regulations apply to minor sources. Enter all applicable Subparts.

A. Title 40 CFR Part 60

Do NSPS subpart(s) apply to a facility in this application?	Yes

If applicable, list applicable subparts you will demonstrate compliance with (e.g. Subpart M)	NSPS Subpart A, Subpart VV, and Subpart DDD
B. Title 40 CFR Part 61	
Do NESHAP subpart(s) apply to a facility in this application?	No
C. Title 40 CFR Part 63	
Do MACT subpart(s) apply to a facility in this application?	Yes
If applicable, list applicable subparts you will demonstrate compliance with (e.g. Subpart VVVV)	MACT Subpart A and Subpart FFFF

IX. Emissions Review

A. Impacts Analysis

Any change that results in an increase in off-property concentrations of air contaminants requires an air quality impacts demonstration. Information regarding the air quality impacts demonstration must be provided with the application and show compliance with all state and federal requirements. Detailed requirements for the information necessary to make the demonstration are listed on the Impacts sheet of this workbook.

Does this project require an impacts analysis?	Yes

B. Disaster Review

If the proposed facility will handle sufficient quantities of certain chemicals which, if released accidentally, would cause off-property impacts that could be immediately dangerous to life and health, a disaster review analysis may be required as part of the application. Contact the appropriate NSR permitting section for assistance at (512) 239-1250. Additional Guidance can be found at:
https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/disrev-factsheet.pdf

Does this application involve any air contaminants for which a disaster review is required?	No

C. Air Pollutant Watch List

Certain areas of the state have concentrations of specific pollutants that are of concern. The TCEQ has designated these portions of the state as watch list areas. Location of a facility in a watch list area could result in additional restrictions on emissions of the affected air pollutant(s) or additional permit requirements. The location of the areas and pollutants of interest can be found at:
https://www.tceq.texas.gov/toxicology/apwl/apwl.html

Is the proposed facility located in a watch list area?	No

D. Mass Emissions Cap and Trade

Is this facility located at a site within the Houston/Galveston nonattainment area (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties)?	Yes
Is Mass Emissions Cap and Trade applicable to the new or modified facilities?	Yes
If MECT is applicable, does the application contain documentation demonstrating that the proposed facility, group of facilities, or account has obtained allowances to operate?	Yes

X. Additional Requirements

A. Bulk Fuel Terminals

Is this project for a bulk fuel terminal?	No

B. Plant Fuel Gas Facilities

Does this site utilize plant fuel gas?	No

Click here to return to Cover Sheet.
Click here to see examples of how to complete this sheet.

Permit primary industry (must be selected for workbook to function)	Chemical / Energy

Action Requested (only 1 action per FIN)	Include these emissions in annual (tpy) summary?	Facility ID Number (FIN)	Emission Point Number (EPN)	Source Name	Pollutant	Current Short-Term (lb/hr)	Current Long-Term (tpy)	Consolidated Current Short-Term (lb/hr)	Consolidated Current Long-Term (tpy)	Proposed Short-Term (lb/hr)	Proposed Long-Term (tpy)	Short-Term Difference (lb/hr)	Long-Term Difference (tpy)	Unit Type (Used for reviewing BACT and Monitoring Requirements)	Unit Type Notes (only if "other" unit type in Column O)
Remove	No		30	LOG Flare	VOC							0	0	Control: Flare	
					CO							0	0		
					NOx							0	0		
					SO2							0	0		
Renew only	Yes	FL-3706	FL-3706	Elevated Flare	VOC	153.73	77.69			153.73	77.69	0	0	Control: Flare	
					CO	200.8	160.74			127.74	102.48	-73.06	-58.26		
					NOx	24.84	19.89			24.8	19.89	-0.0399	0		
					SO2	0.79	2.46			0.78	2	-0.01	-0.46		
Renew only	Yes	D-885	D-885	Waste Oil Loading	VOC	0.06	0.01			0.06	0.0007	0	-0.0093	Loading: Truck	
New/Modified	Yes	PP-ANALYZER	PP-ANALYZER	Analyzer Vents	VOC	0.05	0.22			0.006	0.03	-0.044	-0.19	Other	Analyzer sample system purges
					CO	0.01	0.01			0.01	0.05	0	*0.04*		
					NOx	0.01	0.01			0.002	0.009	-0.008	-0.001		
New/Modified	Yes	CT-895	CT-895	West Marley Cooling Tower	VOC	1.89	6.2			1.89	6.19	0	-0.0099	Cooling Tower	
					PM	0.59	1.94			0.59	1.95	0	*0.01*		
					PM10	0.33	1.09			0.33	1.09	0	0		
					PM2.5	0.01	0.01			0.001	0.004	-0.009	-0.006		
New/Modified	Yes	CT-6901	CT-6901	East Marley Cooling Tower	VOC	0.57	2.49			0.84	2.44	*0.27*	-0.05	Cooling Tower	
					PM	0.18	0.77			0.26	0.77	*0.08*	0		
					PM10	0.18	0.77			0.15	0.43	-0.03	-0.34		
					PM2.5	0.18	0.77			0.0005	0.002	-0.1795	-0.768		
Renew only	Yes	CT-891	CT-891	Xcel Marley 3 Cooling Tower	VOC	1.28	5.58			1.02	2.97	-0.26	-2.61	Cooling Tower	
					PM	0.4	1.75			0.32	0.93	-0.08	-0.82		
					PM10	0.22	0.98			0.18	0.52	-0.04	-0.46		
					PM2.5	0.01	0.01			0.0007	0.002	-0.0093	-0.008		
Renew only	Yes	CT-4861	CT-4861	DLX Cooling Tower	PM	0.14	0.15			0.041	0.05	-0.099	-0.1	Cooling Tower	
					PM10	0.02	0.07			0.001	0.02	-0.019	-0.05		
					PM2.5	0.01	0.01			0.00003	0.0001	-0.0099	-0.0099		
New/Modified	Yes	D-3106	D-3106	Catalyst Dispersion Drum	VOC	0.01	0.01			0.23	0.02	*0.22*	*0.01*	Process Vent	
New/Modified	Yes	D-3106B	D-3106B	Catalyst Dispersion Drum	VOC	0.01	0.01			1.16	0.17	*1.15*	*0.16*	Process Vent	
New/Modified	Yes	D-3504	D-3504	Stabilizer Additive Drum	VOC	0.01	0.01			0.15	0.02	*0.14*	*0.01*	Process Vent	
					PM	0.01	0.01			0.03	0.003	*0.02*	-0.007		
					PM10	0.01	0.01			0.02	0.001	*0.01*	-0.009		
					PM2.5	0.01	0.01			0.003	0.0002	-0.007	-0.0098		
Renew only	Yes	D-3103	D-3103	TEAL Seal Pot Drum	VOC	0.01	0.01			0.0005	0.00005	-0.0095	-0.0099	Process Vent	
Renew only	Yes	D-3105	D-3105	Oil/Grease Blending Drum	VOC	0.01	0.01			0.001	0.00003	-0.009	-0.0099	Process Vent	
Renew only	Yes	D-3107	D-3107	Hydraulic Oil Drum	VOC	0.01	0.01			0.0001	0.0000009	-0.0099	-0.0099	Process Vent	
Renew only	Yes	D-3110A	D-3110A	Donor Metering Drum	VOC	0.01	0.01			0.0002	0.000004	-0.0098	-0.0099	Process Vent	
New/Modified	Yes	D-3113	D-3113	Additive Drum Seal Pot	VOC	0.01	0.01			0.02	0.0008	*0.01*	-0.0092	Process Vent	
Renew only	Yes	T-3111	T-3111	Bulk Donor Tank	VOC	0.01	0.01			0.001	0.00003	-0.009	-0.0099	Process Vent	
Renew only	Yes	C-FUG	C-FUG	Fugitives	VOC	5.17	22.65			2.23	9.78	-2.94	-12.87	Fugitives: Piping and Equipment Leak	
New/Modified	Yes	TK-2527A	TK-2527A	CLX Mineral Oil Tank	VOC	0.05	0.01			0.22	0.004	*0.17*	-0.006	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	
New/Modified	Yes	TK-2527B	TK-2527B	CLX Mineral Oil Tank	VOC	0.05	0.01			0.22	0.004	*0.17*	-0.006	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	
New/Modified	Yes	TK-880	TK-880	Mineral Oil Tank	VOC	0.01	0.01			0.09	0.002	*0.08*	-0.008	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	
New/Modified	Yes	D-4106	D-4106	Catalyst Dispersion Drum	VOC	0.01	0.01			3.14	0.26	*3.13*	*0.25*	Process Vent	
New/Modified	Yes	D-4504	D-4504	Stabilizer Additive Drum	VOC	0.01	0.01			0.11	0.001	*0.1*	-0.009	Process Vent	
					PM	0.01	0.01			0.03	0.0004	*0.02*	-0.0096		
					PM10	0.01	0.01			0.02	0.0002	*0.01*	-0.0098		
					PM2.5	0.01	0.01			0.003	0.00003	-0.007	-0.0099		
Renew only	Yes	D-FUG	D-FUG	Fugitives	VOC	3.67	16.07			2.36	10.33	-1.31	-5.74	Fugitives: Piping and Equipment Leak	
Renew only	Yes	D-4105	D-4105	Oil Blending Drum	VOC	0.01	0.01			0.001	0.00001	-0.009	-0.0099	Process Vent	
Renew only	Yes	D-4107	D-4107	Hydraulic Oil Drum	VOC	0.01	0.01			0.005	0.00005	-0.005	-0.0099	Process Vent	
Renew only	Yes	D-4110A	D-4110A	Donor Metering Drum	VOC	0.01	0.01			0.0002	0.000007	-0.0098	-0.0099	Process Vent	
Renew only	Yes	D-4110B	D-4110B	Donor Metering Drum	VOC	0.01	0.01			0.0002	0.000007	-0.0098	-0.0099	Process Vent	
Renew only	Yes	T-4111	T-4111	Bulk Donor Tank	VOC	0.01	0.01			0.002	0.00006	-0.008	-0.0099	Process Vent	
Renew only	Yes	D-4103	D-4103	TEAL Seal Pot Drum	VOC	0.01	0.01			0.0005	0.00005	-0.0095	-0.0099	Process Vent	
New/Modified	Yes	D-6106A	D-6106A	Catalyst Dispersion Drum	VOC	0.42	0.03			2.64	0.2	*2.22*	*0.17*	Process Vent	
New/Modified	Yes	D-6106B	D-6106B	Catalyst Dispersion Drum	VOC	0.42	0.04			2.64	0.2	*2.22*	*0.16*	Process Vent	
New/Modified	Yes	D-6504	D-6504	Stabilizer Additive Drum	VOC	0.01	0.01			0.11	0.001	*0.1*	-0.009	Process Vent	
					PM	0	0			0.027	0.0003	*0.027*	*0.0003*		
					PM10	0	0			0.01	0.0002	*0.01*	*0.0002*		
					PM2.5	0	0			0.003	0.00003	*0.003*	*0.0001*		
Renew only	Yes	D-6103	D-6103	TEAL Seal Pot Drum	VOC	0.01	0.01			0.0005	0.00005	-0.0095	-0.0099	Process Vent	
Renew only	Yes	D-6105	D-6105	Grease Blending Drum	VOC	0.01	0.01			0.0003	0.000006	-0.0097	-0.0099	Process Vent	
Renew only	Yes	D-6105B	D-6105B	Oil Blending Drum	VOC	0.01	0.01			0.0004	0.000009	-0.0096	-0.0099	Process Vent	
Renew only	Yes	D-6107	D-6107	Hydraulic Oil Drum	VOC	0.01	0.01			0.0001	0.0000008	-0.0099	-0.0099	Process Vent	
Renew only	Yes	D-6110A	D-6110A	Donor Metering Drum	VOC	0.02	0.01			0.0002	0.000001	-0.0198	-0.0099	Process Vent	
Renew only	Yes	D-6110B	D-6110B	Donor Metering Drum	VOC	0.02	0.01			0.0002	0.000007	-0.0198	-0.0099	Process Vent	
Renew only	Yes	T-6111	T-6111	Bulk Donor Tank	VOC	0.02	0.01			0.001	0.00005	-0.019	-0.0099	Process Vent	
New/Modified	Yes	D-6113	D-6113	Additive Drum Seal Pot	VOC	0.06	0.01			0.17	0.06	*0.11*	*0.05*	Process Vent	
Remove	Yes	D-6115	D-6115	Additive Metering Drum	VOC	0.02	0.01			0	0	-0.02	-0.01	Other	Drum vessel routed to D-6112 (EPN D-6113) and does not emit as originally represented.
New/Modified	Yes	E-FUG	E-FUG	Fugitives	VOC	7.73	33.78			7.95	34.83	*0.22*	*1.05*	Fugitives: Piping and Equipment Leak	
New/Modified	Yes	M-2573	M-2573	Railcar Unloading (Flake)	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.21	0.9			0.29	1.25	*0.08*	*0.35*		
					PM10	0.21	0.9			0.03	0.13	-0.18	-0.77		
					PM2.5	0.21	0.9			0.01	0.06	-0.2	-0.84		
Renew only	Yes	M-2574	M-2574	Railcar Unloading (Flake)	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.21	0.9			0.08	0.36	-0.13	-0.54		
					PM10	0.21	0.9			0.008	0.04	-0.202	-0.86		
					PM2.5	0.21	0.9			0.004	0.02	-0.206	-0.88		
New/Modified	Yes	M-42591	M-42591	C-Line Railcar Loading (Flake)	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0	0			0.13	0.56	*0.13*	*0.56*		
					PM10	0	0			0.01	0.06	*0.01*	*0.06*		
					PM2.5	0	0			0.006	0.03	*0.006*	*0.03*		
New/Modified	Yes	F-583	F-583	D-Line Railcar Loading (Flake)	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0	0			0.13	0.56	*0.13*	*0.56*		
					PM10	0	0			0.01	0.06	*0.01*	*0.06*		
					PM2.5	0	0			0.006	0.03	*0.006*	*0.03*		
New/Modified	Yes	S-2580	S-2580	DLX Centralized Vent System	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.13	0.56			0.14	0.6	*0.01*	*0.04*		
					PM10	0.13	0.56			0.01	0.06	-0.12	-0.5		
					PM2.5	0.13	0.56			0.007	0.03	-0.123	-0.53		
Renew only	Yes	D-4801-03	D-4801-03	DLX Pellet Silos	VOC							0	0	Process Vent	
New/Modified	Yes	F-4842	F-4842	DLX Railcar Loading (Pellets)	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.2	0.88			0.27	1.2	*0.07*	*0.32*		
					PM10	0.2	0.88			0.03	0.12	-0.17	-0.76		
					PM2.5	0.2	0.88			0.01	0.06	-0.19	-0.82		
New/Modified	Yes	F-5101	F-5101	CLX Centralized Vent System	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.06	0.26			0.1	0.45	*0.04*	*0.19*		
					PM10	0.06	0.26			0.01	0.05	-0.05	-0.21		
					PM2.5	0.06	0.26			0.005	0.02	-0.055	-0.24		
New/Modified	Yes	F-6802	F-6802	ELX Centralized Vent System	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.1	0.43			0.21	0.94	*0.11*	*0.51*		
					PM10	0.1	0.43			0.02	0.09	-0.08	-0.34		
					PM2.5	0.1	0.43			0.01	0.05	-0.09	-0.38		
New/Modified	Yes	F-5303	F-5303	CLX Railcar Loading (Pellets)	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.05	0.2			0.51	2.25	*0.46*	*2.05*		
					PM10	0.05	0.2			0.05	0.23	0	*0.03*		
					PM2.5	0.05	0.2			0.03	0.11	-0.02	-0.09		
New/Modified	Yes	F-6841-42	F-6841-42	ELX Railcar Loading (Pellets)	VOC							0	0	Control: Bag Filter/Baghouse	
					PM	0.69	2.25			1.03	4.51	*0.34*	*2.26*		
					PM10	0.69	2.25			0.1	0.45	-0.59	-1.8		
					PM2.5	0.69	2.25			0.05	0.23	-0.64	-2.02		
Renew only	Yes	E-CAP	E-CAP	VOC Emission Cap for Various EPNs	VOC	9.75	19.4			9.75	19.4	0	0	Other	Cap on VOC emissions
Renew only	Yes	PP-WWTR	PP-WWTR	Polypropylene Waste Water	VOC	1.95	0.87			1.95	0.87	0	0	Wastewater Facilities	
Renew only	Yes	FL-3706	FL-3706	Elevated Flare (MSS)	VOC	540	0			540	0	0	0	MSS Activities	

Texas Commission on Environmental Quality
Form PI-1 General Application
Unit Types - Emission Rates

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Action Requested (only 1 action per FIN)	Include these emissions in annual (tpy) summary?	Facility ID Number (FIN)	Emission Point Number (EPN)	Source Name	Pollutant	Current Short-Term (lb/hr)	Current Long-Term (tpy)	Consolidated Current Short-Term (lb/hr)	Consolidated Current Long-Term (tpy)	Proposed Short-Term (lb/hr)	Proposed Long-Term (tpy)	Short-Term Difference (lb/hr)	Long-Term Difference (tpy)	Unit Type (Used for reviewing BACT and Monitoring Requirements)	Unit Type Notes (only if "other" unit type in Column O)
					CO	602.14	0			383.79	0	-218.35	0		
					NOx	74.5	0			74.5	0	0	0		
New/Modified	Yes	MSS41	MSS41	C-Line Maintenance Shutdown	VOC	15.48	0.06			15.48	0.15	0	0.09	MSS Activities	
New/Modified	Yes	MSS42	MSS42	D-Line Maintenance Shutdown	VOC	15.48	0.06			15.48	0.15	0	0.09	MSS Activities	
New/Modified	Yes	MSS43	MSS43	E-Line Maintenance Shutdown	VOC	26.22	0.1			26.22	0.26	0	0.16	MSS Activities	
Renew only	Yes	MSS44	MSS44	Bullets Area Maintenance Shutdown	VOC	26.22	0.01			26.22	0.01	0	0	MSS Activities	
Remove	Yes	MSS45	MSS45	Monomer Supplier Proving	VOC	0.01	0.01			0	0	-0.01	-0.01	Other	Removing this source. Does not vent to atmosphere.
Renew only	Yes	MSS46	MSS46	C-Line Compressor Maintenance	VOC	0.01	0.01			0.01	0.00005	0	-0.0099	MSS Activities	
Renew only	Yes	MSS47	MSS47	D-Line Compressor Maintenance	VOC	0.01	0.01			0.01	0.00005	0	-0.0099	MSS Activities	
Renew only	Yes	MSS48	MSS48	E-Line Compressor Maintenance	VOC	0.01	0.01			0.01	0.00005	0	-0.0099	MSS Activities	
Renew only	Yes	MSS49	MSS49	C-Line Pump Maintenance	VOC	0.06	0.01			0.06	0.0003	0	-0.0097	MSS Activities	
Renew only	Yes	MSS50	MSS50	D-Line Pump Maintenance	VOC	0.06	0.01			0.06	0.0003	0	-0.0097	MSS Activities	
Renew only	Yes	MSS51	MSS51	E-Line Pump Maintenance	VOC	0.06	0.01			0.06	0.0003	0	-0.0097	MSS Activities	
Renew only	Yes	MSS52	MSS52	Bullet Pump Maintenance	VOC	0.06	0.01			0.06	0.0003	0	-0.0097	MSS Activities	
Renew only	Yes	MSS53	MSS53	C-Line Commercial Shutdown	VOC	15.48	0.06			15.48	0.06	0	0	MSS Activities	
Renew only	Yes	MSS54	MSS54	D-Line Commercial Shutdown	VOC	15.48	0.06			15.48	0.06	0	0	MSS Activities	
Renew only	Yes	MSS55	MSS55	E-Line Commercial Shutdown	VOC	26.22	0.1			26.22	0.1	0	0	MSS Activities	
Renew only	Yes	MSS56	MSS56	E-Line Gas Phase Reactor Cleaning	VOC	11.04	0.14			11.04	0.14	0	0	MSS Activities	
Renew only	Yes	MSS57	MSS57	C-Line Filter Changes	VOC	0.03	0.01			0.03	0.0002	0	-0.0098	MSS Activities	
Renew only	Yes	MSS58	MSS58	D-Line Filter Changes	VOC	0.03	0.01			0.03	0.0002	0	-0.0098	MSS Activities	
Renew only	Yes	MSS59	MSS59	E-Line Filter Changes	VOC	0.03	0.01			0.03	0.0002	0	-0.0098	MSS Activities	
Renew only	Yes	MSS60	MSS60	C/D/E Instrument Maintenance (repair/replace)	VOC	0.01	0.01			0.00000004	0.000000001	-0.0099	-0.0099	MSS Activities	
New/Modified	Yes	F-5102	F-5102	CLX Additive System	PM	0	0			0.1	0.45	0.1	0.45	Control: Bag Filter/Baghouse	
					PM10	0	0			0.01	0.05	0.01	0.05		
					PM2.5	0	0			0.005	0.02	0.005	0.02		
New/Modified	Yes	S-5203D	S-5203D	CLX Pellet Silos (M-52032/33/34)	PM	0	0			0.8	3.51	0.8	3.51	Control: Bag Filter/Baghouse	
					PM10	0	0			0.08	0.35	0.08	0.35		
					PM2.5	0	0			0.04	0.18	0.04	0.18		
New/Modified	Yes	F-6801	F-6801	ELX Central Vacuum Cleaning System	PM	0	0			0.02	0.11	0.02	0.11	Control: Bag Filter/Baghouse	
					PM10	0	0			0.002	0.01	0.002	0.01		
					PM2.5	0	0			0.001	0.005	0.001	0.005		
New/Modified	Yes	F-4801	F-4801	DLX Central Vacuum Cleaning System	PM	0	0			0.03	0.12	0.03	0.12	Control: Bag Filter/Baghouse	
					PM10	0	0			0.003	0.01	0.003	0.01		
					PM2.5	0	0			0.001	0.006	0.001	0.006		
New/Modified	Yes	D-4105A	D-4105A	Grease Blending Drum	VOC	0	0			0.0001	0.000001	0.0001	0.0001	Process Vent	
New/Modified	Yes	D-4706	D-4706	DLN Additive Drum	VOC	0	0			0.07	0.002	0.07	0.002	Process Vent	
New/Modified	Yes	PP-SAMPL	PP-SAMPL	Sampling Vents	VOC	0	0			0.001	0.0004	0.001	0.0004	Other	Vent from field samplers
New/Modified	Yes				PM	0	0			4.59	0.08	4.59	0.08		
					PM10	0	0			0.46	0.008	0.46	0.008		
					PM2.5	0	0			0.23	0.004	0.23	0.004		
Consolidate	Yes	TK-884	TK-884	West/East Marley CT - Sulfuric Acid Tank	H2SO4	0	0	0.0005	0.000004	0.0005	0.000004	0	0	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	
Consolidate	Yes	TK-895	TK-895	Xcel CT - Sulfuric Acid Tank	H2SO4	0	0	0.0005	0.000004	0.0005	0.000004	0	0	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	
Renew only	Yes	TK-5104C	TK-5104C	CLX Peroxide Tank	VOC	0.01	0.01			0.038	0.007	0.028	-0.003	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	
Renew only	Yes	D-6850	D-6850	DLX / ELX Peroxide Tank	VOC	0.01	0.01			0.038	0.01	0.028	0	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	
Renew only	Yes	E-CAP	E-CAP	VOC Emission Cap for various EPNs	Exempt Solvents	7.36	26.19			7.36	26.19	0	0	Other	VOC Emission Cap for EPNs 120, 122, 102, 116, 152, 153, 154, 14C, 131, 132, 133
New/Modified		MSS61	MSS61	C-Line Loop Reactors (R-3201 & R-3202) Emptying	PM	0	0			0.01	0.0002	0.01	0.0002	MSS Activities	
					PM10	0	0			0.005	0.00008	0.005	0.0001		
					PM2.5	0	0			0.0008	0.00001	0.0008	0.0001		
New/Modified	Yes	MSS62	MSS62	D-Line Loop Reactors (R-4201 & R-4202) Emptying	PM	0	0			0.01	0.0002	0.01	0.0002	MSS Activities	
					PM10	0	0			0.005	0.00008	0.005	0.0001		
					PM2.5	0	0			0.0008	0.00001	0.0008	0.0001		
New/Modified		MSS63	MSS63	E-Line Loop Reactors (R-6201 & R-6202) Emptying	PM	0	0			0.01	0.0002	0.01	0.0002	MSS Activities	
					PM10	0	0			0.005	0.00008	0.005	0.0001		
					PM2.5	0	0			0.0008	0.00001	0.0008	0.0001		
New/Modified		MSS64	MSS64	E-Line Gas Phase Reactors (R-6401 & R-6402) Emptying	PM	0	0			0.02	0.0002	0.02	0.0002	MSS Activities	
					PM10	0	0			0.009	0.00008	0.009	0.0001		
					PM2.5	0	0			0.001	0.0001	0.001	0.0001		
New/Modified		U-FUG	U-FUG	Utilities Fugitives	VOC	0	0			1.99	8.73	1.99	8.73	Fugitives: Piping and Equipment Leak	
												0	0		
												0	0		
												0	0		
												0	0		
												0	0		
												0	0		

Texas Commission on Environmental Quality
Form PI-1 General Application
Stack Parameters

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Stack Parameters	Applicant Internal Comments
This sheet documents the stack parameters for each EPN. **You do not need to complete this sheet for sources included in an EMEW for this project.** **Instructions:** 1. The EPN list is automatically populated from the "Unit Types - Emission Rates" sheet. 2. Indicate if the source is included in an EMEW. If it is, you do not need to complete the additional information. 3. Enter the stack parameters that apply for each EPN. 4. Cap EPNs do not need stack parameters (leave those rows blank).	All comments must be deleted prior to application submittal.

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Emission Point Discharge Parameters												
EPN	Included in EMEW?	UTM Coordinates Zone	East (Meters)	North (Meters)	Building Height (ft)	Height Above Ground (ft)	Stack Exit Diameter (ft)	Velocity (FPS)	Temperature (°F)	Fugitives - Length (ft)	Fugitives - Width (ft)	Fugitives - Axis Degrees
30	No	15	301711	3280050		300	12	65.616	1831.73			
FL-3706	Yes											
D-885	No	15	301505	3279896		15	0.1	1	80			
PP-ANALYZER	No	15	301726	3279930		15	0.16	0.01	250			
CT-895	No	15	301449	3279932		35	12	15	80			
CT-6901	Yes											
CT-891	No	15	301292	3279927		35	14	15	88			
CT-4861	No	15	301549	3279922		11.3	5	15	135			
D-3106	Yes											
D-3106B	Yes											
D-3504	Yes											
D-3103	No	15	301452	3279814		3	0.1	1	80			
D-3105	No	15	301422	3279867		15	0.1	1	80			
D-3107	No	15	301417	3279866		15	0.1	1	80			
D-3110A	No	15	301431	3279853		2	0.1	1	80			
D-3113	Yes											
T-3111	No	15	301403	3279844		12	0.1	1	80			
C-FUG	No	15	301417	3279820		25				120	250	0
TK-2527A	Yes											
TK-2527B	Yes											
TK-880	Yes											
D-4106	Yes											
D-4504	Yes											
D-FUG	Yes											
D-4105	No	15	301523	3279867		20	3	0.01	78			
D-4107	No	15	301541	3279666		5	3	0.01	80			
D-4110A	No	15	301531	3279853		20	3	0.01	78			
D-4110B	No	15	301515	3279852		20	3	0.01	78			
T-4111	No	15	301503	3279844		20	3	0.01	78			
D-4103	No	15	301552	3279814		20	3	0.01	78			
D-6106A	Yes											
D-6106B	Yes											
D-6504	Yes											
D-6103	No	15	301652	3279814		1	1	0.01	80			
D-6105	No	15	301622	3279867		1	1	0.01	80			
D-6105B	No	15	301602	3279866		15	3	0.01	80			
D-6107	No	15	301617	3279866		15	1	0.01	80			
D-6110A	No	15	301631	3279853		1	0.5	0.01	68			
D-6110B	No	15	301615	3279852		10	3	0.01	80			
T-6111	No	15	301603	3279844		12	3	0.01	80			
D-6113	No	15	301631	3279857		8	3	0.01	167			
D-6115	No	15	301631	3279859		8	1.3	0.01	167			
E-FUG	Yes											
M-2573	No	15	301288	3279811		4	0.5	73	80			
M-2574	No	15	301332	3279816		4	0.75	91	80			
M-42591	Yes											
F-583	Yes											
S-2580	No	15	301549	3279926		15	0.67	21	75			
D-4801-03	No	15	301543	3279926		110	1.67	25	125			
F-4842	No	15	301549	3280006		7	0.67	60	75			
F-5101	No	15	301182	3279616		10	0.5	0.01	80			
F-6802	No	15	301182	3279616		10	0.5	0.01	80			
F-5303	No	15	301072	3279676		16	1	0.01	80			
F-6841-42	No	15	301092	3279676		16	1	0.01	80			
E-CAP	No	15	301288	3279811		4	0.5	73	80			
PP-WWTR	No	15	301516	3279940		5				800	400	0
MSS41	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS42	No	15	301510	3279826		5	0.003	0.003	-459.67			
MSS43	Yes											
MSS44	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS45	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS46	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS47	No	15	301510	3279826		5	0.003	0.003	-459.67			
MSS48	No	15	301630	3279826		5	0.003	0.003	-459.67			
MSS49	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS50	No	15	301510	3279826		5	0.003	0.003	-459.67			
MSS51	No	15	301630	3279826		5	0.003	0.003	-459.67			
MSS52	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS53	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS54	No	15	301510	3279826		5	0.003	0.003	-459.67			
MSS55	No	15	301630	3279826		5	0.003	0.003	-459.67			
MSS56	No	15	301630	3279826		5	0.003	0.003	-459.67			
MSS57	No	15	301407	3279826		5	0.003	0.003	-459.67			
MSS58	No	15	301510	3279826		5	0.003	0.003	-459.67			
MSS59	No	15	301630	3279826		5	0.003	0.003	-459.67			
MSS60	No	15	301407	3279826		5	0.003	0.003	-459.67			
F-5102	No	15	301184	3279653		2	0.5	23.77	-459.67			
S-5203D	Yes											
F-6801	Yes											
F-4801	Yes											
D-4105A	No	15	301523	3279871		6.5625				1.64	1.64	0
D-4706	Yes											
PP-SAMPL	Yes											
TK-884	Yes											
TK-895	Yes											
TK-5104C	Yes											
D-6850	Yes											
MSS61	Yes											
MSS62	Yes											
MSS63	Yes											
MSS64	Yes											
U-FUG	Yes											

Click here to return to Cover Sheet.

I. Public Notice Applicability	
A. Application Type	
Is this an application for a renewal?	Yes
Is this an application for a minor permit amendment?	Yes
Is there any change in character of emissions in this application (a new criteria pollutant or a new VOC or PM species)?	No
Is there a new air contaminant in this application?	No

B. Project Increases and Public Notice Thresholds (for Initial and Amendment Projects)

For public notice applicability, the agency does not include consolidation or incorporation of any previously authorized facility or activity (PBR, standard permits, etc.), changes to permitted allowable emission rates when exclusively due to changes to standardized emission factors, or reductions in emissions which are not enforceable through the amended permit. Thus, the total emissions increase would be the sum of emissions increases under the amended permit and the emissions decreases under the amended permit for each air contaminant.

The table below will generate emission increases based on the values represented on the "Unit Types - Emission Rates" sheet. Use the "yes" and "no" options in column B of the "Unit Types - Emission Rates" worksheet to indicate if a unit's proposed change of emissions should be included in these totals.

Notes:

1. Emissions of PM, PM10, and/or PM2.5 may have been previously quantified and authorized as PM, PM10,and/or PM2.5. These emissions will be speciated based on current guidance and policy to demonstrate compliance with current standards and public notice requirements may change during the permit review.

2. All renewals require public notice.

This row is optional. If you do not think the table below accurately represents public notice applicability increases for your project, provide discussion here (1000 characters).	
Do the facilities handle, load, unload, dry, manufacture, or process grain, seed, legumes, or vegetable fibers (agricultural facilities)?	No

Texas Commission on Environmental Quality
Form PI-1 General Application
Public Notice

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Pollutant	Current Long-Term (tpy)	Consolidated Emissions (tpy)	Proposed Long-Term (tpy)	Project Change in Allowable (tpy)	PN Threshold	Notice required?
VOC	186.06	0.00	175.16	-10.90	5	No
PM	11.01	0.00	20.65	9.64	5	Yes*
PM_{10}	9.31	0.00	3.78	-5.53	5	Yes*
$PM_{2.5}$	7.20	0.00	0.86	-6.34	5	Yes*
NO_x	19.90	0.00	19.90	0.00	5	No
CO	160.75	0.00	102.53	-58.22	50	No
SO_2	2.46	0.00	2.00	-0.46	10	No
Pb	0.00	0.00	0.00	0.00	0.6	No
H2SO4	0	0.000008	0.000008	0	5	No
Exempt Solvents	26.19	0	26.19	0	5	No

* Notice is required for PM, PM10, and PM2.5 if one of these pollutants is above the threshold.

** Notice of a GHG action is determined by action type. Initial and major modification always require notice. Voluntary updates require a consolidated notice if there is a change to BACT. Project emission increases of CO2e (CO2 equivalent) are not relevant for determining public notice of GHG permit actions.

C. Is public notice required for this project as represented in this workbook? If no, proceed to Section III Small Business Classification. Note: public notice applicability for this project may change throughout the technical review.	Yes
D. Are any HAPs to be authorized/re-authorized with this project? The category "HAPs" must be specifically listed in the public notice if the project authorizes (reauthorizes for renewals) any HAP pollutants.	No

II. Public Notice Information

Complete this section if public notice is required (determined in the above section) or if you are not sure if public notice is required.

A. Contact Information

Enter the contact information for the **person responsible for publishing.** This is a designated representative who is responsible for ensuring public notice is properly published in the appropriate newspaper and signs are posted at the facility site. This person will be contacted directly when the TCEQ is ready to authorize public notice for the application.

Prefix (Mr., Ms., Dr., etc.):	Mrs.
First Name:	Raven
Last Name:	Elliott
Title:	Senior Air Quality Project Manager
Company Name:	BGE, Inc.
Mailing Address:	10777 Westheimer Road

Address Line 2:	Suite 400
City:	Houston
State:	Texas
ZIP Code:	77042
Telephone Number:	713-488-8145
Fax Number:	
Email Address:	Relliott@BGEInc.com

Enter the contact information for the **Technical Contact.** This is the designated representative who will be listed in the public notice as a contact for additional information.

Prefix (Mr., Ms., Dr., etc.):	Ms.
First Name:	Carlisa
Last Name:	Navy
Title:	Sr. Environmental Engineer
Company Name:	LyondellBasell Industries N.V.
Mailing Address:	10801 Choate Roade
Address Line 2:	
City:	Pasadena
State:	TX
ZIP Code:	77507
Telephone Number:	281-474-0727
Fax Number:	
Email Address:	Carlisa.Navy@lyondellbasell.com

B. Public place

Place a copy of the full application (including all of this workbook and all attachments) at a public place in the county where the facilities are or will be located. You must state where in the county the application will be available for public review and comment. The location must be a public place and described in the notice. A public place is a location which is owned and operated by public funds (such as libraries, county courthouses, city halls) and cannot be a commercial enterprise. You are required to pre-arrange this availability with the public place indicated below. The application must remain available from the first day of publication through the designated comment period.

If this is an application for a PSD, nonattainment, or FCAA §112(g) permit, the public place must have internet access available for the public as required in 30 TAC § 39.411(f)(3).

If the application is submitted to the agency with information marked as Confidential, you are required to indicate which specific portions of the application are not being made available to the public. These portions of the application must be accompanied with the following statement: ***Any request for portions of this application that are marked as confidential must be submitted in writing, pursuant to the Public Information Act, to the TCEQ Public Information Coordinator, MC 197, P.O. Box 13087, Austin, Texas 78711-3087.***

Name of Public Place:	La Porte Public Library
Physical Address:	600 S. Broadway St.
Address Line 2:	
City:	La Porte
ZIP Code:	77521
County:	Harris
Has the public place granted authorization to place the application for public viewing and copying?	Yes

C. Alternate Language Publication

In some cases, public notice in an alternate language is required. If an elementary or middle school nearest to the facility is in a school district required by the Texas Education Code to have a bilingual program, a bilingual notice will be required. If there is no bilingual program required in the school nearest the facility, but children who would normally attend those schools are eligible to attend bilingual programs elsewhere in the school district, the bilingual notice will also be required. If it is determined that alternate language notice is required, you are responsible for ensuring that the publication in the alternate language is complete and accurate in that language.

Is a bilingual program required by the Texas Education Code in the School District?	Yes
Are the children who attend either the elementary school or the middle school closest to your facility eligible to be enrolled in a bilingual program provided by the district?	Yes
If yes to either question above, list which language(s) are required by the bilingual program?	Spanish

III. Small Business Classification	
Complete this section to determine small business classification. If a small business requests a permit, agency rules (30 TAC § 39.603(f)(1)(A)) allow for alternative public notification requirements if all of the following criteria are met. If these requirements are met, public notice does not have to include publication of the prominent (12 square inch) newspaper notice.	
Does the company (including parent companies and subsidiary companies) have fewer than 100 employees or less than $6 million in annual gross receipts?	No
Small business classification:	**No**

Federal Applicability Determination Summary

This sheet provides a summary of nonattainment, PSD and GHG PSD permitting applicability. If nonattainment is required, offset information is included. A full analysis for nonattainment, PSD, and PSD GHG permitting applicability must be included in the permit application. If you can see the page header, there are questions applicable to your project on this sheet.

Instructions:

1. Complete separate federal permitting application materials to determine applicability of nonattainment, PSD, and GHG PSD applicability, including netting if applicable. Include this analysis in your permit application.

2. Section I: determine the attainment classification of the county where the proposed project will be located.
   a. Indicate if the project requires retrospective review. If so, complete the associated questions.
   b. The county is entered based on the response on the General Sheet.
   c. If the site is located in a county that is partially nonattainment for a pollutant, indicate whether the site is in that portion of the county.
   d. If desired, use the optional dropdown to indicate the ozone nonattainment classification this project should be reviewed under. This allows you to account for anticipated reclassifications.

3. Section II: PSD and GHG PSD and Section III: Nonattainment applicability summaries
   a. Enter the project increase for each pollutant. Depending on the step of applicability required, this may be the increases only for the proposed project or may include all increases/decreases during the contemporaneous period if the project requires netting. If doing netting, the values entered here should be after netting has been conducted.
   b. Enter the applicable thresholds for each pollutant. This will vary depending on the type of project. For example, an unnamed source at a greenfield site with minor emissions may use the 250 tpy thresholds and an existing major source may use the significant emission rates.
   c. If the project is not located in a nonattainment county, Section III will grey out.

4. Sections IV and V: Offsets
   a. If nonattainment permitting is required, the applicable offset ratio and quantity will be listed.
   b. Provide details of where the offsets will be coming from, listing one or more of these options: emission credits (ERCs or DERCs), inter-pollutant use of credits, inter-area use of credits, MECT allowances, HECT allowances, and/or to be determined.
   c. If inter-pollutant use of credits will be utilized to offset the project, please ensure all required information is submitted to the Emissions Banking and Trading Team. The technical analysis for any site-specific inter-pollutant use of credits must be approved prior to the date that the permit application is deemed technically complete.

Guidance for Determining Project Increases	https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/fnsr_app_determ.pdf
Guidance for Determining Federal Applicability Thresholds	https://www.tceq.texas.gov/assets/public/permitting/air/factsheets/factsheets-psd-na-sigemiss-6240.pdf

I. County Classification	
Does the project require retrospective review?	No
County (completed for you from your response on the General sheet)	Harris
This project will be located in an area that is in serious nonattainment for ozone as of Sept. 23, 2019. Select from the drop-down list to the right if you would like the project to be reviewed under a different classification.	Ozone - Serious
Determination:	**This project will be located in a county with a Serious Ozone nonattainment classification, and the project will be reviewed under a Serious Ozone nonattainment classification. Complete the nonattainment section below and provide an analysis with the application.**

II. PSD and GHG PSD Applicability Summary			
Is netting required for the PSD analysis for this project?			**No**
Pollutant	**Project Increase**	**Threshold**	**PSD Review Required?**
CO	0.04	100	No
NO_x	0	40	No
PM	12.34	25	No
PM_{10}	0.7	15	No
$PM_{2.5}$	0.27	10	No
SO_2	0	40	No
Pb	0	0.6	No
H_2S	0	10	No
TRS	0	10	No
Reduced sulfur compounds (including H_2S)	0	10	No
H_2SO_4	0	7	No
Fluoride (excluding HF)	0	3	No
CO2e	0	than zero as GHG and 75,000 a	No

III. Nonattainment Applicability Summary			
Is netting required for the nonattainment analysis for this project?			**No**
Pollutant	**Project Increase**	**Threshold**	**NA Review Required?**
Ozone (as VOC)	2.47	25	No
Ozone (as NO_x)	0	25	No

IV. Offset Summary (for Nonattainment Permits)			
Pollutant	**Offset Ratio**	**Offset Quantity Required (tpy)**	**Where is the offset coming from?**

Estimated Capital Cost and Fee Verification

This sheet determines application fee requirements for projects which require a fee. **If you can see the page header, there are questions applicable to your project on this sheet.**

Fees are due and payable at the time an application is filed. Required fees must be received before the agency will consider an application to be complete.

For amendment/initial actions: Applications will not be considered for review nor will any time constraints required of TCEQ for application processing begin until a fee is received. (30 TAC § 116.143)

For renewal actions: No fee will be accepted before the permit holder has been notified by the commission that the permit is scheduled for review.

All permit review fees shall be remitted by check, certified check, electronic funds transfer, or money order payable to the Texas Commission on Environmental Quality (TCEQ) and mailed to the TCEQ, P.O. Box 13088, MC 214, Austin, Texas 78711-3088. The State Treasury will not accept checks drawn on foreign banks. Instructions for online payment through the ePay system can be found at: https://www3.tceq.texas.gov/epay/

Instructions:
1. Answer each of the questions in Section I (renewal actions only).
2. Enter the amount of each cost in the associated box. Include estimated cost of equipment and services that would normally be capitalized according to standard and generally accepted corporate financing and accounting procedures (non-renewal actions only).
3. Enter the total annual allowable emissions from the permitted facility to be renewed (renewal actions only).
4. Enter payment information.
5. If applicable, submit the application under the seal of a Texas Licensed P.E.

Click here to return to Cover Sheet.

I. General Information - Non-Renewal	
Is this project for new facilities controlled and operated directly by the federal government? (30 TAC § 116.141(b)(1) and 30 TAC § 116.163(a))	No
A fee of $75,000 shall be required if no estimate of capital project cost is included with the permit application. (30 TAC § 116.141(d)) Select "yes" here to use this option. Then skip sections II and III.	No
Select Application Type	Minor Application

II. Direct Costs - Non-Renewal	
Type of Cost	**Amount**
Process and control equipment not previously owned by the applicant and not currently authorized under this chapter.	
Auxiliary equipment, including exhaust hoods, ducting, fans, pumps, piping, conveyors, stacks, storage tanks, waste disposal facilities, and air pollution control equipment specifically needed to meet permit and regulation requirements.	

Freight charges.	
Site preparation, including demolition, construction of fences, outdoor lighting, road, and parking areas.	
Installation, including foundations, erection of supporting structures, enclosures or weather protection, insulation and painting, utilities and connections, process integration, and process control equipment.	
Auxiliary buildings, including materials storage, employee facilities, and changes to existing structures.	
Ambient air monitoring network.	
Sub-Total:	$0.00

III. Indirect Costs - Non-Renewal	
Type of Cost	**Amount**
Final engineering design and supervision, and administrative overhead.	
Construction expense, including construction liaison, securing local building permits, insurance, temporary construction facilities, and construction clean-up.	
Contractor's fee and overhead.	
Sub-Total:	$0.00

IV. Calculations - Non-Renewal

For GHG permits: A single PSD fee (calculated on the capital cost of the project per 30 TAC § 116.163) will be required for all of the associated permitting actions for a GHG PSD project. Other NSR permit fees related to the project that have already been remitted to the TCEQ can be subtracted when determining the appropriate fee to submit with the GHG PSD application. Identify these other fees in the GHG PSD permit application.

In signing the "General" sheet with this fee worksheet attached, I certify that the total estimated capital cost of the project as defined in 30 TAC §116.141 is equal to or less than the above figure. I further state that I have read and understand Texas Water Code § 7.179, which defines Criminal Offenses for certain violations, including intentionally or knowingly making, or causing to be made, false material statements or representations.

Estimated Capital Cost	**Minor Application Fee**	
Less than $300,000	$900 (minimum fee)	
$300,000 - $7,500,000	N/A	
$300,000 - $25,000,000	0.30% of capital cost	
Greater than $7,500,000	N/A	
Greater than $25,000,000	$75,000 (maximum fee)	

Your estimated capital cost:	**$0.00**	Minimum fee applies.
Permit Application Fee:		**$900.00**

V. Renewal Fee

The fee for renewal is based on the total annual allowable emissions from the permitted facility to be renewed. If this project includes an amendment, the amendment permit fee will be calculated separately.	
Enter the total allowable emissions (tons per year). The total emissions must include those represented in any PBR or standard permits to be incorporated by consolidation into this permit.	325.51
Permit fee due	**$ 6,083.12**

VI. Total Fees	
Note: fees can be paid together with one payment or as two separate payments.	
Non-Renewal Fee	$900.00
Renewal Fee	$ 6,083.12
Total	$6,983.12

VII. Payment Information		
A. Payment One (required)		
Was the fee paid online?		No
Enter the fee amount:		$ 6,983.12
Enter the check, money order, ePay Voucher, or other transaction number:		580301
Enter the Company name as it appears on the check:	Equistar Chemicals, L.P.	
B. Payment Two (if paying renewal and non-renewal fees separately)		
Was the fee paid online?		No
Enter the fee amount:		
Enter the check, money order, ePay Voucher, or other transaction number:	N/A	
Enter the Company name as it appears on the check:		
C. Total Paid		**$6,983.12**

VIII. Professional Engineer Seal Requirement	
Is the estimated capital cost of the project above $2 million?	No
Is the application required to be submitted under the seal of a Texas licensed P.E.? Note: an electronic PE seal is acceptable.	No

Impacts Summary

This sheet provides a summary of how the impacts review was conducted for each pollutant. I**f you can see the page header, there are questions applicable to your project on this sheet.**

Instructions:
1. Ozone, VOC, and all pollutants listed on the Unit Types-Emission Rates sheet are automatically listed below.
2. Select "yes" or "no" to indicate if the project requires PSD review for each pollutant.
3. Select the method used to demonstrate acceptable impacts.
4. Read all notes for additional instructions.
5. Add additional notes if desired such as a short qualitative analysis or other note to your permit reviewer.

Notes:
1. An air quality impacts demonstration is required for all projects with consolidated, new, and/or modified facilities or sources of emissions of air contaminants. Changes to representations, such as stack height, may also require an impacts demonstration.
2. An air quality impacts demonstration may be required for Change of Location requests to demonstrate protection of public health and welfare. (30 TAC § 116.178(f))
3. Modeling is not always required to complete an impacts analysis.

Links to help with Impacts Analyses	
MERA guidance	https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/mera.pdf
Modeling website	https://www.tceq.texas.gov/permitting/air/nav/modeling_index.html
Air Quality Modeling Guidelines	https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/airquality-mod-guidelines6232.pdf
PSD protocol guidance	https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/protocol-checklist.pdf
GHG permitting guidance	https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/ghg/ghg-permitting.html

Click here to return to Cover Sheet.

Pollutant	Does this pollutant require PSD review?	How will you demonstrate that this project meets all applicable requirements?	Notes	Additional Notes (optional)
VOC	No	MERA steps 0-2 AND Modeling (screen or refined)	Attach both an "Electronic Modeling Evaluation Workbook" (EMEW) AND a detailed description of which MERA step was met. Include speciated emission rates with the total VOC and/or PM species corresponding to the short-term and long-term differences represented on the Unit Types-Emission Rates sheet.	Please reference the New Source Review Air Quality Permit No. 9423 Renewal and Amendment Application Document.
CO	No	Not applicable	This pollutant is not a part of this project or does not require an impacts analysis.	N/A
NOx	No	Not applicable	This pollutant is not a part of this project or does not require an impacts analysis.	N/A
SO2	No	Not applicable	This pollutant is not a part of this project or does not require an impacts analysis.	N/A
PM	No	Not applicable	This pollutant is not a part of this project or does not require an impacts analysis.	N/A
PM10	No	Modeling: screen or refined	Attach a completed "Electronic Modeling Evaluation Workbook" (EMEW).	Please reference the New Source Review Air Quality Permit No. 9423 Renewal and Amendment Application Document.
PM2.5	No	Modeling: screen or refined	Attach a completed "Electronic Modeling Evaluation Workbook" (EMEW).	Please reference the New Source Review Air Quality Permit No. 9423 Renewal and Amendment Application Document.
H2SO4	No	Modeling: screen or refined	Attach a completed "Electronic Modeling Evaluation Workbook" (EMEW).	Please reference the New Source Review Air Quality Permit No. 9423 Renewal and Amendment Calculations

Pollutant	Does this pollutant require PSD review?	How will you demonstrate that this project meets all applicable requirements?	Notes	Additional Notes (optional)
Exempt Solvents	No	Not applicable	This pollutant is not a part of this project or does not require an impacts analysis.	N/A

Plant Type	Current Tier I BACT	Confirm	Additional Notes

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
Renew only	FL-3706	Control: Flare	VOC	VOC: Meets 40 CFR 60.18. Destruction Efficiency: 99% for certain compounds up to three carbons, 98% otherwise. No flaring of halogenated compounds is allowed. Flow monitor required. Composition or BTU analyzer may be required.	Yes	
			CO	Provide emission factor used and reference.	Yes	0.3465 lb/MMBtu as per TCEQ Publication RG-360/19 Technical Supplement 4, Table A-7, TCEQ Air Permits Flare Emission Factors. Steam Assisted/Low Btu Flares.
			NOx	Provide emission factor used and reference.	Yes	0.068 lb/MMBtu as per TCEQ Publication RG-360/19 Technical Supplement 4, Table A-7, TCEQ Air Permits Flare Emission Factors. Steam Assisted/Low Btu Flares.
			SO2	Provide emission factor used and reference.	Yes	15.00 lb/mmscf as per AP-42 Section 1.4 , Table 1.4-2, dated 7/98.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-885	Loading: Truck	VOC	Specify option: 1. VOC vp < 0.5 psia: submerged or bottom loading. No splash loading. 2. VOC vp ≥ 0.5 psia: route to VOC control device and meet the specific control device requirements. 98.7% collection efficiency for annual NSPS XX leak check.	Yes	Option 2: VOC vp ≥ 0.5 psia: route to VOC control device and meet the specific control device requirements. 98.7% collection efficiency for annual NSPS leak check.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	PP-ANALYZER	Analyzer sample system purges	VOC	See additional notes:	Yes	Very low emissions; no control is proposed.
			CO	See additional notes:	Yes	Very low emissions; no control is proposed.
			NOx	See additional notes:	Yes	Very low emissions; no control is proposed.
			MSS	See additional notes:	Yes	Very low emissions; no control is proposed.
New/Modified	CT-895	Cooling Tower	VOC	Non-contact design. Monthly monitoring of VOC in water per Appendix P or approved equivalent (assume all VOC stripped out). Repair identified leaks as soon as possible, but before next scheduled shutdown, or shutdown triggered by 0.08 ppmw cooling water VOC concentration.	Yes	
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. Drift < 0.001% achieved by drift eliminators	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	CT-6901	Cooling Tower	VOC	Non-contact design. Monthly monitoring of VOC in water per Appendix P or approved equivalent (assume all VOC stripped out). Repair identified leaks as soon as possible, but before next scheduled shutdown, or shutdown triggered by 0.08 ppmw cooling water VOC concentration.	Yes	
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. Drift < 0.001% achieved by drift eliminators	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	CT-891	Cooling Tower	VOC	Non-contact design. Monthly monitoring of VOC in water per Appendix P or approved equivalent (assume all VOC stripped out). Repair identified leaks as soon as possible, but before next scheduled shutdown, or shutdown triggered by 0.08 ppmw cooling water VOC concentration.	Yes	
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. Drift < 0.001% achieved by drift eliminators	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	CT-4861	Cooling Tower	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. Drift < 0.001% achieved by drift eliminators	Yes	

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-3106	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-3106B	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-3504	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. < 0.01 gr/scf	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-3103	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-3105	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-3107	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
Renew only	D-3110A	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-3113	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	T-3111	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	C-FUG	Fugitives: Piping and Equipment Leak	VOC	Specify which is applicable: 1. Uncontrolled VOC emissions < 10 tpy: none 2. 10 tpy < uncontrolled VOC emissions < 25 tpy: 28M leak detection and repair program. 75% credit for 28M. 3. Uncontrolled VOC emissions > 25 tpy: 28VHP leak detection and repair program. 97% credit for valves, 85% for pumps and compressors. 4. VOC vp < 0.002 psia: no inspection required, no fugitive emissions expected. For emissions of approved odorous compounds (chlorine, ammonia, hydrogen sulfide, hydrogen cyanide and mercaptans only): AVO inspection twice per shift. Appropriate credit for AVO program.	Yes	Option 2 is being used with modifications as per the TCEQ Technical Guidance for Equipment Leak Fugitives (2018) with additional AVO credit for weekly inspections. The credits taken are 97% for valves, 75% for flanges, and 93% for pumps.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	TK-2527A	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Fixed roof with submerged fill. Uninsulated exterior surfaces exposed to the sun shall be white or aluminum.	Yes	
			MSS	Same as normal operation BACT requirements except as listed below. Fixed roof tank draining: VOC: Send liquid to a covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the VOC vapor pressure is less than 0.02 psia. Control device must meet BACT. Acid: Drain to covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the acid vapor pressure is less than 0.02 psia. Control device must meet BACT.	Yes	
New/Modified	TK-2527B	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Fixed roof with submerged fill. Uninsulated exterior surfaces exposed to the sun shall be white or aluminum.	Yes	

Texas Commission on Environmental Quality
Form PI-1 General Application
BACT

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Same as normal operation BACT requirements except as listed below. Fixed roof tank draining: VOC: Send liquid to a covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the VOC vapor pressure is less than 0.02 psia. Control device must meet BACT. Acid: Drain to covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the acid vapor pressure is less than 0.02 psia. Control device must meet BACT.	Yes	
New/Modified	TK-880	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Fixed roof with submerged fill. Uninsulated exterior surfaces exposed to the sun shall be white or aluminum.	Yes	
			MSS	Same as normal operation BACT requirements except as listed below. Fixed roof tank draining: VOC: Send liquid to a covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the VOC vapor pressure is less than 0.02 psia. Control device must meet BACT. Acid: Drain to covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the acid vapor pressure is less than 0.02 psia. Control device must meet BACT.	Yes	
New/Modified	D-4106	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-4504	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. < 0.01 gr/scf	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-FUG	Fugitives: Piping and Equipment Leak	VOC	Specify which is applicable: 1. Uncontrolled VOC emissions < 10 tpy: none 2. 10 tpy < uncontrolled VOC emissions < 25 tpy: 28M leak detection and repair program. 75% credit for 28M. 3. Uncontrolled VOC emissions > 25 tpy: 28VHP leak detection and repair program. 97% credit for valves, 85% for pumps and compressors. 4. VOC vp < 0.002 psia: no inspection required, no fugitive emissions expected. For emissions of approved odorous compounds (chlorine, ammonia, hydrogen sulfide, hydrogen cyanide and mercaptans only): AVO inspection twice per shift. Appropriate credit for AVO program	Yes	Option 2 is being used with modifications as per the TCEQ Technical Guidance for Equipment Leak Fugitives (2018) with additional AVO credit for weekly inspections. The credits taken are 97% for valves, 75% for flanges, and 93% for pumps.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-4105	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
Renew only	D-4107	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-4110A	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-4110B	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	T-4111	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-4103	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-6106A	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-6106B	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-6504	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. < 0.01 gr/scf	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-6103	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-6105	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-6105B	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-6107	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-6110A	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-6110B	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	T-6111	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-6113	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	E-FUG	Fugitives: Piping and Equipment Leak	VOC	Specify which is applicable: 1. Uncontrolled VOC emissions < 10 tpy: none 2. 10 tpy < uncontrolled VOC emissions < 25 tpy: 28M leak detection and repair program. 75% credit for 28M. 3. Uncontrolled VOC emissions > 25 tpy: 28VHP leak detection and repair program. 97% credit for valves, 85% for pumps and compressors. 4. VOC vp < 0.002 psia: no inspection required, no fugitive emissions expected. For emissions of approved odorous compounds (chlorine, ammonia, hydrogen sulfide, hydrogen cyanide and mercaptans only): AVO inspection twice per shift. Appropriate credit for AVO program	Yes	Option 2 is being used with modifications as per the TCEQ Technical Guidance for Equipment Leak Fugitives (2018) with additional AVO credit for weekly inspections. The credits taken are 97% for valves, 75% for flanges, and 93% for pumps.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	M-2573	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	M-2574	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	M-42591	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-583	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	S-2580	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
Renew only	D-4801-03	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	VOC is part of E-CAP. See below for more information.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-4842	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-5101	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-6802	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-5303	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-6841-42	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
Renew only	E-CAP	Cap on VOC emissions	VOC	See additional notes:	Yes	This is a cap on VOC emissions for the operations downstream of the dryer associated with transfer, extrusion, storage, and loading of product. Sampling of the headspace in the product sample is conducted. Continued periodic sampling of the product is proposed as BACT to ensure emissions comply with the limits.
			MSS	See additional notes:	Yes	Same as normal operation BACT requirements.
Renew only	PP-WWTR	Wastewater Facilities	VOC	Applicable for organics and inorganics. Uncontrolled site-wide wastewater emissions < 5 tpy VOC: Piped and covered conveyance to storage or biological treatment. Uncontrolled site-wide wastewater emissions > 5 tpy VOC: stripped gases from pretreatment routed to a control device, collection system hard piped/covered conveyance to biological treatment unit vented to a control device, wastewater treatment system must be at least 90 percent efficient.	Yes	Uncontrolled site-wide wastewater emissions are <5 tpy VOC: Piped and covered conveyance to storage or biological treatment.
			MSS	Same as normal operation BACT requirements.	Yes	Same as normal operation BACT requirements.
New/Modified	MSS41	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
New/Modified	MSS42	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
New/Modified	MSS43	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS44	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS46	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	This source is being removed from the permit.
Renew only	MSS47	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS48	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS49	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS50	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS51	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS52	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS53	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS54	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS55	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS56	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS57	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS58	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS59	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
Renew only	MSS60	MSS Activities	VOC	See Additional Notes:	Yes	Very low emissions that occur after the vessel has been purged to the flare. No additional control is proposed.
			MSS	Not required since this is a MSS unit type.	Yes	
New/Modified	F-5102	Control: Bag Filter/Baghouse	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	S-5203D	Control: Bag Filter/Baghouse	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-6801	Control: Bag Filter/Baghouse	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	F-4801	Control: Bag Filter/Baghouse	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. 0.01 gr/dscf. Monitoring will be required.	Yes	
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-4105A	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	D-4706	Process Vent	VOC	Non-halogenated VOCs: flare, any oxidizer, adsorber, absorber/scrubber, etc. Specify technique. Must meet that control device's approved efficiency. Halogenated VOC: Thermal oxidation followed by absorber/scrubber carbon adsorption. Specify technique. Must meet that control device's approved efficiency.	Yes	All VOC vents having a concentration of 100 ppmw VOC in propylene or greater shall be vented to a control device.
			MSS	Same as normal operation BACT requirements.	Yes	
New/Modified	PP-SAMPL	Vent from field samplers	VOC	See additional notes:	Yes	Emissions from individual sample stations are very low, no additional control is proposed.
			PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. See additional notes:		Emissions from individual sample stations are very low, no additional control is proposed.
			MSS	See additional notes:	Yes	Same as normal operation BACT requirements.
Consolidate	TK-884	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	H2SO4	See Additional Notes:	Yes	Fixed roof with submerged fill.
			MSS	Same as normal operation BACT requirements except as listed below.	Yes	Same as normal operation BACT requirements.
Consolidate	TK-895	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	H2SO4	See Additional Notes:	Yes	Fixed roof with submerged fill.
			MSS	Same as normal operation BACT requirements except as listed below. Fixed roof tank draining: VOC: Send liquid to a covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the VOC vapor pressure is less than 0.02 psia. Control device must meet BACT. Acid: Drain to covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the acid vapor pressure is less than 0.02 psia. Control device must meet BACT.	Yes	
Renew only	TK-5104C	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Fixed roof with submerged fill. Uninsulated exterior surfaces exposed to the sun shall be white or aluminum.	Yes	

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
			MSS	Same as normal operation BACT requirements except as listed below. Fixed roof tank draining: VOC: Send liquid to a covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the VOC vapor pressure is less than 0.02 psia. Control device must meet BACT. Acid: Drain to covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the acid vapor pressure is less than 0.02 psia. Control device must meet BACT.	Yes	
Renew only	D-6850	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Fixed roof with submerged fill. Uninsulated exterior surfaces exposed to the sun shall be white or aluminum.	Yes	
			MSS	Same as normal operation BACT requirements except as listed below. Fixed roof tank draining: VOC: Send liquid to a covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the VOC vapor pressure is less than 0.02 psia. Control device must meet BACT. Acid: Drain to covered vessel. If there is any standing liquid within the tank, and the tank is opened to the atmosphere or ventilated, the vapor stream must be controlled until there is no standing liquid or the acid vapor pressure is less than 0.02 psia. Control device must meet BACT.	Yes	
New/Modified	MSS61	MSS Activities	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. See Additional Notes:	Yes	Good housekeeping practices will be utilized to ensure dusting is minimized.
			MSS	Not required since this is a MSS unit type.		
New/Modified	MSS62	MSS Activities	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. See Additional Notes:	Yes	Good housekeeping practices will be utilized to ensure dusting is minimized.
			MSS	Not required since this is a MSS unit type.	Yes	
New/Modified	MSS63	MSS Activities	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. See Additional Notes:	Yes	Good housekeeping practices will be utilized to ensure dusting is minimized.
			MSS	Not required since this is a MSS unit type.		
New/Modified	MSS64	MSS Activities	PM	The emission reduction techniques for PM10 and PM2.5 will follow the technique for PM. See Additional Notes:	Yes	Good housekeeping practices will be utilized to ensure dusting is minimized.
			MSS	Not required since this is a MSS unit type.		

Action Requested	FINs	Unit Type	Pollutant	Current Tier I BACT	Confirm	Additional Notes
New/Modified	U-FUG	Fugitives: Piping and Equipment Leak	VOC	Specify which is applicable: 1. Uncontrolled VOC emissions < 10 tpy: none 2. 10 tpy < uncontrolled VOC emissions < 25 tpy: 28M leak detection and repair program. 75% credit for 28M. 3. Uncontrolled VOC emissions > 25 tpy: 28VHP leak detection and repair program. 97% credit for valves, 85% for pumps and compressors. 4. VOC vp < 0.002 psia: no inspection required, no fugitive emissions expected. For emissions of approved odorous compounds (chlorine, ammonia, hydrogen sulfide, hydrogen cyanide and mercaptans only): AVO inspection twice per shift. Appropriate credit for AVO program.	Yes	Specify which is applicable: 1. Uncontrolled VOC emissions < 10 tpy: none 2. 10 tpy < uncontrolled VOC emissions < 25 tpy: 28M leak detection and repair program. 75% credit for 28M. 3. Uncontrolled VOC emissions > 25 tpy: 28VHP leak detection and repair program. 97% credit for valves, 85% for pumps and compressors. 4. VOC vp < 0.002 psia: no inspection required, no fugitive emissions expected. For emissions of approved odorous compounds (chlorine, ammonia, hydrogen sulfide, hydrogen cyanide and mercaptans only): AVO inspection twice per shift. Appropriate credit for AVO program.
			MSS	Same as normal operation BACT requirements.	Yes	

FIN	Unit Type	Pollutant	Minimum Monitoring Requirements	Confirm	Additional Notes for Monitoring
FL-3706	Control: Flare	VOC	Pilot flame presence monitored continuously. Waste gas flow and composition monitored continuously (measured at the instrument's capability or every 15 minutes, which ever is less), with hourly averages recorded. A Btu analyzer may be substituted for the composition analyzer where the composition is understood.	Yes	
		CO	Pilot flame presence monitored continuously. Waste gas flow and composition monitored continuously (measured at the instrument's capability or every 15 minutes, which ever is less), with hourly averages recorded. A Btu analyzer may be substituted for the composition analyzer where the composition is understood.	Yes	
		NOx	Pilot flame presence monitored continuously. Waste gas flow and composition monitored continuously (measured at the instrument's capability or every 15 minutes, which ever is less), with hourly averages recorded. A Btu analyzer may be substituted for the composition analyzer where the composition is understood.	Yes	
		SO2	Pilot flame presence monitored continuously. Waste gas flow and composition monitored continuously (measured at the instrument's capability or every 15 minutes, which ever is less), with hourly averages recorded. A Btu analyzer may be substituted for the composition analyzer where the composition is understood.	Yes	
D-885	Loading: Truck	VOC	Observation for connection leaks. Where vapor routed to control: copy of annual vapor tightness certification. Vacuum monitoring for 100% capture, not required for pressure vessel loading. Where specific liquids loaded and the maximum physical pumping rate of the system and maximum throughput for each liquid is specified: throughput of each liquid loaded. Where loading rate is operator controlled and/or specific liquid throughputs are variable: Timing and throughput, record of properties (temperature, vapor pressure and molecular weight) of each liquid loaded. Temperature of liquid loaded not required where liquids loaded from unheated tanks which receive liquids at or below ambient temperatures. Note: Records updated monthly, including 12 month rolling data.	Yes	
PP-ANALYZER	Analyzer sample system	VOC	See additional notes:	Yes	Very low emissions; no monitoring is proposed.
		CO	See additional notes:	Yes	Very low emissions; no monitoring is proposed.
		NOx	See additional notes:	Yes	Very low emissions; no monitoring is proposed.
CT-895	Cooling Tower	VOC	VOC concentration in the cooling water by TCEQ stripping method or approved equivalent monthly. Cooling water circulation rate measured hourly unless maximum circulation rate assumed.	Yes	
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Cooling water circulation rate measured hourly unless maximum circulation rate assumed. Large (>50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water daily then reduced to weekly and quarterly with daily conductivity measurement that is correlated. Small (<50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water measured weekly.	Yes	

CT-6901	Cooling Tower	VOC	VOC concentration in the cooling water by TCEQ stripping method or approved equivalent monthly. Cooling water circulation rate measured hourly unless maximum circulation rate assumed.	Yes	
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Cooling water circulation rate measured hourly unless maximum circulation rate assumed. Large (>50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water daily then reduced to weekly and quarterly with daily conductivity measurement that is correlated. Small (<50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water measured weekly.	Yes	
CT-891	Cooling Tower	VOC	VOC concentration in the cooling water by TCEQ stripping method or approved equivalent monthly. Cooling water circulation rate measured hourly unless maximum circulation rate assumed.	Yes	
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Cooling water circulation rate measured hourly unless maximum circulation rate assumed. Large (>50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water daily then reduced to weekly and quarterly with daily conductivity measurement that is correlated. Small (<50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water measured weekly.	Yes	
CT-4861	Cooling Tower	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Cooling water circulation rate measured hourly unless maximum circulation rate assumed. Large (>50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water daily then reduced to weekly and quarterly with daily conductivity measurement that is correlated. Small (<50,000 gpm circulation rate): Total Dissolved Solids (TDS) in the cooling water measured weekly.	Yes	
D-3106	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-3106B	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	

D-3504	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Production rate or flow and differential pressure across PM control devices	Yes	
D-3103	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-3105	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-3107	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-3110A	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-3113	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
T-3111	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	

C-FUG	Fugitives: Piping and Equipment Leak	VOC	Use EPA Method 21 to monitor for leaks from seals on pumps, compressors, agitator and valve seals on piping components in light liquid and gas VOC service quarterly. Gas or hydraulic check new and a replaced connectors prior to returning to service, or monitor with Method 21 within 15 days of returning to service. Leak detection and repair (LDAR) Program 28M has a leak definition where repair action is required at 10,000 ppmv. LDAR Program 28 VHP has a leak definition where repair action is required at 500 ppmv for valves and connectors and 2000 ppmv for pumps, compressors and agitators. Check connectors weekly using audio, visual or olfactory (AVO) senses to observe leaks. Record results and corrective action taken.	Yes	
TK-2527A	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Stored material and throughput	Yes	
TK-2527B	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Stored material and throughput	Yes	
TK-880	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Stored material and throughput	Yes	
D-4106	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-4504	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	

		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Production rate or flow and differential pressure across PM control devices	Yes	
D-FUG	Fugitives: Piping and Equipment Leak	VOC	Use EPA Method 21 to monitor for leaks from seals on pumps, compressors, agitator and valve seals on piping components in light liquid and gas VOC service quarterly. Gas or hydraulic check new and a replaced connectors prior to returning to service, or monitor with Method 21 within 15 days of returning to service. Leak detection and repair (LDAR) Program 28M has a leak definition where repair action is required at 10,000 ppmv. LDAR Program 28 VHP has a leak definition where repair action is required at 500 ppmv for valves and connectors and 2000 ppmv for pumps, compressors and agitators. Check connectors weekly using audio, visual or olfactory (AVO) senses to observe leaks. Record results and corrective action taken.	Yes	
D-4105	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-4107	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-4110A	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-4110B	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	

T-4111	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-4103	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6106A	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6106B	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6504	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Production rate or flow and differential pressure across PM control devices	Yes	
D-6103	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6105	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	

D-6105B	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6107	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6110A	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6110B	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
T-6111	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-6113	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	

E-FUG	Fugitives: Piping and Equipment Leak	VOC	Use EPA Method 21 to monitor for leaks from seals on pumps, compressors, agitator and valve seals on piping components in light liquid and gas VOC service quarterly. Gas or hydraulic check new and a replaced connectors prior to returning to service, or monitor with Method 21 within 15 days of returning to service. Leak detection and repair (LDAR) Program 28M has a leak definition where repair action is required at 10,000 ppmv. LDAR Program 28 VHP has a leak definition where repair action is required at 500 ppmv for valves and connectors and 2000 ppmv for pumps, compressors and agitators. Check connectors weekly using audio, visual or olfactory (AVO) senses to observe leaks. Record results and corrective action taken.	Yes	
M-2573	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
M-2574	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	Quarterly visible emissions observations
M-42591	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
F-583	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
S-2580	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	

D-4801-03	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	VOC is part of E-CAP. See below for more information.
F-4842	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
F-5101	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
F-6802	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
F-5303	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
F-6841-42	Control: Bag Filter/Baghouse	VOC	See Additional Notes:	Yes	VOC is part of E-CAP. See below for more information.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	

E-CAP	Cap on VOC emissions	VOC	See additional notes:	Yes	Periodic sampling of the headspace in the product sample is conducted.
PP-WWTR	Wastewater Facilities	VOC	Daily Flow into treatment plant. Quarterly AVO check of water seal where site wastewater emissions >5tpy For Activated Sludge Biological Treatment, daily mixed liquor suspended solids (MLSS) Monthly wastewater concentration of all air contaminants entering treatment plant.	Yes	
MSS41	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS42	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS43	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS44	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	

MSS46	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS47	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS48	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS49	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS50	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	

MSS51	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS52	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS53	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS54	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS55	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	

MSS56	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS57	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS58	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS59	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
MSS60	MSS Activities	VOC	Requirement dependent on application representation. Vapor concentration measurement prior to opening to atmosphere may be required and/or emission potential may be recalculated. Each measurement and/or number of events monthly must be monitored. Must monitor open ended lines for leaks if open more than 72 hours without cap, blind flange or plug. Where add on control is used for purge, monitoring consistent with device used and flow and firing rates monitored or potential calculated.	Yes	
F-5102	Control: Bag Filter/Baghouse	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	

S-5203D	Control: Bag Filter/Baghouse	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
F-6801	Control: Bag Filter/Baghouse	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
F-4801	Control: Bag Filter/Baghouse	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Pressure drop monitoring of the dust collectors. Quarterly visible emissions observations.	Yes	
D-4105A	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
D-4706	Process Vent	VOC	Production rate or flow as appropriate Monitoring consistent with Control Device	Yes	
PP-SAMPL	Vent from field samplers	VOC	See additional notes:	Yes	Emissions are low; no monitoring is proposed.
		PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. See additional notes:		Emissions are low; no monitoring is proposed.

TK-884	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	H2SO4	See Additional Notes:	Yes	Stored material and throughput
TK-895	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	H2SO4	See Additional Notes:	Yes	Stored material and throughput
TK-5104C	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Stored material and throughput	Yes	
D-6850	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia	VOC	Stored material and throughput	Yes	
MSS61	MSS Activities	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Blasting material and usage. Paint spray type and usage. Combustion firing rates. Differential pressure across PM control devices.	Yes	
MSS62	MSS Activities	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Blasting material and usage. Paint spray type and usage. Combustion firing rates. Differential pressure across PM control devices.	Yes	
MSS63	MSS Activities	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Blasting material and usage. Paint spray type and usage. Combustion firing rates. Differential pressure across PM control devices.	Yes	

MSS64	MSS Activities	PM	The emission monitoring techniques for PM10 and PM2.5 will follow the technique for PM. Blasting material and usage. Paint spray type and usage. Combustion firing rates. Differential pressure across PM control devices.	Yes	
U-FUG	Fugitives: Piping and Equipment Leak	VOC	Use EPA Method 21 to monitor for leaks from seals on pumps, compressors, agitator and valve seals on piping components in light liquid and gas VOC service quarterly. Gas or hydraulic check new and a replaced connectors prior to returning to service, or monitor with Method 21 within 15 days of returning to service. Leak detection and repair (LDAR) Program 28M has a leak definition where repair action is required at 10,000 ppmv. LDAR Program 28 VHP has a leak definition where repair action is required at 500 ppmv for valves and connectors and 2000 ppmv for pumps, compressors and agitators. Check connectors weekly using audio, visual or olfactory (AVO) senses to observe leaks. Record results and corrective action taken.	Yes	

Texas Commission on Environmental Quality
Form PI-1 General Application
Materials

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Item	How submitted	Date submitted
A. Administrative Information		
Form PI-1 General Application	STEERS	06/01/2020
Hard copy of the General sheet with original (ink) signature	Mail	06/01/2020
Professional Engineer Seal	Not applicable	
B. General Information		
Copy of current permit (both Special Conditions and MAERT)		
Core Data Form		
Area map	STEERS	06/01/2020
Plot plan	STEERS	06/01/2020
Process description	STEERS	06/01/2020
Process flow diagram	STEERS	06/01/2020
List of MSS activities	STEERS	06/01/2020
State regulatory requirements discussion	STEERS	06/01/2020
C. Federal Applicability		
Summary and project emission increase determination - Tables 1F and 2F	STEERS	06/01/2020
Netting analysis (if required) - Tables 3F and 4F as needed		
D. Technical Information		
BACT discussion, if additional details are attached	STEERS	06/01/2020
Monitoring information, if additional details are attached	STEERS	06/01/2020
Material Balance (if applicable)	STEERS	06/01/2020
Calculations	STEERS	06/01/2020
E. Impacts Analysis		
Qualitative impacts analysis	STEERS	06/01/2020
MERA analysis	STEERS	06/01/2020
Electronic Modeling Evaluation Workbook: SCREEN3	STEERS	06/01/2020
Electronic Modeling Evaluation Workbook: NonSCREEN3	STEERS	06/01/2020
PSD modeling protocol	STEERS	06/01/2020
F. Additional Attachments		
NSR Permit 9423 Renewal and Amendment Application	STEERS	06/01/2020
Cover Letter	STEERS	06/01/2020

Where to Submit this Application

This worksheet is for informational purposes only. No data is required and you do not need to print this sheet.
This worksheet provides guidance on where to send copies of the application materials.

Instructions:
1. Submit application materials as indicated below.
2. Retain a copy for your records.
3. Indicate to whom copies have been sent on the cover letter of any subsequent correspondence.
4. Indicate the assigned permit number(s), RN, CN, and permit reviewer, if known, on all subsequent correspondence.

Note:
1. If submitting through STEERS, the appication materials do not need to be submitted to APD, the TCEQ regional office, or the appropriate local program.

Click here to return to Cover Sheet.

Who	Where	When	What
Air Permits Division Air Permits Initial Review Team (APIRT)	Email the workbook to apirt@tceq.texas.gov following the instructions on the Cover sheet. Regular, Certified, Priority Mail MC 161, P.O. Box 13087, Austin, Texas 78711-3087 or Hand Delivery, Overnight Mail Mail Code 161, 12100 Park 35 Circle, Building C, Third Floor, Room 300W, Austin, Texas 78753	All applications, unless submitting through STEERS	Hard copy of the General sheet if original signature is required, electronic full workbook, original Core Data Form if applicable, and electronic (preferred) application attachments
Financial Administrative Division Revenue Operations Section	Regular, Certified, Priority Mail MC 214, P.O. Box 13088, Austin, Texas 78711-3088 or Hand Delivery, Overnight Mail Mail Code 214, 12100 Park 35 Circle, Building A, Third Floor, Austin, Texas 78753 Note: The official application cannot be faxed	All applications not using ePay	Fee, copy of the "General" sheet of this workbook, copy of the Core Data Form
Region 12	5425 Polk St., Ste. H, Houston, TX 77023-1452	All applications, unless submitting through STEERS	Copies of the workbook, Core Data Form, and all attachments
Local Air Pollution Control Program(s)	To find your local air pollution control programs go to the link below.	All applications in an area having jurisdiction, unless submitting through STEERS	Copies of the workbook, Core Data Form, and all attachments

Texas Commission on Environmental Quality
Form PI-1 General Application
Copies

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Who	Where	When	What
Alabama-Coushatta Tribe of Texas	571 State Park Road 56, Livingston, Texas 77351	If the proposed facilities are located within 100 km or less of the Indian Tribal Lands	Copies of the workbook, all attachments, public notice, and affidavit
Kickapoo Traditional Tribe of Texas	Box HC 1, 9700, Eagle Pass, Texas 78852	If the proposed facilities are located within 100 km or less of the Indian Tribal Lands	Copies of the workbook, all attachments, public notice, and affidavit
Ysleta del Sur Pueblo of Texas	119 S. Old Pueblo Rd., El Paso, Texas 79907	If the proposed facilities are located within 100 km or less of the Indian Tribal Lands	Copies of the workbook, all attachments, public notice, and affidavit
EMD Division Chief International Boundary and Water Commission United States Section	4171 N. Mesa, Suite C-100, El Paso, Texas 79902-1441	If new construction is proposed within 100 km of the Rio Grande River	Copies of the workbook and all attachments

Sheet: General	
Term:	**Description:**
Amendment	Permit amendments are for modifications to existing permitted facilities that result in a change in method of control, a change in character of emissions, or an increase in emission rate of any air contaminant as noted in 30 TAC Chapter §116.116(b).
Area Name	You must indicate the general type of operation, process, equipment or facility. Include numerical designations, if appropriate. Examples are Sulfuric Acid Plant and No. 5 Steam Boiler. Vague names such as Chemical Plant are not acceptable.
Change of Location	The process of gaining approval and moving a permitted facility and associated sources to a new location in which public notice is required, in accordance with the requirements of Chapter 39 of this title (relating to Public Notice). For more information, see 30 TAC Chapter §116.178
Company Official Contact	Provide the name, title, mailing address, telephone number, fax number, and e-mail address of the company official contact. The company official must not be a consultant. Please ensure that the e-mail address provided for the company official is the most appropriate to receive time-sensitive correspondence from the TCEQ.
Company or Legal Name	Permits are issued to either the facility owner or operator, commonly referred to as the applicant or permit holder. List the legal name of the company, corporation, partnership, or person who is applying for the permit. We will verify the legal name with the Texas Secretary of State.
Customer Reference Number (CN)	The CN is a unique number given to each business, governmental body, association, individual, or other entity that owns, operates, is responsible for, or is affiliated with a regulated entity. We assign the CN when a Core Data Form is initially submitted to the Central Registry.
Federal Operating Permit	A Federal Operating Permit (FOP) is a legally enforceable document that the TCEQ issues to certain air pollution sources. The 1990 FCAA Amendment includes requirements for states to implement a FOP program. The EPA promulgated these requirements in 40 CFR Part 70 Exit the TCEQ. The TCEQ met these Federal requirements and provided a road map in 30 TAC Chapter 122 to implement the FOP program in Texas. The EPA has delegated the implementation of the FOP program to the TCEQ and continues to maintain oversight of the program.
Flexible Permit	A flexible permit allows an owner/operator more flexibility in managing the operations by staying under an overall emissions cap or individual emission limitation. The owner/operator is allowed to structure the flexible permit to best serve their needs. Flexible permits follow the same permitting requirements discussed above for NSR permits.
Greenhouse Gases	GHGs are the aggregate group of six greenhouse gases: carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6).
Hazardous Air Pollutant Major Source Permit (FCAA §112g)	112(g) of the FCAA was designed to ensure that emissions of toxic air pollutants (HAPs) do not increase if a facility is constructed or reconstructed before EPA issues a MACT or air toxics regulation for that particular category of sources or facilities. Section 112(g) reviews also apply for MACT standards which have been vacated by the courts and that have not been reestablished by EPA.
Incorporated by Consolidation	Incorporation by consolidation of PBRs, SPs, and/or SEs is typically voluntary. Units that are consolidated will undergo BACT and impacts review which must be included in the application submittal. When incorporated into the permit, the original authorization is no longer active.
Incorporated by Reference	Incorporation by reference of certain PBRs, SPs, and/or SEs is mandatory. All PBRs, SPs, and SEs that directly affect the emissions of permitted facilities must, at a minimum, be referenced when a NSR permit is amended or renewed. If these authorizations occur at the permitted site but do not directly affect permitted facilities, it is not required, but at the request of the permit holder they may be referenced. Referencing will not require a best available control technology (BACT) review but may require an impacts review based on commission guidance.

Latitude	Latitude (in degrees, minutes, and nearest second (DDD:MM:SS)) for the street address or the destination point of the driving directions. Latitude is the angular distance of a location north of the equator and will always be between 25 and 37 degrees north (N) in Texas.
Longitude	Longitude (in degrees, minutes, and nearest second (DDD:MM:SS)) for the street address or the destination point of the driving directions. Longitude is the angular distance of a location west of the prime meridian and will always be between 93 and 107 degrees west (W) in Texas.
Major Modification	A major modification is an increase in net emissions that equals or exceeds the Significant Emission Rate (SER) for that pollutant and location.
Major Source	A major source is a named or un-named source with emissions greater than or equal to major source amounts.
Minor Construction Permit	New Source Review (NSR) permit application (30 TAC Chapter 116) that does not require major NSR permitting.
Nonattainment Permit	If the facility is located in a nonattainment area, designated by the U.S. Environmental Protection Agency, additional permitting requirements may apply. Nonattainment permit review is required if the facility has emissions above the major source threshold for the specific county designated as nonattainment. Nonattainment permitting requires the installation of lowest achievable emission rate control technology and the acquisition of emission reductions to offset the proposed emissions increases.
Permit Number(s) (if existing)	If the application is for an existing permitted facility, list the current permit number. Please confirm that the permit number is accurate before submitting your application. If this application is for a new facility, leave blank.
Permit Renewal Application	It is possible to process a renewal application at the same time as an amendment for preconstruction permits under THSC §382.055. A renewal application may accompany a permit amendment application if the permit is within three years of its expiration date and if the permit amendment is subject to public notice requirements. The TCEQ shall provide written notice to the holder of a permit that the permit is scheduled for review.
Permits by Rule (PBR)	The general requirements and specific PBRs are found in 30 TAC Chapter 106. Note that the facility must meet all the established PBR requirements to claim a PBR.
Plant-wide Applicability Limit	Permit applicants and holders are allowed the option of establishing a plant wide applicability limit (PAL) for all facilities at a site or a stand-alone process. The PAL would initially be based on actual emissions with a best available control technology (BACT) based limit phased in over an implementation period.
Portable Facility	A facility authorized by a permit containing special conditions that allow the facility to relocate. Portable facilities are authorized by the TCEQ, Air Permits Division. To be a portable facility, the facility shall not exceed the major source thresholds stated in 40 CFR § 51.166(b)(1) and the permit for that facility is designated with a portable permit number, portable registration number, or portable account number. The portable facility cannot be located at an account that is subject to the requirements for PSD and Nonattainment permits under 30 TAC Chapter 116, Subchapter B.
Principal Company Product/Business	Briefly describe the business conducted at this Regulated Entity.
Principal NAICS and SIC Codes	All Regulated Entities should have North American Industrial Classification System (NAICS) or Standard Industrial Classification (SIC) and codes. A Primary NAICS or SIC code is the code that best describes the business conducted at this Regulated Entity.
Prevention of Significant Deterioration (PSD) Permit	If the facility is a major stationary source (or construction is a major modification) located in an attainment or unclassifiable area, a PSD permit will be required. PSD review will require additional modeling to determine if the new emissions will have an impact on the surrounding air quality which could affect compliance with the National Ambient Air Quality Standards.
Regulated Entity Number (RN)	The RN is a unique agency assigned number given to each person, organization, place, or thing that is of environmental interest to us and where regulated activities will occur. The RN is assigned when a Core Data Form is initially submitted to the Central Registry, if the agency has conducted an investigation, or if the agency has issued an enforcement action. The RN replaces existing air account numbers. The RN for portable units is assigned to the unit itself, and that same RN should be used when applying for authorization at a different location.

Relocation	The appropriate regional office may approve the relocation of a portable facility if the applicant's permit contains current special conditions defining the approval process to move. A relocation application cannot include a modification. No public notice is required for a relocation. A permit holder may request from the Air Permits Division a permit alteration, as defined in 30 TAC §116.116(c)(1)(B) (relating to Changes to Facilities) to update or add relocation instructions. The permit holder may apply for a relocation simultaneously with the alteration.
Site Location Description:	If there is no street address, provide written driving directions to the site. Identify the location by distance and direction from well-known landmarks such as major highway intersections.
Standard Exemptions	Many standard exemptions were codified into 30 Texas Administrative Code Chapter 106 as permits by rule. There are some sites that made a claim prior to this and continue to be authorized by the standard exemption.
Standard Permits	Standard permits are authorized under 30 TAC Chapter 116, Subchapter F. Owners/operators with facilities that meet the established standard permit criteria may qualify for a standard permit.
Start of Construction and Operation	You must obtain an air authorization before beginning construction. Construction is broadly interpreted as anything other than site clearance or site preparation. Activities such as land clearing, soil load-bearing tests, leveling of the area, sewers and utility lines, road building, power line installation, fencing, and construction shack building are considered site clearance or preparation. Equipment may be received at a plant site and stored, provided no attempt is made to assemble the equipment or connect it to any electrical, plumbing, or other utility system. All work, such as excavation, form erection, or foundations upon which facilities will rest is considered construction.
Technical Contact	Provide the name, title, company, mailing address, telephone number, fax number, and e-mail address of the person we should contact for technical questions. This person must have the authority to make binding agreements and representations on behalf of the applicant. This technical contact may be a consultant.
Texas Secretary of State Charter/Registration Number (if given)	Permits are issued to either the facility owner or operator, commonly referred to as the applicant or permit holder. List the legal name of the company, corporation, partnership, or person who is applying for the permit. We will verify the legal name with the Texas Secretary of State.

Sheet: Fees	
Term:	**Description:**
Capital Cost	Capital costs are fixed, one-time expenses incurred on the purchase of land, buildings, construction, and equipment used in the production of goods or in the rendering of services.
Fee Exemption/Reduction	If your facility qualifies for a fee exemption, discount, or a reduction in fees, give a description of how the facility qualifies and what the actual fees will be.
GHG/PSD/Nonattainment Application	If the permit includes a greenhouse gas (GHG), prevention of significant deterioration (PSD), or Nonattainment permit application a different fee structure will apply. Note that these fees are not in addition to the regular permit application fee. **Note:** A single PSD fee (calculated on the capital cost of the project per 30 TAC § 116.163) will be required for all of the associated permitting actions for a GHG PSD project. Other NSR permit fees related to the project that have already been remitted to the TCEQ can be subtracted when determining the appropriate fee to submit with the GHG PSD application; please identify these other fees in the GHG PSD permit application.
Regular Permit	A New Source Review (NSR) minor construction permit application will typically fall into the "Permit Application Fee" structure.

Sheet: Unit Types - Emission Rates	
Heading:	**Description:**

Permit Primary Industry	The permit primary industry falls into one of four categories: Chemical / Energy, Coatings, Combustion, and Mechanical / Agricultural / Construction. One of these industry groups must be chosen for the spreadsheet to function correctly. If you are unsure about which industry group your facility belongs in, see the "Unit Types" sheet for examples of unit types that can be chosen.
Is this source New/Modified, Not New/Modified, to be removed, or to be consolidated?	For each Emission Point Number (EPN), differentiate what action is occurring with this project: New/Modified, Not New/Modified, Remove (if the source is being removed from the facility), and Consolidate (if permits by rule, standard permits, and/or standard exemptions are being incorporated by consolidation)
Include these emissions in summary?	Indicate if the emissions represented in the selected row should be included in the summary table. Typically, this will be yes. Some examples of when to select no are if the emissions are part of a cap listed separately or if you are including the worst case emissions of multiple operating scenarios.
Facility ID Number (FIN)	Associate the EPN to the appropriate facility with a facility identification number (FIN). These numbers can be alphanumeric and maximum of 10 characters. Examples of EPN and/or FIN numbers are, “BOILER1,” “100B1,” “BH1.” If appropriate, a FIN can be the same as the EPN. Abbreviations are acceptable.
Facility ID Number (FIN) & Emission Point Number (EPN)	Identify each emission point with a unique number for this plant site. The emission point numbers (EPN) must be consistent with the emission point identification used on the plot plan, any previous permits, and “Emissions Inventory Questionnaire.” These numbers can be alphanumeric and maximum of 10 characters. Examples of EPN and/or FIN numbers are, “BOILER1,” “100B1,” “BH1.” If appropriate, a FIN can be the same as the EPN. Abbreviations are acceptable.
Source Name	Examples of emission point names are; “heater,” “vent,” ‘boiler,” “tank,” “reactor,” “separator,” “baghouse,” or “fugitive.” See the MAERT Example for further examples of the source name.
Pollutant	List each component or air contaminant name. Examples of component names are; “ETO,” “HCl," "Cl2," "sulfur,” “chrome,” or “NH3.” Abbreviations are acceptable. Note: Certain common pollutants must be listed as follows: "VOC," "PM," "PM10," "PM2.5," "NOx," "CO," "SO2," "Pb," "H2S," "H2SO4," "TRS," "Exempt Solvents," and "Halogenated Solvents." A maximum of 13 pollutants are allowed per FIN, and 19 pollutants total (including eight criteria pollutants).
Current Short-Term (lb/hr)	If applicable, enter the current emission rate for each pollutant in terms of pounds per hour. Pounds per hour is the maximum short-term emission rate expected to occur in any one-hour period.
Current Long-Term (tpy)	If applicable, enter the current emission rate for each pollutant in terms of tons per year. Tons per year (tpy) is the annual (any rolling 12 month period) total maximum emissions expected by the facility, taking the process operating schedule into account.
Consolidated Short-Term (lb/hr)	Enter the currently authorized emission rate for each pollutant that will be consolidated from a Permit by Rule (PBR), standard permit, standard exemption, or other NSR permit in terms of pounds per hour. Pounds per hour is the maximum short-term emission rate expected to occur in any one-hour period.
Consolidated Long-Term (tpy)	Enter the currently authorized emission rate for each pollutant that will be consolidated from a Permit by Rule (PBR), Standard Permit, standard exemption, or other NSR permit in terms of tons per year. Tons per year (tpy) is the annual (any rolling 12 month period) total maximum emissions expected by the facility, taking the process operating schedule into account.
Proposed Short-Term (lb/hr)	Enter the proposed emission rate for each pollutant in terms of pounds per hour. Pounds per hour is the maximum short-term emission rate expected to occur in any one-hour period.
Proposed Long-Term (tpy)	Enter the proposed emission rate for each pollutant in terms of tons per year. Tons per year (tpy) is the annual (any rolling 12 month period) total maximum emissions expected by the facility, taking the process operating schedule into account.
Short-Term Difference (lb/hr)	This column automatically calculates the difference between the proposed and current short-term emission rates, in terms of pounds per hour.
Long-Term Difference (tpy)	This column automatically calculates the difference between the proposed and current long-term emission rates, in terms of tons per year.

Unit Type	Enter or select from the drop-down the type of unit that this EPN, FIN, and source name most accurately represent. For additional reference as to applicable unit type, see the "Unit Types" sheet.
Unit Type Notes	If you selected "Other" or need to clarify your unit type, use this column to briefly explain the unit type. Note that this is not meant to be a justifications column.

Sheet: Stack Parameters	
Heading:	**Description:**
EPN	This column is an automatically compiled list of all EPNs that must have the emission rates entered. In this sheet, if no EPN was listed, the Facility ID Number (FIN) will be listed instead. For example, if no EPN was given and the FIN was entered as "Stack", this sheet will replace the EPN with "FIN: Stack."
Universal Transverse Mercator (UTM) Coordinates of Emission Points: Zone, East (meters), and North (meters)	The applicant must furnish a facility plot plan drawn to scale showing a plant benchmark. Latitude and longitude must be correct and to the nearest second for the benchmark, and the dimension of all emission points with respect to the benchmark as required. This information is essential for the calculation of emission point UTM coordinates. Please show emission point UTM coordinates if known. Use the southwest corner as the emission point coordinate for each area source.
Building Height (ft)	Enter the height of the building.
Height Above Ground (ft)	Enter the height of the stack above the ground.
Stack Exit Diameter (ft)	Enter the diameter for the stack at the exit.
Velocity (FPS)	Enter the velocity of emissions in actual feet per second.
Temperature (°F)	Enter the actual temperature if the exit temperature is room temperature or climate controlled. Enter ambient temperature to represent exit temperatures that are the same as the outdoor environment. Flare exit temperatures are not required.
Fugitives - Length (ft)	For area fugitive sources, enter the dimensions of a rectangle, which will “enclose” all fugitive sources included in this EPN. Length to width ratio should be 10:1 or less. Subdivide larger areas to meet this requirement.
Fugitives - Width (ft)	Enter the width of the fugitive source area.
Fugitives - Axis Degrees	Enter the number of degrees the long axis of the fugitive area is offset from north south.

Sheet: Impacts	
Heading:	**Description:**
Pollutant	This column is a list of criteria pollutants and up to 11 other listed contaminants from this project. This list will automatically populate.
Does this pollutant require PSD review?	If this project requires a PSD Review, select "Yes;" otherwise select "No."
How will you demonstrate that this project meets all applicable requirements?	If a PSD review is required, a protocol must be included. If a PSD review is not required, another demonstration must be made using one of three approved methods: (1) modeling with an attached, detailed description of how the modeling was conducted; (2) qualitative analysis with an attached, detailed description of how the project meets impacts requirements; or (3) an attached, detailed description explaining why an impacts analysis is not required for this project. This determination is made for each individual pollutant.
Notes	This field is automatically populated with important notes on how to conduct the impacts analysis, based on your chosen demonstration method.
Website For Additional Guidance	This field is automatically populated with a link to information most relevant to your chosen demonstration method.

Sheet: Public Notice	
Heading:	**Description:**

Public Notice Applicability Section	This section is designed to help determine if you need public notice.
Do the facilities handle, load, unload, dry, manufacture, or process grain, seed, legumes, or vegetable fibers (agricultural facilities)?	Indicate if the facilities are considered agricultural facilities under THSC § 382.020. If a facility is considered agricultural, annual emission increases must be compared to the appropriate significant levels for agricultural facilities to determine public notice applicability. (For nonagricultural facilities, annual emission increases must be compared to the appropriate de minimis levels)
Pollutant	This column is a list of criteria pollutants and up to 11 other listed contaminants from this project. This list will automatically populate.
Current Long-Term (tpy)	This is an automatically-populated summary of the current emission rate for each pollutant in terms of tons per year.
Consolidated Emissions (tpy)	This is an automatically-populated summary of consolidated emissions, based on entries under the "Unit Types - Emission Rates" sheet. If the emission was marked "Consolidate," its total will appear in this column instead of the "Current Long-Term (tpy)" column.
Proposed Long-Term (tpy)	This is an automatically-populated summary of the proposed emission rate for each pollutant in terms of tons per year.
Project Change in Allowable (tpy)	This column is a total difference between current and long-term emission rates for the pollutant listed to the left.
PN Threshold	This column is a pollutant-by-pollutant list of PN threshold values to be compared to the Project Change in Allowable.
Notice required?	If the spreadsheet calculates that public notice is required from the pollutant to the left, the box's message will change from "No" to "Yes."
Person Responsible for Publishing	This is a designated representative who is responsible for ensuring public notice is properly published in the appropriate newspaper and signs are posted at the facility site. This person will be contacted directly when the TCEQ is ready to authorize public notice for the application.
Technical Contact	This is the designated representative who will be listed in the public notice as a contact for additional information.
Public Place	A public place is a location which is owned and operated by public funds (such as libraries, county courthouses, city halls) and cannot be a commercial enterprise.
Bilingual Program	If an elementary or middle school nearest to the facility is in a school district required by the Texas Education Code to have a bilingual program, a bilingual notice will be required. If there is no bilingual program required in the school nearest the facility, but children who would normally attend those schools are eligible to attend bilingual programs elsewhere in the school district, the bilingual notice will also be required.
Concrete Batch Plant	All applications for concrete batch plants must complete Section IID, regardless of public notice applicability.

Sheet: BACT	
Heading:	**Description:**
FINs	This tab will automatically populate with the FINs entered on the "Unit Types - Emission Rates" sheet.
Unit Type	This column will automatically populate with the unit type listed for that FIN in the "Unit Types - Emission Rates" tab.
Pollutant	This column will automatically populate with the pollutants listed for that FIN in the "Unit Types - Emission Rates" tab, up to 13 pollutants. The last row under each FIN and unit type is marked "MSS" for Maintenance, Startup, and Shutdown operations.
Tier I BACT	BACT is an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under the FCAA emitted from or which results from any proposed stationary source. The TCEQ has established Tier I BACT requirements for a number of industry types. The established Tier I requirements will automatically populate for the listed unit type. If one is not listed, or more detail is needed, follow the prompt to add additional detail in the "Additional Notes" column.
Confirm	Confirm that you have read and agree to comply with each Tier I BACT requirement by entering or selecting "Yes."

Additional Notes: Enter additional information, if needed	Additional information may be required to clarify the Tier I BACT requirements. Additional analysis is also required for Tier II, Tier III, and LAER proposals.

Sheet: Monitoring	
Heading:	**Description:**
EPN	This column is an automatically compiled list of all EPNs that are new, modified, or consolidated as identified on the "Unit Type-Emission Rates" sheet. This is the primary identifier for each unit type in this sheet.
Unit Type	This column will automatically populate with the unit type listed for that FIN in the "Unit Types - Emission Rates" tab.
Pollutant	This column will automatically populate with the pollutants listed for that EPN in the "Unit Types - Emission Rates" sheet, up to 13 pollutants.
Minimum Monitoring Requirements	Permits must contain adequate monitoring and recordkeeping requirements to demonstrate compliance with the emissions rates for each pollutant emitted from each EPN. This column will automatically populate with the minimum required monitoring for the listed unit type. If one is not listed, or more detail is needed, follow the prompt to add additional detail in the "Additional Notes" column.
Confirm	Confirm that you have read and agree to comply with each minimum monitoring requirement by entering or selecting "Yes."
Additional Notes	Describe the methodology of determining facility-specific requirements for the operational limits placed on this facility. Be specific to the EPN/FIN and pollutant listed.

Acronym	Term
ADMT	Air Dispersion Modeling Team
APIRT	Air Permits Initial Review Team
APWL	Air Pollutant Watch List
BACT	Best Available Control Technology
CFR	Code of Federal Regulations
CN	Customer Number
EPN	Emission Point Number
FCAA	Federal Clean Air Act
FIN	Facility Identification Number
GHG	Greenhouse Gas
HAP	Hazardous Air Pollutant
km	kilometer
LAER	Lowest Achievable Emission Rate
lb/hr	pounds per hour
MACT	Maximum Achievable Control Technology
MAERT	Maximum Allowable Emission Rate Table
MSS	Maintenance, Startup, and Shutdown
NA	Nonattainment
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standard
NSR	New Source Review
PAL	Plantwide Applicability Limit
PBR	Permit By Rule
POC	Products of combustion
PSD	Prevention of Significant Deterioration
RBLC	RACT/BACT/LAER Clearinghouse
RN	Regulated Entity Reference Number
SE	Standard Exemption
SIC	Standard Industry Classification
SP	Standard Permit
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
THSC	Texas Health and Safety Code
TPY	tons per year

Industry Type	Unit Type
Coatings	Abrasive Blasting (Enclosed Booth / Building)
Coatings	Abrasive Blasting (Non-Enclosed)
Mechanical/Agricultural/Construction	Blowing Still
Combustion	Boiler: Hazardous Waste
Chemical/Energy	Boiler: Liquid and Gas Fuel, > 40 MMBtu/hr
Combustion	Boiler: Liquid and Gas Fuel, > 40 MMBtu/hr
Chemical/Energy	Boiler: Liquid and Gas Fuel, ≤ 40 MMBtu/hr
Coatings	Boiler: Liquid and Gas Fuel, ≤ 40 MMBtu/hr
Combustion	Boiler: Liquid and Gas Fuel, ≤ 40 MMBtu/hr
Combustion	Boiler: Solid Fuel
Chemical/Energy	Bulk Fuel Terminal: Diesel
Chemical/Energy	Bulk Fuel Terminal: Ethanol
Chemical/Energy	Bulk Fuel Terminal: Gasoline
Chemical/Energy	Bulk Fuel Terminal: Jet Fuel
Chemical/Energy	Bulk Fuel Terminal: Transmix
Mechanical/Agricultural/Construction	Chromic Acid Anodizing
Chemical/Energy	Cleaning: Railcar
Coatings	Cleaning: Railcar/Truck
Chemical/Energy	Cleaning: Truck
Combustion	Coal Loading
Mechanical/Agricultural/Construction	Coal Loading
Chemical/Energy	Control: Absorber
Coatings	Control: Absorber (I.E., Scrubber)
Coatings	Control: Adsorption System (Disposable)
Coatings	Control: Adsorption System (Regenerative)
Chemical/Energy	Control: Adsorption System: Disposable
Chemical/Energy	Control: Adsorption System: Regenerative
Chemical/Energy	Control: Bag Filter/Baghouse
Combustion	Control: Bag Filter/Baghouse
Mechanical/Agricultural/Construction	Control: Bag Filter/Baghouse
Coatings	Control: Baghouse, Cartridge Filter System, Bin Vent Filter
Chemical/Energy	Control: Flare
Combustion	Control: Flare
Coatings	Control: Oxidizer (Catalytic)
Coatings	Control: Oxidizer (Thermal)
Chemical/Energy	Control: Oxidizer: Catalytic
Chemical/Energy	Control: Oxidizer: Regenerative Thermal
Chemical/Energy	Control: Oxidizer: Thermal
Chemical/Energy	Control: Particulate Scrubber
Coatings	Control: Particulate Scrubber
Chemical/Energy	Control: Vapor Combustor
Combustion	Control: Vapor Combustor
Mechanical/Agricultural/Construction	Cooker
Mechanical/Agricultural/Construction	Cooler
Chemical/Energy	Cooling Tower
Combustion	Cooling Tower
Mechanical/Agricultural/Construction	Cooling Tower
Mechanical/Agricultural/Construction	Cotton Gin
Combustion	Crusher
Mechanical/Agricultural/Construction	Crusher
Coatings	Cultured Marble - Process
Coatings	Degreaser: Cold Solvent Cleaner
Coatings	Degreaser: Conveyorized
Coatings	Degreaser: Hand Wipe
Coatings	Degreaser: Open Top Vapor Degreaser
Coatings	Degreaser: Remote Reservoir Cleaning
Mechanical/Agricultural/Construction	Die Cast Machine
Mechanical/Agricultural/Construction	Disperser
Chemical/Energy	Dryer
Coatings	Dryer
Combustion	Dryer
Mechanical/Agricultural/Construction	Dryer
Mechanical/Agricultural/Construction	Engine
Coatings	Engine: Emergency (Diesel)
Chemical/Energy	Engine: Emergency, Diesel
Combustion	Engine: Emergency, Diesel
Mechanical/Agricultural/Construction	Engine: Emergency, Diesel
Chemical/Energy	Engine: Internal Combustion Engine, Spark Ignited
Combustion	Engine: Internal Combustion Engine, Spark Ignited
Coatings	Fiber Reinforced Plastic (FRP) - Process
Chemical/Energy	Fluid Catalytic Cracking Unit
Coatings	Foam Manufacturing
Mechanical/Agricultural/Construction	Forehearth

Combustion	Fugitives: Building
Mechanical/Agricultural/Construction	Fugitives: Building
Chemical/Energy	Fugitives: Piping and Equipment Leak
Combustion	Fugitives: Piping and Equipment Leak
Mechanical/Agricultural/Construction	Fugitives: Piping and Equipment Leak
Chemical/Energy	Furnace
Coatings	Furnace
Combustion	Furnace: > 40 MMBtu/hr
Mechanical/Agricultural/Construction	Furnace: > 40 MMBtu/hr
Combustion	Furnace: ≤ 40 MMBtu/hr
Mechanical/Agricultural/Construction	Furnace: ≤ 40 MMBtu/hr
Chemical/Energy	Glycol Dehydrator
Mechanical/Agricultural/Construction	Grain Elevator: Loadout
Mechanical/Agricultural/Construction	Grinder
Chemical/Energy	Heater
Coatings	Heater
Combustion	Heater > 40 MMBtu/hr
Mechanical/Agricultural/Construction	Heater > 40 MMBtu/hr
Combustion	Heater ≤ 40 MMBtu/hr
Mechanical/Agricultural/Construction	Heater ≤ 40 MMBtu/hr
Coatings	Hopper
Combustion	Hopper
Mechanical/Agricultural/Construction	Hopper
Combustion	Incinerator: Air Curtain
Combustion	Incinerator: Animal Carcass
Combustion	Incinerator: Hazardous Waste
Combustion	Incinerator: Medical Waste
Combustion	Incinerator: Municipal Solid Waste
Mechanical/Agricultural/Construction	Iron and Steel Ladles/Tundish Prep Area
Mechanical/Agricultural/Construction	Iron and Steel Mill Mold Shakeout
Mechanical/Agricultural/Construction	Iron and Steel Mill Scale Processing
Mechanical/Agricultural/Construction	Kiln: Aluminum Production
Combustion	Kiln: Cement
Mechanical/Agricultural/Construction	Kiln: Fiberglass
Mechanical/Agricultural/Construction	Lehr
Coatings	Letdown Tank
Coatings	Loading / Unloading: Railcar
Coatings	Loading / Unloading: Tote/Drum
Coatings	Loading / Unloading: Truck
Chemical/Energy	Loading: Drum or Tote
Chemical/Energy	Loading: Marine Vessel
Chemical/Energy	Loading: Railcar
Chemical/Energy	Loading: Truck
Mechanical/Agricultural/Construction	Material Handling: Aggregate
Mechanical/Agricultural/Construction	Material Handling: Bin
Mechanical/Agricultural/Construction	Material Handling: Chipper
Mechanical/Agricultural/Construction	Material Handling: Chopper
Combustion	Material Handling: Conveyor
Mechanical/Agricultural/Construction	Material Handling: Conveyor
Combustion	Material Handling: Drop Point
Mechanical/Agricultural/Construction	Material Handling: Drop Point
Mechanical/Agricultural/Construction	Material Handling: Mixing
Mechanical/Agricultural/Construction	Material Handling: Packaging/Bagging
Mechanical/Agricultural/Construction	Material Handling: Product Cleaning
Mechanical/Agricultural/Construction	Material Handling: Product Collector/Recapture
Mechanical/Agricultural/Construction	Material Handling: Product Handling
Combustion	Material Handling: Product Transfer/Dump
Mechanical/Agricultural/Construction	Material Handling: Product Transfer/Dump
Mechanical/Agricultural/Construction	Material Handling: Raw Materials
Combustion	Material Handling: Receiving
Mechanical/Agricultural/Construction	Material Handling: Receiving
Mechanical/Agricultural/Construction	Material Handling: Sand
Mechanical/Agricultural/Construction	Material Handling: Sanding
Mechanical/Agricultural/Construction	Material Handling: Saw
Combustion	Material Handling: Screen
Mechanical/Agricultural/Construction	Material Handling: Treatment
Coatings	Material Saws
Mechanical/Agricultural/Construction	Metal Spraying
Mechanical/Agricultural/Construction	Metalizing
Mechanical/Agricultural/Construction	Mixer
Chemical/Energy	MSS Activities
Combustion	MSS Activities
Mechanical/Agricultural/Construction	MSS Activities
Chemical/Energy	MSS: Compressor Maintenance

Chemical/Energy	MSS: Pipe, Acid
Chemical/Energy	MSS: Pipe, Fuel Gas
Chemical/Energy	MSS: Pipe, Sour Water
Chemical/Energy	MSS: Pipe, Sulfur
Chemical/Energy	MSS: Pipe, VOC < 0.5 PSIa
Chemical/Energy	MSS: Pipe, VOC > 0.5 PSIa
Chemical/Energy	MSS: Pump, Acid
Chemical/Energy	MSS: Pump, Sour Water
Chemical/Energy	MSS: Pump, Sulfur
Chemical/Energy	MSS: Pump, VOC < 0.5 PSIa
Chemical/Energy	MSS: Pump, VOC > 0.5 PSIa
Chemical/Energy	MSS: Valve, Sour Water
Chemical/Energy	MSS: Valve, Sulfur
Chemical/Energy	MSS: Valve, VOC < 0.5 PSIa
Chemical/Energy	MSS: Valve, VOC > 0.5 PSIa
Mechanical/Agricultural/Construction	Oriented Strandboard Mill: Debarker
Mechanical/Agricultural/Construction	Oriented Strandboard Mill: Press
Mechanical/Agricultural/Construction	Oriented Strandboard Mill: Trim Process
Coatings	Oven
Mechanical/Agricultural/Construction	Oven
Coatings	Painting/Surface Coating (Enclosed)
Coatings	Painting/Surface Coating (Non-Enclosed / Outdoor)
Chemical/Energy	Petroleum Coke Storage and Transfer - Delayed Cokers
Chemical/Energy	Polyethylene Facilities
Chemical/Energy	Polypropylene Unit
Coatings	Printing Press: Flexographic
Coatings	Printing Press: Offset/Heatset Lithographic
Coatings	Printing Press: Offset/Non-Heatset Lithographic
Coatings	Printing Press: Rotogravure
Coatings	Process Piping - Chemical Blending and Repackaging
Coatings	Process Piping - Coating and Ink Manufacturing, Semiconductor, Cm/Frp
Coatings	Process Tank - Chemical Blending
Coatings	Process Tank - Coating Manufacturing
Chemical/Energy	Process Vent
Combustion	Process Vent
Mechanical/Agricultural/Construction	Process Vent
Mechanical/Agricultural/Construction	Process: Blending
Mechanical/Agricultural/Construction	Process: Casting
Coatings	Product Packaging - Coating Mfg.
Mechanical/Agricultural/Construction	Rendering: Boilers
Mechanical/Agricultural/Construction	Rendering: High- Intensity Odors from Cookers and Pressers
Mechanical/Agricultural/Construction	Rendering: Meal Storage Silo
Combustion	Roads
Mechanical/Agricultural/Construction	Roads
Mechanical/Agricultural/Construction	Rock Crusher Work Area
Coatings	Sand Mill
Mechanical/Agricultural/Construction	Sand Mill
Mechanical/Agricultural/Construction	Saturator
Mechanical/Agricultural/Construction	Screen
Mechanical/Agricultural/Construction	Separator/Sorter
Chemical/Energy	SRU: Natural Gas Processing Plant
Chemical/Energy	SRU: Refinery
Mechanical/Agricultural/Construction	Sterilization Unit
Coatings	Storage Silo
Chemical/Energy	Storage Tank (1): Fixed roof with capacity < 25,000 gal or TVP < 0.50 psia
Chemical/Energy	Storage Tank (2): Fixed roof with capacity ≥ 25,000 gal and 0.50 psia < TVP < 11.0 psia
Chemical/Energy	Storage Tank (3): Fixed roof with TVP ≥ 11.0 psia
Chemical/Energy	Storage Tank (4): Floating roof with TVP <11.0 psia
Coatings	Storage Tank: Capacity > 1000 Gallons and < 25,000 gal or > 1000 Gallons and TVP < 0.50 PSIa
Coatings	Storage Tank: Capacity ≤ 1000 Gallons
Coatings	Storage Tank: Capacity ≥ 25,000 gal and 0.50 PSIa < TVP < 11.0 PSIa
Coatings	Storage Tank: Capacity ≥ 25,000 gal and TVP ≥ 11.0 PSIa
Mechanical/Agricultural/Construction	Storage: Anhydrous Ammonia
Chemical/Energy	Storage: Silo
Combustion	Storage: Silo
Mechanical/Agricultural/Construction	Storage: Silo
Combustion	Storage: Stockpile
Mechanical/Agricultural/Construction	Storage: Stockpile
Mechanical/Agricultural/Construction	Storage: Tank: Chrome
Coatings	Trimming/Hole Punching
Chemical/Energy	Turbine: Combined Cycle, Natural Gas
Combustion	Turbine: Combined Cycle, Natural Gas
Chemical/Energy	Turbine: Simple Cycle, Natural Gas
Combustion	Turbine: Simple Cycle, Natural Gas

Chemical/Energy	Wastewater Facilities
Mechanical/Agricultural/Construction	Wastewater: Lagoon/Pond
Mechanical/Agricultural/Construction	Zinc Kettle

Texas Commission on Environmental Quality
Form PI-1 General Application
Summary

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Project Summary
This sheet is a summary of representations made in the workbook for this project. No additional information is required by the applicant.

Project Description
This project is a renewal and amendment of the New Source Review Permit 9423.

Contact Data	
Company	Equistar Chemicals, L.P.
Responsible official	Mr. Anthony Wood
Phone	281-474-0436
Email	Anthony.wood@lyb.com
Technical contact	Ms. Carlisa Navy
Phone	281-474-0727
Email	Carlisa.Navy@lyondellbasell.com

Permit and Action Type Requested		
Permit Type	**Action Type**	**Permit Number**
Minor NSR	Renewal/Amendment	9423
Special Permit	Not applicable	
De Minimis	Not applicable	
Flexible	Not applicable	
PSD	Not applicable	
Nonattainment	Not applicable	
HAP Major Source [FCAA § 112(g)]	Not applicable	
PAL	Not applicable	
GHG PSD	Not applicable	

Fees	
Non-Renewal fee	$900.00
Renewal fee	$6,083.12
Total Fee	$6,983.12

Miscellaneous	
TCEQ Region	Region 12
RN	RN100216761
CN	CN600124705
Title V site?	Yes
Industry group	Chemical / Energy
Public notice required?	Yes

Air Pollutant Watch List	
Is this facility located in an APWL area AND this application includes that pollutant?	No
APWL pollutants	

Disaster Review	
Any air contaminants for which a disaster review is required?	No
Disaster review pollutants	

Application contains **confidential** information?	Yes

Project Timing	
Projected Start of Construction	N/A
Projected Start of Operation	N/A

Project Emission Summary (tpy)

Pollutant	Current (tpy)	Consolidated Emissions (tpy)	Proposed (tpy)	Project Change in Allowable (tpy)
VOC	186.06	0.00	175.16	-10.90
PM	11.01	0.00	20.65	9.64
PM_{10}	9.31	0.00	3.78	-5.53
$PM_{2.5}$	7.20	0.00	0.86	-6.34
NO_x	19.90	0.00	19.90	0.00
CO	160.75	0.00	102.53	-58.22
SO_2	2.46	0.00	2.00	-0.46
Pb	0.00	0.00	0.00	0.00
H2SO4	0.00	0.00	0.00	0.00
Exempt Solvents	26.19	0.00	26.19	0.00
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	
	0.00	0.00	0.00	

Federal Applicability	
County	Harris
County classification (as of 9/23/2019)	Serious Ozone nonattainment
Ozone classification requested for this project	Ozone - Serious
Pollutants requiring PSD review	
Pollutants requiring NA review	

Impacts	
No impacts required	CO, NOx, SO2, PM, Exempt Solvents,
Qualitative analysis	
MERA analysis	VOC,
Modeling	VOC, PM10, PM2.5, H2SO4,
PSD Protocol	

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

General

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

EMEW Version No.: Version 2.3

Purpose Statement:
This workbook is completed by the applicant and submitted to the Texas Commission on Environmental Quality (TCEQ), specifically, the Air Dispersion Modeling Team (ADMT) for review. This workbook is a tool available for all projects using AERSCREEN, AERMOD, or ISC/ISCPrime for an impacts review and its use is required starting June 1, 2019. Provide the workbook with the permit application submittal for any Minor New Source Review project requiring a modeling impacts demonstration.

This workbook follows the guidance outlined in the Air Quality Modeling Guidelines (APDG 6232) which can be found here:
https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/airquality-mod-guidelines6232.pdf

Workbook Instructions:
1. Save a copy of the workbook to your computer or desktop prior to entering data.
2. Complete all required sections leaving no blanks. You may use the "tab" button or the arrow keys to move to the next available cell. Use "enter" to move down a line. Note: drop-downs are case-sensitive.
3. Fill in the workbook in order, do not skip around as this will cause errors. Use caution if changing a previously entered entry.
4. Not applicable sections of this workbook will be hidden as data is entered. For example, answering "No" to "Is downwash applicable? " will hide these sections of the workbook required only for downwash entry.
5. Email the workbook electronic file (EMEW) and any attachments to the Air Permits Initial Review Team. The subject line should read "Company Name - Permit Number (if known) - NSR Permit Application". Email address: apirt@tceq.texas.gov
6. If printing the EMEW, follow the directions below to create a workbook header.
7. Printing the EMEW is not required for submitting to the Air Permits Division (APD); however, you may need to print it for sending to the regional offices, local programs, and for public access if notice is required. To print the workbook, follow the instructions below. Please be aware, several sheets contain large amounts of data and caution should be taken if printing, such as the Speciated Emissions sheet.
8. Updates may be necessary throughout the review process. Updated workbooks must be submitted in electronic format to APD. For submittal to regional offices, local programs, or public places you only have to print sheets that had updates. Be sure to change the headers accordingly.

Note: Since this will be part of the permit application, follow the instructions in the Form PI-1 General Application on where to send copies of your EMEW and permit application. The Form PI-1 General Application can be found here:
https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsrapp-tools.html

Create Headers Before Printing:
1. Right-click one of the workbook's sheet tabs and "Select All Sheets."
2. Enter the "Page Layout View" by using the navigation ribbon's View > Workbook Views > Page Layout, or by clicking the page layout icon in the lower-right corner of Excel.
3. Add the date, company name, and permit number (if known) to the upper-right header. Note that this may take up to a minute to update your spreadsheet. Select any tab to continue working on the spreadsheet.

Printing Tips:
While APD does not need a hard copy of the full workbook, you may need to print it for sending to the regional offices, local programs, and for public access if notice is required.
1. The default printing setup for each sheet in the workbook is set for the TCEQ preferred format. The print areas are set up to not include the instructions on each sheet.
2. You have access to change all printing settings to fit your needs and printed font size. Some common options include:
   -Change what area you are printing (whole active sheet or a selection);
   -Change the orientation (portrait or landscape);
   -Change the margin size; and
   -Change the scaling (all columns on one sheet, full size, your own custom selection, etc.).

Final Modeling Submittal:
Anytime final modeling files are being submitted the applicant should notify the following that modeling files are being sent: permit reviewer assigned, permit reviewer's supervisor, and the modeler assigned from the initial submittal.
The following options are available for an applicant to provide modeling (or any other files):
1. Applicant can mail or hand deliver the files on an external storage device.
2. Applicant can email files smaller than 25mb.
3. Applicant can transfer files through an FTP site:
   a. Applicant may have their own FTP site and can share the files with TCEQ staff.
   b. Applicants can use the TCEQ FTP site.

Instructions for setting up an account on the TCEQ FTP site are located at:
https://ftps.tceq.texas.gov/help/

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

General

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Acknowledgement:	Select from the drop down:
I acknowledge that I am submitting an authorized TCEQ Electronic Modeling Evaluation Workbook and any necessary attachments. Except for inputting the requested data, I have not changed the TCEQ Electronic Modeling Evaluation Workbook in any way, including but not limited to changing formulas, formatting, content, or protections.	I agree

Administrative Information:	
Data Type:	**Facility Information:**
Project Number (6 digits):	316515
Permit Number:	9423
Regulated Entity ID (9 digits):	100216761
Facility Name:	Bayport Polymers Plant
Facility Address:	12001 Bay Area Blvd. Pasadena, TX
Facility County (select one):	Harris
Company Name:	Equistar Chemicals, L.P.
Company Contact Name:	Carlisa Navy
Company Contact Number:	(281) 474-0727
Company Contact Email:	Carlisa.Navy@lyondellbasell.com
Modeling Company Name, as applicable:	BGE, Inc.
Modeling Contact Name:	Albert Kennedy
Modeling Contact Number:	(737) 443-0453
Modeling Contact Email:	AKennedy@bgeinc.com
New/Existing Site (select one):	Existing Site
Modeling Date (MM/DD/YYYY):	5/18/2020
Datum Used (select one):	NAD 83
UTM Zone (select one):	15

Sheet Instructions: Indicate in the Table of Contents which sections are applicable and included for this modeling demonstration. Select "X" from the drop down if the item below is included in the workbook. Note: This workbook is only for the following air dispersion models: AERSCREEN, ISC/ISCPrime, and/or AERMOD. If SCREEN3 is used, please use the separate Electronic Modeling Evaluation Workbook (EMEW) for SCREEN3 workbook.

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Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

General

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Included Attachments Instructions: The following are attachments that must be included with any modeling analysis. If providing the plot plan and area map with the permit application, ensure there is also a copy with the EMEW. The copy can be electronic.	**Select an X from the dropdown menu if included:**
Plot Plan: Instructions: Mark all that apply in the attached plot plan. For larger properties or dense source areas, provide multiple zoomed in plot plans that are legible.	
Property/Fence Lines all visible and marked.	X
North arrow included.	X
Clearly marked scale.	X
All sources and buildings are clearly labeled.	X
Area Map:	
Instructions: Mark all that apply in the attached area map.	
Annotate schools within 3,000ft of source's nearest property line.	X
All property lines are included.	X
Non-industrial receptors are identified.	Choose an item
Additional Attachments (as applicable): *Note: These are just a few examples of attachments that may need to be included. There may be others depending on the scope of the modeling analysis.*	**Select an X from the dropdown menu if included:**
Processed Met Data Information	
Excel spreadsheet of processed meteorology data.	Choose an item
Meteorological Files (all input and outputs).	Choose an item
Source Group Descriptions	
Description of modeling source groups (could be in a tabulated format).	Choose an item
Modeling Techniques and Scenarios *Provide all justification and discussion on modeling scenarios used for the modeling analyses. The following boxes are examples of approaches that should be provided but is not all inclusive.*	
Discussion on modeling techniques not discussed in workbook.	Choose an item
Justification for exceedance refinements, as applicable.	Choose an item
Discussion and images for worst-case determination, as applicable.	Choose an item
Single Property Line Designation, as applicable	
Include Agreement, Order, and map defining each petitioner.	Choose an item
Post Processing using Unit Impact Multipliers (UIMs)	
Include documentation on any calculations used with the UIMs (i.e., Step 3 of the MERA).	Choose an item
Tier 3 NO_2 analysis *If OLM or PVMRM are used, provide all justification and documentation on using this approach.*	
Description of model setup.	Choose an item
Description and justification of model options selected (i.e., NO_2 to NO_x in-stack ratios).	Choose an item
Other Attachments *Provide a list in the box below of additional attachments being provided that are not listed above:*	
	Choose an item

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Model Options

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

I. Project Information

A. Project Overview: In the box below, give a brief Project Overview. To type or insert text in box, double click in the box below. *Please limit your response to 2000 characters.*

With this renewal/amendment application, Equistar is requesting the following:
1) Nomenclature changes of various EPNs
2) Increasing ethylene emissions from the flare during MSS activities
3) Revising the cooling tower emissions calculations to use the maximum circulation rate for the hourly emissions and average circulation rate for annual emissions
4) Updating emissions calculations for process vessels
5) Revising emissions calculation basis for stabilizer addition drums to use exit grain loading and flowrate since they are equipped with a baghouse
6) Increasing fugitives based on more accurate data
7) Updating mineral oil storage tanks to reflect AP-42 revisions published in November 2019
8) Adding additional analyzers and changing the existing permit calculations to reflect more accurate vent flow rates
9) Adding a new EPN to address plant-wide sampling vents
10) Adding an MSS activity to the lists of Routine Maintenance activities found in Attachments B and C to Permit No. 9423
11) Consolidation of various permits by rule (PBRs)

II. Air Dispersion Modeling Preliminary Information

Instructions: Fill in the information below based on your modeling setup. The selections chosen in this sheet will carry throughout the sheet and workbook. Based on selections below, only portions of the sheet and workbook will be available. Therefore, it is vital the sheet and workbook are filled out in order, do NOT skip around.

For larger text boxes, double click to type or insert text.

A. Type of Model Used: *Select "X" in all that apply*

	AERSCREEN	X	AERMOD
19191	Enter in all applicable Model Version(s).		

B. Building Downwash

Yes	Is downwash applicable? *(Select "Yes" or "No")*
04274	Enter BPIP version (AERMOD and ISCPrime only).

C. Type of Analyses: (Select "X" in all that apply)
*PSD projects should submit a protocol and not utilize this form.

X	Minor NSR NAAQS	X	State Property Line
X	Health Effects		

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Model Options

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

D. Constituents Evaluating: (Select "X" in all that apply)

NAAQS: List all pollutants that require a modeling review. *(Select "X" in all that apply)*

	SO_2	X	PM_{10}
	CO	X	$PM_{2.5}$
	Pb		NO_2

State Property Line: List all pollutants that require a modeling review. *(Select "X" in all that apply)*

	H_2S		SO_2
X	H_2SO_4		

Health Effects: Fill in the Speciated Emissions sheet with all applicable pollutants, CAS numbers, and ESLs.

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Model Options

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

E. Dispersion Options: *If "Urban" has been selected and this project is using AERMOD or AERSCREEN, include the population used. Select "X" in the box to select an option.*

	Urban
X	Rural

Provide any additional justification on the dispersion option selected above:

F. Determination of Surface Roughness: *If AERSCREEN or AERMOD is used, fill out the section below.*

Select basis for surface roughness: AERSURFACE

Select "X" in one of the three surface roughness categories:

	Low	X	Medium
			High

If you are using AERSURFACE, please complete the following section:

13016	AERSURFACE Version Number		
301460	Center UTM Easting (meters)	3279840	Center UTM Northing (meters)
1	Study Radius (km)		
No	Airport? (Select Yes or No)		
No	Continuous Snow Cover (Select Yes or No)		
Average	Surface Moisture (Select Wet, Dry, or Average)		
No	Arid Region? (Select Yes or No)		
Default	Month/Season Assignment		

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Model Options

Date: June 2, 2020
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Company Name: Equistar Chemicals, L.P.

G. Meteorological Data:			
If AERMOD and/or ISC/ISCPrime are selected, please complete the following section:			
12918		Surface Station	
3937		Upper Air Station	
14.3	Meters (m)	Profile Base Elevation (AERMOD only)	
19191		AERMET Version Number	
Yes	Was TCEQ pre-processed data used?	Both	Years used
Please enter the year(s) selected for this meteorological data:			
2016	1 Year	2014-2018	5 Years
State property line, health effects		Which analysis(es) relied on 1 year?	
NAAQS		Which analysis(es) relied on 5 years?	
Provide any other justification for Meteorological Data, as applicable.			

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Model Options

H. Receptor Grid:

For AERMOD or ISC/ISCPrime, fill in the following information on your modeled receptor grid. Note: Receptor grid resolution (tight, fine, medium, coarse) are based on recommended receptor grid spacing per the AQMG, if something outside of this is used, fully describe it below.

25	Meters (m)	Tight Receptor Spacing
300	Meters (m)	Tight Receptor Distance
100	Meters (m)	Fine Receptor Spacing
1000	Meters (m)	Fine Receptor Distance
500	Meters (m)	Medium Receptor Spacing
5000	Meters (m)	Medium Receptor Distance
	Meters (m)	Coarse Receptor Spacing
	Meters (m)	Coarse Receptor Distance

Describe any other receptor grid designs (over water, GLC_{ni}, SPLD etc.):

I. Terrain:

X	Elevated
18081	AERMAP Version.

For additional justification on terrain selection, fill in the box below:

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Building Downwash

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

Downwash Type	Modeled Building ID	Tank Diameter (m)	Number of Tiers	Maximum Height (m)	Tier 1 Height (m)	Tier 2 Height (m)
Building	CLX		2	36.576	6.096	36.576
Building	WAREHOUS		1	6.096	6.096	
Building	BLD_3		1	21.336	21.336	
Building	BLD_4		1	21.336	21.336	
Building	BLKLOAD		1	12.192	12.192	
Building	BLKLOAD2		1	12.192	12.192	
Building	BLKLOAD3		1	12.192	12.192	
Building	BLKLOAD4		1	12.192	12.192	
Building	CT891		1	7.62	7.62	
Building	CT895		1	7.62	7.62	
Building	CT6901		1	7.62	7.62	
Building	BLD_12		1	3.6576	3.6576	
Building	BLD_13		1	3.6576	3.6576	
Building	BLD_14		1	6.096	6.096	
Building	BLD_15		1	4.8768	4.8768	
Building	BLD_16		1	4.8768	4.8768	
Building	BLD_17		1	4.8768	4.8768	
Building	BLD_18		1	9.144	9.144	
Building	BLD_19		1	3.6576	3.6576	
Other: Downwash structure for volume source calculations only.	D_3106		1	2.8956	2.8956	
Other: Downwash structure for volume source calculations only.	D_3106B		1	2.48412	2.48412	
Other: Downwash structure for volume source calculations only.	D_3504		1	1.700784	1.700784	
Other: Downwash structure for volume source calculations only.	D_3113		1	0.94488	0.94488	
Other: Downwash structure for volume source calculations only.	TK_2527A		1	6.858	6.858	
Other: Downwash structure for volume source calculations only.	TK_2527B		1	6.858	6.858	
Other: Downwash structure for volume source calculations only.	D_4106		1	2.17932	2.17932	
Other: Downwash structure for volume source calculations only.	D_4504		1	1.804416	1.804416	
Other: Downwash structure for volume source calculations only.	D_6106A		1	2.06373984	2.06373984	
Other: Downwash structure for volume source calculations only.	D_6106B		1	1.88390784	1.88390784	
Other: Downwash structure for volume source calculations only.	D_6504		1	1.804416	1.804416	
Other: Downwash structure for volume source calculations only.	D_6113		1	1.905	1.905	
Other: Downwash structure for volume source calculations only.	T_880		1	3.6576	3.6576	

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Building Downwash

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Downwash Type	Modeled Building ID	Tank Diameter (m)	Number of Tiers	Maximum Height (m)	Tier 1 Height (m)	Tier 2 Height (m)
Other: Downwash structure for volume source calculations only.	TK_5104C		1	0.88392	0.88392	
Other: Downwash structure for volume source calculations only.	D_6850		1	0.85344	0.85344	
Other: Downwash structure for volume source calculations only.	D_4706		1	1.8288	1.8288	
Other: Downwash structure for volume source calculations only.	TK_152		1	1.61544	1.61544	
Other: Downwash structure for volume source calculations only.	TK_153		1	1.76784	1.76784	
Other: Downwash structure for volume source calculations only.	TK_884		1	2.5908	2.5908	
Other: Downwash structure for volume source calculations only.	TK_895		1	2.5908	2.5908	

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Flare Source Parameters

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

EPN	Model ID	Modeling Scenario	Easting: X [m]	Northing: Y [m]	Base Elevation [m]	Height [m]	Exit Temperature [K]	Exit Velocity [m/s]	Heat Release (MMBtu/hr)	Molecular Weight	Gross Heat Release or q (cal/s)	Net Heat Release or q_n (cal/s)	Effective Diameter or D (meters)	Description
FL-3706	FL_3706M	ALL	301711.01	3280050.02	5.15	91.44	1273.00	20.00	1096.00	41.06	76720000	53122863.54	7.29	Elevated Flare (MSS)
							1273.00	20.00			0	0	0	
							1273.00	20.00			0	0	0	
							1273.00	20.00			0	0	0	
							1273.00	20.00			0	0	0	
							1273.00	20.00			0	0	0	
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							1273.00	20.00			0	0	0	
							1273.00	20.00			0	0	0	

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Point Source Parameters

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

EPN	Model ID	Modeling Scenario	Source Description	Point Source Type	Point Source Justification	Easting: X [m]	Northing: Y [m]	Base Elevation [m]	Height [m]	Exit Temperature [K]	Exit Velocity [m/s]	Diameter [m]
CT-6901	CT_6901A	ALL	East Marley Cooling Tower	POINT	Vertical Stack. Actual Stack Parameters. 15°F above ambient temperature	301471.49	3279921.65	4.97	10.668	-8.3333333	4.572	7.3152
CT-6901	CT_6901B	ALL	East Marley Cooling Tower	POINT	Vertical Stack. 15°F above ambient temperature	301471.4	3279910.71	4.94	10.668	-8.3333333	4.572	7.3152
FL-3706	FL_3706M	ALL	Elevated Flare (MSS)	POINT	TCEQ default parameters used with calculated effective flare diameter	301711.01	3280050.02	5.15	91.44	1273	20	7.29
F-5102	F_5102	ALL	CLX Additive System	POINT	Vertical Stack	301184	3279653	4.77	0.6096	0	7.245096	0.1524
S-5203D	S_5203D	ALL	CLX Pellet Silos	POINT	Vertical Stack	301095	3279648	4.78	9.144	325.705556	38.575488	0.381
F-6801	F_6801	ALL	ELX Central Vacuum Clear	POINT	Vertical Stack	301510	3279921	4.91	0.6096	0	16.3027766	0.10158984
F-4801	F_4801	ALL	DLX Central Vacuum Clear	POINT	Vertical Stack	301539	3279928	4.73	0.6096	0	7.245096	0.1524
PP-SAMPL	PPSAMPLC	ALL	Sampling Vent C-Line	POINT	Vertical Stack	301417	3279798	4.91	0.6096	358.15	0.001	0.0508
PP-SAMPL	PPSAMPLD	ALL	Sampling Vent D-Line	POINT	Vertical Stack	301517	3279797	4.88	0.6096	358.15	0.001	0.0508
PP-SAMPL	PPSAMPLE	ALL	Sampling Vent E-Line	POINT	Vertical Stack	301619	3279797	4.93	0.6096	358.15	0.001	0.0508

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Volume Source Calculations

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

EPN	Model ID	Footprint of Source Length (m)	Footprint of Source Width (m)	Length of Side (making it a square) SQRT(L * W)	Type of Volume Source (sigma y) *Pick from drop-down*	**Sigma Y** (m)	Vertical Span Min Release (m)	Vertical Span Max Release (m)	Vertical Dimension (m)	Type of Volume Source (sigma z) *Pick from drop-down*	Release Height (middle point of vertical span) (m)	Building Name (if on/adjacent to a building) *Pick from drop-down*	Adjacent Building Height, if applicable (m)	**Sigma Z** (m)
D-3106	D_3106	0.50	0.50	0.50	Single Volume Source	0.12	0.00	2.90	2.90	Elevated Source: On or adjacent to Building	1.45	D_3106	2.90	1.35
D-3106B	D_3106B	0.50	0.50	0.50	Single Volume Source	0.12	0.00	2.48	2.48	Elevated Source: On or adjacent to Building	1.24	D_3106B	2.48	1.16
D-3504	D_3504	0.50	0.50	0.50	Single Volume Source	0.12	0.00	1.70	1.70	Elevated Source: On or adjacent to Building	0.85	D_3504	1.70	0.79
D-3113	D_3113	0.50	0.50	0.50	Single Volume Source	0.12	0.00	0.94	0.94	Elevated Source: On or adjacent to Building	0.47	D_3113	0.94	0.44
TK-2527A	TK_2527A	0.50	0.50	0.50	Single Volume Source	0.12	0.00	6.86	6.86	Elevated Source: On or adjacent to Building	3.43	TK_2527A	6.86	3.19
TK-2527B	TK_2527B	0.50	0.50	0.50	Single Volume Source	0.12	0.00	6.86	6.86	Elevated Source: On or adjacent to Building	3.43	TK_2527B	6.86	3.19
D-4106	D_4106	0.50	0.50	0.50	Single Volume Source	0.12	0.00	2.18	2.18	Elevated Source: On or adjacent to Building	1.09	D_4106	2.18	1.01
D-4504	D_4504	0.50	0.50	0.50	Single Volume Source	0.12	0.00	1.80	1.80	Elevated Source: On or adjacent to Building	0.90	D_4504	1.80	0.84
D-6106A	D_6106A	0.50	0.50	0.50	Single Volume Source	0.12	0.00	2.06	2.06	Elevated Source: On or adjacent to Building	1.03	D_6106A	2.06	0.96
D-6106B	D_6106B	0.50	0.50	0.50	Single Volume Source	0.12	0.00	1.88	1.88	Elevated Source: On or adjacent to Building	0.94	D_6106B	1.88	0.88
D-6504	D_6504	0.50	0.50	0.50	Single Volume Source	0.12	0.00	1.80	1.80	Elevated Source: On or adjacent to Building	0.90	D_6504	1.80	0.84
D-6113	D_6113	0.50	0.50	0.50	Single Volume Source	0.12	0.00	1.91	1.91	Elevated Source: On or adjacent to Building	0.95	D_6113	1.91	0.89
T-880	T_880	0.50	0.50	0.50	Single Volume Source	0.12	0.00	3.66	3.66	Elevated Source: On or adjacent to Building	1.83	T_880	3.66	1.70
E-FUG	E_FUG	36.58	76.20	52.79	Single Volume Source	12.28	0.00	15.24	15.24	Surface-Based Source	7.62			7.09
M-42591	M_42591	6.10	6.10	6.10	Single Volume Source	1.42	0.00	6.10	6.10	Surface-Based Source	3.05			2.84
F-583	F_583	6.10	6.10	6.10	Single Volume Source	1.42	0.00	6.10	6.10	Surface-Based Source	3.05			2.84
F-5303	F_5303	6.10	6.10	6.10	Single Volume Source	1.42	0.00	6.10	6.10	Surface-Based Source	3.05			2.84
TK-5104C	TK_5104C	0.50	0.50	0.50	Single Volume Source	0.12	0.00	0.88	0.88	Elevated Source: On or adjacent to Building	0.44	TK_5104C	0.88	0.41
D-6850	D_6850	0.50	0.50	0.50	Single Volume Source	0.12	0.00	0.85	0.85	Elevated Source: On or adjacent to Building	0.43	D_6850	0.85	0.40
MSS43	MSS43	36.58	76.20	52.79	Single Volume Source	12.28	0.00	15.24	15.24	Surface-Based Source	7.62			7.09
				0.00		Incomplete			0.00		0.00			Incomplete
D-4706	D_4706	0.50	0.50	0.50	Single Volume Source	0.12	0.00	1.83	1.83	Elevated Source: On or adjacent to Building	0.91	D_4706	1.83	0.85
TK-884	TK_884	0.50	0.50	0.50	Single Volume Source	0.12	0.00	2.59	2.59	Elevated Source: On or adjacent to Building	1.30	TK_884	2.59	1.21
TK-895	TK_895	0.50	0.50	0.50	Single Volume Source	0.12	0.00	2.59	2.59	Elevated Source: On or adjacent to Building	1.30	TK_895	2.59	1.21
MSS61	MSS61	5.89	2.80	4.06	Single Volume Source	0.94	0.00	3.66	3.66	Surface-Based Source	1.83			1.70
MSS62	MSS62	5.89	2.80	4.06	Single Volume Source	0.94	0.00	3.66	3.66	Surface-Based Source	1.83			1.70
MSS63	MSS63	8.08	4.11	5.77	Single Volume Source	1.34	0.00	3.66	3.66	Surface-Based Source	1.83			1.70
MSS64	MSS64	8.08	4.11	5.77	Single Volume Source	1.34	0.00	3.66	3.66	Surface-Based Source	1.83			1.70
U-FUG	U_FUG	9.14	4.57	6.47	Single Volume Source	1.50	0.00	6.10	6.10	Surface-Based Source	3.05			2.84
D-FUG	D_FUG	36.58	76.20	52.79	Single Volume Source	12.28	0.00	15.24	15.24	Surface-Based Source	7.62			7.09
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete
				0.00		Incomplete			0.00		0.00			Incomplete

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Volume Source Parameters

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

EPN	Model ID	Modeled Release Height [m]	Modeled Length X [m]	Lateral Dimension SigmaY [m]	Vertical Dimension SigmaZ [m]	Modeling Scenario	Easting: X [m]	Northing: Y [m]	Base Elevation [m]	Source Description	Volume Source Size Justification
D-3106	D_3106	1.45	0.50	0.12	1.35	ALL	301405.00	3279855.00	4.77	Catalyst Dispersion Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-3106B	D_3106B	1.24	0.50	0.12	1.16	ALL	301410.00	3279839.00	4.97	Catalyst Dispersion Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-3504	D_3504	0.85	0.50	0.12	0.79	ALL	301404.00	3279791.00	4.91	Stabalizer Additive Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-3113	D_3113	0.47	0.50	0.12	0.44	ALL	301433.00	3279849.00	4.88	Additive Drum Seal Pot	0.5 m x 0.5 m area representative of openings where emissions can originate.
TK-2527A	TK_2527A	3.43	0.50	0.12	3.19	ALL	301112.00	3279774.00	4.78	CLX Mineral Oil Tank	0.5 m x 0.5 m area representative of openings where emissions can originate.
TK-2527B	TK_2527B	3.43	0.50	0.12	3.19	ALL	301113.00	3279783.00	4.76	CLX Mineral Oil Tank	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-4106	D_4106	1.09	0.50	0.12	1.01	ALL	301505.00	3279871.00	4.77	Catalyst Dispersion Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-4504	D_4504	0.90	0.50	0.12	0.84	ALL	301502.00	3279784.00	4.95	Stabilizer Additive Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-6106A	D_6106A	1.03	0.50	0.12	0.96	ALL	301608.00	3279870.00	4.80	Catalyst Dispersion Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-6106B	D_6106B	0.94	0.50	0.12	0.88	ALL	301608.00	3279870.00	4.80	Catalyst Dispersion Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-6504	D_6504	0.90	0.50	0.12	0.84	ALL	301599.00	3279785.00	4.85	Stalilizer Additive Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-6113	D_6113	0.95	0.50	0.12	0.89	ALL	301638.00	3279828.00	4.80	Additive Drum Seal Pot	0.5 m x 0.5 m area representative of openings where emissions can originate.
T-880	T_880	1.83	0.50	0.12	1.70	ALL	301575.00	3279896.00	4.83	Mineral Oil Tank	0.5 m x 0.5 m area representative of openings where emissions can originate.
E-FUG	E_FUG	7.62	52.79	12.28	7.09	ALL	301612.00	3279821.00	4.98	Fugitives	Representative of area in which fugitives may emanate during an hour.
M-42591	M_42591	3.05	6.10	1.42	2.84	ALL	301524.00	3279751.00	4.88	C-Line Railcar Loading	Representative of area in which fugitives may emanate during an hour.
F-583	F_583	3.05	6.10	1.42	2.84	ALL	301267.00	3279724.00	4.33	D-Line Railcar Loading	Representative of area in which fugitives may emanate during an hour.
F-5303	F_5303	3.05	6.10	1.42	2.84	ALL	301065.00	3279676.00	4.60	CLX Railcar Loading	Representative of area in which fugitives may emanate during an hour.
TK-5104C	TK_5104C	0.44	0.50	0.12	0.41	ALL	301183.00	3279648.00	4.75	CLX Peroxide Tank	0.5 m x 0.5 m area representative of openings where emissions can originate.
D-6850	D_6850	0.43	0.50	0.12	0.40	ALL	301606.00	3279876.00	4.65	DLX/ELX Peroxide Tank	0.5 m x 0.5 m area representative of openings where emissions can originate.
MSS43	MSS43	7.62	52.79	12.28	7.09	ALL	301612.00	3279821.00	4.98	E-Line Maintenance Shutdown	Representative of area in which fugitives may emanate during an hour.
D-4706	D_4706	0.91	0.50	0.12	0.85	ALL	301522.00	3279875.00	4.53	DLN Additive Drum	0.5 m x 0.5 m area representative of openings where emissions can originate.
TK-884	TK_884	1.30	0.50	0.12	1.21	ALL	301442.00	3279956.00	4.74	West/East Marley CT - Sulfuric Acid Tank	0.5 m x 0.5 m area representative of openings where emissions can originate.
TK-895	TK_895	1.30	0.50	0.12	1.21	ALL	301326.00	3279921.00	4.86	Xcel CT - Sulfuric Acid Tank	0.5 m x 0.5 m area representative of openings where emissions can originate.
MSS61	MSS61	1.83	4.06	0.94	1.70	ALL	301431.00	3279827.00	4.89	C-Line Loop Reactors Emptying	Representative of area in which fugitives may emanate during an hour.
MSS62	MSS62	1.83	4.06	0.94	1.70	ALL	301530.00	3279827.00	4.88	D-Line Loop Reactors Emptying	Representative of area in which fugitives may emanate during an hour.
MSS63	MSS63	1.83	5.77	1.34	1.70	ALL	301635.00	3279825.00	4.81	E-Line Loop Reactors Emptying	Representative of area in which fugitives may emanate during an hour.

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Volume Source Parameters

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

EPN	Model ID	Modeled Release Height [m]	Modeled Length X [m]	Lateral Dimension SigmaY [m]	Vertical Dimension SigmaZ [m]	Modeling Scenario	Easting: X [m]	Northing: Y [m]	Base Elevation [m]	Source Description	Volume Source Size Justification
MSS64	MSS64	1.83	5.77	1.34	1.70	ALL	301604.00	3279794.00	4.83	E-Line Gas Phase Reactors Emptying	Representative of area in which fugitives may emanate during an hour.
U-FUG	U_FUG	3.05	6.47	1.50	2.84	ALL	301717.00	3280047.00	5.21	Utilities Fugitives	Representative of area in which fugitives may emanate during an hour.
D-FUG	D_FUG	7.62	52.79	12.28	7.09	ALL	301514.00	3279821.00	4.98	Fugitives	Representative of area in which fugitives may emanate during an hour.

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Point + Flare Emissions

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

EPN	Model ID	Modeling Scenario	Pollutant	Modeled Averaging Time	Standard Type	Review Context	Intermittent Source?	Modeled Emission Rate [lb/hr]	Basis of Emission Rate	Scalars or Factors Used?	Scalar/Factor in Use
FL-3706	FL_3706M	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
CT-6901	CT_6901A	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
CT-6901	CT_6901B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
F-5102	F_5102	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.0103	Project Increase	No	
F-5102	F_5102	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00510	Project Increase	No	
F-5102	F_5102	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	0.00514	Project Increase	No	
S-5203D	S_5203D	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.0801	Project Increase	No	
S-5203D	S_5203D	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.0400	Project Increase	No	
S-5203D	S_5203D	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	0.0400	Project Increase	No	
F-6801	F_6801	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00240	Project Increase	No	
F-6801	F_6801	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00120	Project Increase	No	
F-6801	F_6801	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	0.00121	Project Increase	No	
F-4801	F_4801	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00270	Project Increase	No	
F-4801	F_4801	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00140	Project Increase	No	
F-4801	F_4801	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	0.00137	Project Increase	No	
PP-SAMPL	PPSAMPLC	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00925	Project Increase - 24-hour average emission rate	No	
PP-SAMPL	PPSAMPLC	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00463	Project Increase - 24-hour average emission rate	No	
PP-SAMPL	PPSAMPLC	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	2.90E-04	Project Increase	No	
PP-SAMPL	PPSAMPLD	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00925	Project Increase - 24-hour average emission rate	No	
PP-SAMPL	PPSAMPLD	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00463	Project Increase - 24-hour average emission rate	No	
PP-SAMPL	PPSAMPLD	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	2.90E-04	Project Increase	No	
PP-SAMPL	PPSAMPLE	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00925	Project Increase - 24-hour average emission rate	No	
PP-SAMPL	PPSAMPLE	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00463	Project Increase - 24-hour average emission rate	No	
PP-SAMPL	PPSAMPLE	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	2.90E-04	Project Increase	No	

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Volume Source Emissions

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

EPN	Model ID	Modeling Scenario	Pollutant	Modeled Averaging Time	Standard Type	Review Context	Intermittent Source?	Modeled Emission Rate [lb/hr]	Basis of Emission Rate	Scalars or Factors Used?	Scalar/Factor in Use
D-3106	D_3106	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-3106	D_3106	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-3106B	D_3106B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-3106B	D_3106B	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-3504	D_3504	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00500	Project Increase	No	
D-3504	D_3504	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-3504	D_3504	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-3113	D_3113	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
TK-2527A	TK_2527A	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
TK-2527B	TK_2527B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-4106	D_4106	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-4106	D_4106	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-4504	D_4504	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00500	Project Increase	No	
D-4504	D_4504	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-6106A	D_6106A	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-6106A	D_6106A	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-6106B	D_6106B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-6106B	D_6106B	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-6504	D_6504	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.0150	Project Increase	No	
D-6504	D_6504	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00260	Project Increase	No	
D-6504	D_6504	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	7.53E-06	Project Increase	No	
D-6504	D_6504	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-6113	D_6113	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-6113	D_6113	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
T-880	T_880	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
E-FUG	E_FUG	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
E-FUG	E_FUG	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
M-42591	M_42591	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.0129	Project Increase	No	
M-42591	M_42591	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00640	Project Increase	No	
M-42591	M_42591	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	0.00644	Project Increase	No	
F-583	F_583	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.0129	Project Increase	No	
F-583	F_583	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	0.00640	Project Increase	No	
F-583	F_583	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	0.00644	Project Increase	No	
F-5303	F_5303	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00140	Project Increase	No	
TK-5104C	TK_5104C	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-6850	D_6850	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-6850	D_6850	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
MSS43	MSS43	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-4706	D_4706	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-4706	D_4706	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
TK-884	TK_884	ALL	H2SO4	1-hr	State Property Line	Project Wide	No	5.06E-04	Project Increase	No	
TK-884	TK_884	ALL	H2SO4	24-hr	State Property Line	Project Wide	No	5.06E-04	Project Increase	No	
TK-895	TK_895	ALL	H2SO4	1-hr	State Property Line	Project Wide	No	5.06E-04	Project Increase	No	
TK-895	TK_895	ALL	H2SO4	24-hr	State Property Line	Project Wide	No	5.06E-04	Project Increase	No	
MSS61	MSS61	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00130	Project Increase - Average 24-hour emission rate	No	
MSS61	MSS61	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	2.00E-04	Project Increase - Average 24-hour emission rate	No	
MSS61	MSS61	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	1.00E-05	Project Increase	No	
MSS62	MSS62	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00130	Project Increase - Average 24-hour emission rate	No	
MSS62	MSS62	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	2.00E-04	Project Increase - Average 24-hour emission rate	No	

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Volume Source Emissions

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

EPN	Model ID	Modeling Scenario	Pollutant	Modeled Averaging Time	Standard Type	Review Context	Intermittent Source?	Modeled Emission Rate [lb/hr]	Basis of Emission Rate	Scalars or Factors Used?	Scalar/Factor in Use
MSS62	MSS62	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	1.00E-05	Project Increase	No	
MSS63	MSS63	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00130	Project Increase - Average 24-hour emission rate	No	
MSS63	MSS63	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	2.00E-04	Project Increase - Average 24-hour emission rate	No	
MSS63	MSS63	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	1.00E-05	Project Increase	No	
MSS64	MSS64	ALL	PM10	24-hr	NAAQS	SIL analysis	No	0.00215	Project Increase - Average 24-hour emission rate	No	
MSS64	MSS64	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	3.25E-04	Project Increase - Average 24-hour emission rate	No	
MSS64	MSS64	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	1.00E-04	Project Increase	No	
U-FUG	U_FUG	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
U-FUG	U_FUG	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	
D-FUG	D_FUG	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No		Project Increase	No	
D-FUG	D_FUG	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No		Project Increase	No	

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Speciated Emissions

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Speciated Emissions by Model ID

CAS #	Chemical Species	Other Species	Short-Term ESL (µg/m³)	Long-Term ESL (µg/m³)	Modeled Project Wide Emission Rate [lb/hr] FL_3706M	Modeled Site Wide Emission Rate [lb/hr] FL_3706M	Modeled Project Wide Emission Rate [tpy] FL_3706M	Modeled Site Wide Emission Rate [tpy] FL_3706M
74-85-1	ethylene		1400	34	275.00			
64742-05-8	petroleum extracts, light paraffinic distillate solvent		1000	100				
78-63-7	2,5-dimethyl-2,5-di(tert-butylperoxy)hexane		100	10				

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Speciated Emissions

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Speciated Emissions b

CAS #	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]
	CT_6901A	CT_6901A	CT_6901A	CT_6901A	CT_6901B	CT_6901B	CT_6901B	CT_6901B	D_3106	D_3106	D_3106	D_3106	D_3106B	D_3106B	D_3106B
74-85-1	0.0364				0.0364										
64742-05-8									0.228		0.0153		1.16		0.169
78-63-7															

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Speciated Emissions

Date: June 2, 2020
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Company Name: Equistar Chemicals, L.P.

Speciated Emissions b

CAS #	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]
	D_3106B	D_3504	D_3504	D_3504	D_3504	D_3113	D_3113	D_3113	D_3113	TK_2527A	TK_2527A	TK_2527A	TK_2527A	TK_2527B	TK_2527B
74-85-1															
64742-05-8		0.138		0.00470		0.0134				0.167				0.167	
78-63-7															

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Speciated Emissions

Date: June 2, 2020
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Company Name: Equistar Chemicals, L.P.

Speciated Emissions b

CAS #	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]
	TK_2527B	TK_2527B	D_4106	D_4106	D_4106	D_4106	D_4504	D_4504	D_4504	D_4504	D_6106A	D_6106A	D_6106A	D_6106A	D_6106B
74-85-1															
64742-05-8			3.14		0.262		0.100				2.20		0.167		2.20
78-63-7															

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Speciated Emissions

Date: June 2, 2020
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Company Name: Equistar Chemicals, L.P.

Speciated Emissions b

CAS #	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]
	D_6106B	D_6106B	D_6106B	D_6504	D_6504	D_6504	D_6504	D_6113	D_6113	D_6113	D_6113	T_880	T_880	T_880	T_880
74-85-1															
64742-05-8		0.157		0.100				0.108		0.0505		0.0812			
78-63-7															

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Electronic Modeling Evaluation Workbook (EMEW)

Speciated Emissions

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Company Name: Equistar Chemicals, L.P.

Speciated Emissions b

CAS #	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]
	E_FUG	E_FUG	E_FUG	E_FUG	TK_5104C	TK_5104C	TK_5104C	TK_5104C	D_6850	D_6850	D_6850	D_6850	MSS43	MSS43	MSS43
74-85-1	0.0620		0.296												0.00357
64742-05-8															
78-63-7					0.0278				0.0278		6.00E-04				

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Electronic Modeling Evaluation Workbook (EMEW)

Speciated Emissions

Date: June 2, 2020
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Company Name: Equistar Chemicals, L.P.

Speciated Emissions b

CAS #	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]	Modeled Project Wide Emission Rate [lb/hr]	Modeled Site Wide Emission Rate [lb/hr]	Modeled Project Wide Emission Rate [tpy]	Modeled Site Wide Emission Rate [tpy]		
	MSS43	D_4706	D_4706	D_4706	D_4706	U_FUG	U_FUG	U_FUG	U_FUG	D_FUG	D_FUG	D_FUG	D_FUG		
74-85-1						0.259		1.13		0.0236		0.103			
64742-05-8		0.0729		0.00160											
78-63-7															

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Electronic Modeling Evaluation Workbook (EMEW)

Combined Emissions

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

EPN	Model ID	Modeling Scenario	Pollutant	Modeled Averaging Time	Standard Type	Review Context	Intermittent	Source Type	Modeled Emission Rate [lb/hr]
FL-3706	FL_3706M	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Flare	--
CT-6901	CT_6901A	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Point	--
CT-6901	CT_6901B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Point	--
F-5102	F_5102	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Point	0.01
F-5102	F_5102	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Point	0.01
F-5102	F_5102	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Point	0.01
S-5203D	S_5203D	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Point	0.08
S-5203D	S_5203D	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Point	0.04
S-5203D	S_5203D	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Point	0.04
F-6801	F_6801	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Point	0.00
F-6801	F_6801	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Point	0.00
F-6801	F_6801	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Point	0.00
F-4801	F_4801	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Point	0.00
F-4801	F_4801	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Point	0.00
F-4801	F_4801	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Point	0.00
PP-SAMPL	PPSAMPLC	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Point	0.01
PP-SAMPL	PPSAMPLC	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Point	0.00
PP-SAMPL	PPSAMPLC	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Point	0.00
PP-SAMPL	PPSAMPLD	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Point	0.01
PP-SAMPL	PPSAMPLD	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Point	0.00
PP-SAMPL	PPSAMPLD	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Point	0.00
PP-SAMPL	PPSAMPLE	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Point	0.01
PP-SAMPL	PPSAMPLE	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Point	0.00
PP-SAMPL	PPSAMPLE	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Point	0.00
D-3106	D_3106	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-3106	D_3106	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-3106B	D_3106B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-3106B	D_3106B	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-3504	D_3504	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.01
D-3504	D_3504	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-3504	D_3504	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-3113	D_3113	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
TK-2527A	TK_2527A	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
TK-2527B	TK_2527B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-4106	D_4106	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-4106	D_4106	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-4504	D_4504	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.01
D-4504	D_4504	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-6106A	D_6106A	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-6106A	D_6106A	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-6106B	D_6106B	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-6106B	D_6106B	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-6504	D_6504	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.02
D-6504	D_6504	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Volume	0.00
D-6504	D_6504	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Volume	0.00
D-6504	D_6504	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-6113	D_6113	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-6113	D_6113	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
T-880	T_880	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
E-FUG	E_FUG	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
E-FUG	E_FUG	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
M-42591	M_42591	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.01
M-42591	M_42591	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Volume	0.01
M-42591	M_42591	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Volume	0.01
F-583	F_583	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.01
F-583	F_583	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Volume	0.01
F-583	F_583	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Volume	0.01
F-5303	F_5303	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.00
TK-5104C	TK_5104C	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-6850	D_6850	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-6850	D_6850	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
MSS43	MSS43	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-4706	D_4706	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-4706	D_4706	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
TK-884	TK_884	ALL	H2SO4	1-hr	State Property Line	Project Wide	No	Volume	0.00
TK-884	TK_884	ALL	H2SO4	24-hr	State Property Line	Project Wide	No	Volume	0.00
TK-895	TK_895	ALL	H2SO4	1-hr	State Property Line	Project Wide	No	Volume	0.00
TK-895	TK_895	ALL	H2SO4	24-hr	State Property Line	Project Wide	No	Volume	0.00
MSS61	MSS61	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS61	MSS61	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS61	MSS61	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Volume	0.00
MSS62	MSS62	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS62	MSS62	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS62	MSS62	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Volume	0.00
MSS63	MSS63	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS63	MSS63	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS63	MSS63	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Volume	0.00
MSS64	MSS64	ALL	PM10	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS64	MSS64	ALL	PM2.5	24-hr	NAAQS	SIL analysis	No	Volume	0.00
MSS64	MSS64	ALL	PM2.5	Annual	NAAQS	SIL analysis	No	Volume	0.00
U-FUG	U_FUG	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
U-FUG	U_FUG	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--
D-FUG	D_FUG	ALL	Health Effects Pollutant	1-hr	Health Effects	Project Wide	No	Volume	--
D-FUG	D_FUG	ALL	Health Effects Pollutant	Annual	Health Effects	Project Wide	No	Volume	--

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Electronic Modeling Evaluation Workbook (EMEW)

Modeling Scenarios

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Modeling Scenario	Scenario Description:
ALL	All sources assumed to be operating simultaneously.

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Electronic Modeling Evaluation Workbook (EMEW)

NAAQS-SPL Modeling Results

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Table 1. Project-Related Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr		14.3
H_2SO_4	1-hr	0.0133	1
H_2SO_4	24-hr	0.00150	0.3
H_2S	1-hr		2.16 *(If property is residential, recreational, business, or commercial)*
H_2S	1-hr		3.24 *(If property is not residential, recreational, business, or commercial)*

Table 2. Site-wide Modeling Results for State Property Line

Pollutant	Averaging Time	GLCmax (µg/m^3)	Standard (µg/m^3)
SO_2	1-hr		715
H_2SO_4	1-hr		50
H_2SO_4	24-hr		15
H_2S	1-hr		108 *(If property is residential, recreational, business, or commercial)*
H_2S	1-hr		162 *(If property is not residential, recreational, business, or commercial)*

Table 3. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	De Minimis (µg/m^3)
SO_2	1-hr		7.8*
SO_2	3-hr		25
SO_2	24-hr		5
SO_2	Annual		1
PM_{10}	24-hr	0.795	5
NO_2	1-hr		7.5**
NO_2	Annual		1
CO	1-hr		2000
CO	8-hr		500

Additional information for the De Minimis values listed above can be found at:
* https://www.epa.gov/sites/production/files/2015-07/documents/appwso2.pdf
** https://www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

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NAAQS-SPL Modeling Results

Date: June 2, 2020
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Company Name: Equistar Chemicals, L.P.

Table 4. $PM_{2.5}$ Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax (µg/m^3)	Secondary $PM_{2.5}$ Contribution (µg/m^3)	Total Conc. = Secondary $PM_{2.5}$ + GLCmax (µg/m^3)	De Minimis (µg/m^3)
$PM_{2.5}$	24-hr	0.292	0	0.29215	1.2*
$PM_{2.5}$	Annual	0.0487	0	0.04869	0.2*

Additional information for the De Minimis values listed above can be found at:
* https://www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html

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Electronic Modeling Evaluation Workbook (EMEW)

Health Effect Modeling Results

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

Modeled Health Effect Results (MERA Guidance):				Step 3	Step 4: Production		Step 4: MSS		Step 5: MSS Only	Step 5: Hours of Exceedance				Step 6	Step 7: Site Wide				Step 7: Hours of Exceedance			
Chemical Species	CAS Number	Averaging Time	ESL [µg/m³]	10% ESL Step 3 Modeled GLCmax [µg/m³]	25 % ESL Step 4 Production GLCmax since most recent site wide modeling [µg/m³]	10% ESL Step 4 Production Project Only GLCmax [µg/m³]	50% ESL Step 4 MSS GLCmax since most recent site wide modeling [µg/m³]	25% ESL Step 4 MSS Project Only GLCmax [µg/m³]	Full ESL Step 5 GLCmax [µg/m³]	*1X ESL GLCmax* Step 5 MSS Hours of Exceedance	*2X ESL GLCmax* Step 5 MSS Hours of Exceedance	*4X ESL GLCmax* Step 5 MSS Hours of Exceedance	*10X ESL GLCmax* Step 5 MSS Hours of Exceedance	Was Step 6 relied on to fall out of the MERA?	Site Wide GLCmax [µg/m³]	Site Wide GLCni [µg/m³]	GLCni Location Easting: X [m]	GLCni Location Northing: Y [m]	*1X ESL GLCni* Hours of Exceedance	*2X ESL GLCmax* Hours of Exceedance	*4X ESL GLCmax* Hours of Exceedance	*10X ESL GLCmax* Hours of Exceedance
ethylene	74-85-1	1-hr	1400	29.01																		
ethylene	74-85-1	Annual	34	1.47																		
petroleum extracts, light paraffinic distillate solvent	64742-05-8	1-hr	1000											Yes (Verify with Permit Reviewer)								
petroleum extracts, light paraffinic distillate solvent	64742-05-8	Annual	100	0.20																		
2,5-dimethyl-2,5-di(tert-butylperoxy)hexane	78-63-7	1-hr	100	1.69																		
2,5-dimethyl-2,5-di(tert-butylperoxy)hexane	78-63-7	Annual	10	0.00																		

Texas Commission on Environmental Quality

Electronic Modeling Evaluation Workbook (EMEW)

Modeling File Names

Date: June 2, 2020
Permit #: 9423
Company Name: Equistar Chemicals, L.P.

Facility:

Model File Base Name	Pollutant	Averaging Time	File Extensions	Additional File Description
Project	All	All	*.pip	Downwash file
HARRIS_HOULCH2014_2018M	All	All	*.pfl, *.sfc	Surface and upper air met files
HARRIS_HOULCH16M	All	All	*.pfl, *.sfc	Surface and upper air met files
AERMAP	All	All	*.map, *.mot, *.rcf, *.srf, *.out	AERMAP files
AERSURFACE	All	All	*.dat, *.out	AERSURFACE files
Project_5yrs_PM10	PM10	24-hr	*.dta, *.grf, *.lst, *.sum	de minimis
Project_5yrs_PM25	PM2.5	24-hr	*.dta, *.grf, *.lst, *.sum	de minimis
Project_5yrs_PM25ANN	PM2.5	Annual	*.dta, *.grf, *.lst, *.sum	de minimis
Project_2016_ETHYL	Ethylene	1-hr	*.dta, *.grf, *.lst, *.sum	project-wide
Project_2016_ETHYLA	Ethylene	Annual	*.dta, *.grf, *.lst, *.sum	project-wide
Project_2016_H2SO4	H2SO4	1-hr, 24-hr	*.dta, *.grf, *.lst, *.sum	project-wide
Project_2016_MINOIL	Mineral Oil	1-hr	*.dta, *.grf, *.lst, *.sum	project-wide
Project_2016_MINOILA	Mineral Oil	Annual	*.dta, *.grf, *.lst, *.sum	project-wide
Project_2016_PEROX	Peroxide	1-hr	*.dta, *.grf, *.lst, *.sum	project-wide
Project_2016_PEROXA	Peroxide	Annual	*.dta, *.grf, *.lst, *.sum	project-wide

Please note that Section 11 of the application and certain parts of the Electronic Modeling Evaluation Workbook (EMEW) have all been classified as Confidential.

Any request for portions of this application that are marked as confidential must be submitted in writing, pursuant to the Public Information Act, to the Texas Commission on Environmental Quality, Public Information Coordinator, MC-197, P.O. Box 13087, Austin, Texas 78711-3087