

From: TVAPPS
Sent: Wednesday, July 23, 2025 1:35 PM
To: Miguel Gallegos
Cc: APIRT
Subject: FW: STEERS /TV 38623 / 4404 - Streamline - Arcanum Infrastructure

-----Original Message-----

From: steers@tceq.texas.gov <steers@tceq.texas.gov>
Sent: Wednesday, July 23, 2025 12:42 PM
To: RFCAIR12 <RFCAIR12@tceq.texas.gov>; air_permits@pcs.hctx.net; TVAPPS <tvapps@tceq.texas.gov>
Subject: STEERS Title V Application Submittal (New Application)

The TV-E application has been successfully submitted by NICHOLAS STEWART. The submittal was received at 07/23/2025 12:41 PM.

The Reference number for this submittal is 793951 The confirmation number for this submittal is 666440.

The Area ID for this submittal is 4404.

The Project ID for this submittal is 38623.

The hash code for this submittal is 1AF9392F94AEBF64F2D80472AA97A789759C5852E83CB5A55F6198EBBAD5E8B0.

You may access the original application submittal and the notice of final action documents from the COR Viewer which is available at <https://ida.tceq.texas.gov/steersstaff/index.cfm?fuseaction=openadmin.submitlog&newsearch=yes>.

If you have any questions, please contact the STEERS Help Line at 512-239-6925 or by e-mail at steers@tceq.texas.gov.

Texas Commission on Environmental Quality

Title V Existing

4404

Site Information (Regulated Entity)

What is the name of the permit area to be authorized?	ARCANUM BAYTOWN SITE
Does the site have a physical address?	Yes
Physical Address	
Number and Street	9520 EAST FWY
City	BAYTOWN
State	TX
ZIP	77521
County	HARRIS
Latitude (N) (##.#####)	29.815555
Longitude (W) (-###.#####)	94.916944
Primary SIC Code	0
Secondary SIC Code	
Primary NAICS Code	325199
Secondary NAICS Code	
Regulated Entity Site Information	
What is the Regulated Entity's Number (RN)?	RN110461415
What is the name of the Regulated Entity (RE)?	ARCANUM BAYTOWN SITE
Does the RE site have a physical address?	Yes
Physical Address	
Number and Street	9520 EAST FWY
City	BAYTOWN
State	TX
ZIP	77521
County	HARRIS
Latitude (N) (##.#####)	29.813888
Longitude (W) (-###.#####)	-94.915555
Facility NAICS Code	
What is the primary business of this entity?	

Customer (Applicant) Information

How is this applicant associated with this site?	Owner Operator
What is the applicant's Customer Number (CN)?	CN605807163
Type of Customer	Corporation
Full legal name of the applicant:	
Legal Name	Arcanum Infrastructure, LLC
Texas SOS Filing Number	802915136
Federal Tax ID	
State Franchise Tax ID	32066018840
State Sales Tax ID	

Local Tax ID	
DUNS Number	
Number of Employees	0-20
Independently Owned and Operated?	No

Responsible Official Contact

Person TCEQ should contact for questions about this application:

Organization Name	ARCANUM INFRASTRUCTURE LLC
Prefix	MR
First	NICHOLAS
Middle	
Last	STEWART
Suffix	
Credentials	
Title	GENERAL MANAGER
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	602 SAWYER ST
Routing (such as Mail Code, Dept., or Attn:)	
City	HOUSTON
State	TX
ZIP	77007
Phone (###-###-####)	8327992437
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	Nicholas.Stewart@arcanumchem.com

Technical Contact

Person TCEQ should contact for questions about this application:

Select existing TC contact or enter a new contact.	MIKE TOMERLIN(ENTERPRISE PROD...)
Organization Name	ENTERPRISE PRODUCTS OPERATING LLC
Prefix	MR
First	MIKE
Middle	
Last	TOMERLIN
Suffix	
Credentials	
Title	ENVIRONMENTAL MANAGER
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	9520 EAST FWY

Routing (such as Mail Code, Dept., or Attn:)

City

BAYTOWN

State

TX

ZIP

77521

Phone (###-###-####)

8328887967

Extension

Alternate Phone (###-###-####)

Fax (###-###-####)

E-mail

mike.tomerlin@arcanumchem.com

Title V General Information - Existing

1) Permit Type:	SOP
2) Permit Latitude Coordinate:	29 Deg 48 Min 56 Sec
3) Permit Longitude Coordinate:	94 Deg 55 Min 1 Sec
4) Is this submittal a new application or an update to an existing application?	New Application
4.1. What type of permitting action are you applying for?	Streamlined Revision
4.1.1. Are there any permits that should be voided upon issuance of this permit application through permit conversion?	No
4.1.2. Are there any permits that should be voided upon issuance of this permit application through permit consolidation?	No
5) Does this application include Acid Rain Program or Cross-State Air Pollution Rule requirements?	No

Title V Attachments Existing

Attach OP-1 (Site Information Summary)

Attach OP-2 (Application for Permit Revision/Renewal)

Attach OP-REQ1 (Application Area-Wide Applicability Determinations and General Information)

Attach OP-REQ2 (Negative Applicable Requirement Determinations)

Attach OP-REQ3 (Applicable Requirements Summary)

Attach OP-PBRSUP (Permits by Rule Supplemental Table)

Attach OP-SUMR (Individual Unit Summary for Revisions)

Attach OP-MON (Monitoring Requirements)

Attach OP-UA (Unit Attribute) Forms

If applicable, attach OP-AR1 (Acid Rain Permit Application)

Attach OP-CRO2 (Change of Responsible Official Information)

Attach OP-DEL (Delegation of Responsible Official)

Attach any other necessary information needed to complete the permit.

[File Properties]

File Name	Arcanum SOP O4404 Minor Rev Application final.pdf
Hash	7130BDCC161021D95B06DBDFD54EB6866D1D033A13DAF3F4477B02F76F02CC8F
MIME-Type	application/pdf

An additional space to attach any other necessary information needed to complete the permit.

Expedite Title V

1) Per Texas Health and Safety Code, Section 382.05155, does the applicant want to expedite the processing of this application?	No
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Certification

I certify that I am the Responsible Official for this application and that, based on information and belief formed after reasonable inquiry, the statements and information on this form are true, accurate, and complete.

1. I am Nicholas Stewart, the owner of the STEERS account ER115407.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcement of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Title V Existing 4404.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEC

OWNER OPERATOR Signature: Nicholas Stewart OWNER OPERATOR

Account Number:	ER115407
Signature IP Address:	50.233.219.250
Signature Date:	2025-07-23
Signature Hash:	0CE4FF022C176F29E3538D544D2FD2B7B23F40693FDC0A4D622951C15F8C831F
Form Hash Code at time of Signature:	1AF9392F94AEBF64F2D80472AA97A789759C5852E83CB5A55F6198EBBAD5E8B0

Submission

Reference Number:	The application reference number is 793951
Submitted by:	The application was submitted by ER115407/Nicholas Stewart

Submitted Timestamp:

The application was submitted on 2025-07-23 at 12:41:51 CDT

Submitted From:

The application was submitted from IP address 50.233.219.250

Confirmation Number:

The confirmation number is 666440

Steers Version:

The STEERS version is 6.92

Permit Number:

The permit number is 4404

Additional Information

Application Creator: This account was created by Heriberto Quintanilla



9737 Great Hills Trail, Suite 340, Austin, TX 78759 / P 713-955-1230 / F (713) 955-1201 / trinityconsultants.com

June 20, 2025

Texas Commission on Environmental Quality
Air Permits Initial Review Team (APIRT), MC 161
12100 Park 35 Circle
Building C, Third Floor
Austin, TX 78753

*RE: Application for SOP Minor Revision
Title V Permit 04404
Arcanum Infrastructure, LLC
Arcanum Baytown Site
CN605807163/RN110461415*

Dear APIRT:

On behalf of Arcanum Infrastructure, LLC, Trinity Consultants has prepared this application for a minor revision of Site Operating Permit No. 04404 for the Arcanum Baytown Site in Harris County, TX.

If you have any questions or require additional information, please feel free to contact me at 737-284-0687 or heriberto.quintanilla@trinityconsultants.com.

Sincerely,

TRINITY CONSULTANTS

A handwritten signature in black ink, appearing to read "Heriberto Quintanilla", is written over the printed name.

Heriberto Quintanilla, P.E.
Staff Consultant

Attachments

cc: Mr. Mike Tomerlin, EHSS Director, Arcanum Infrastructure, LLC, Houston, TX
Mr. Joseph Doby, Air Section Manager, TCEQ Region 12, Houston, TX
EPA, Region 6. (R6AirPermitsTX@epa.gov)

HEADQUARTERS

12700 Park Central Dr, Ste 2100, Dallas, TX 75251 / P 800.229.6655 / P 972.661.8100 / F 972.385.9203

MINOR REVISION APPLICATION

Site Operating Permit 04404

Arcanum Infrastructure, LLC / Arcanum Baytown Site
CN605807163
RN110461415

Prepared By:

Heriberto Quintanilla, P.E. – Consultant

TRINITY CONSULTANTS

9737 Great Hills Trail
Suite 340
Austin, TX 78759

June 2025



TABLE OF CONTENTS

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1. PROJECT INFORMATION

Arcanum Infrastructure, LLC (Arcanum) owns and operates the Arcanum Baytown Site in Harris County, Texas. Facilities at the site are operated under Site Operating Permit (SOP) O4404. The purpose of this application is to revise the SOP.

As part of this minor revision application, the following revisions are being requested:

- ▶ Incorporate the TCPD process unit into the Title V permit, which is authorized by NSR permit 169700.
- ▶ Add the new TCPD units to the Title V permit as described in the OP-SUMR. Some additions include permit shields for documentation only. These permit shields will be added formally in the next renewal or significant revision.
- ▶ Incorporate emissions authorized by MSS PBR 106.263.
- ▶ Form OP-PBRSUP is being submitted to include the latest units authorized by PBRs and latest issued PBR registrations.
- ▶ Revise the 40 CFR Part 60, Subpart RRR applicability for units R1-REACT and R2-REACT.
- ▶ The process description will be updated.

2. PROCESS DESCRIPTION

See below the process description for the facility. Updates are in red font:

The Arcanum Baytown site is comprised of ~~two~~ **three** types of process units, the ethylene dimerization units, ~~and the ethylene trimerization unit, and the tricyclopentadiene manufacturing unit (TCPD Unit).~~

In the ethylene dimerization units, polymer-grade butene-1 is produced via catalytic dimerization of ethylene. The existing "Raven 1" unit and the new "Raven 2" unit will be substantially identical in terms of their process. The process can be understood as consisting of sections dedicated to raw materials handling, reaction, and final product separation. High-purity ethylene and catalyst are received in the product handling section and transferred to the reaction section in controlled proportions. In the reaction section, ethylene is catalytically dimerized to produce butene-1. Reactor material is continuously circulated through pumparound loops (PALs) which are used to maintain a stable temperature in the reaction section. PALs are placed in and out of service at regular intervals in order to permit manual cleaning. In the final product separation section, distillation columns are used to recycle ethylene to the reaction system and purify the butene-1 product. Butene-1 and C6+ by-product is transferred to pressure tanks for eventual offloading.

In the ethylene trimerization unit, polymer-grade hexene-1 is produced via catalytic trimerization of ethylene. Like the two butene-1 units, the process can be understood as consisting of sections dedicated to raw materials handling, reaction, and final product separation. High-purity ethylene and catalyst are received in the product handling section and transferred to the reaction section in controlled proportions. In the reaction section, ethylene is catalytically trimerized to produce hexene-1. Reactor material is continuously circulated through pumparound loops (PALs) which are used to maintain a stable temperature in the reaction section. PALs are placed in and out of service at regular intervals in order to permit manual cleaning. In the final product separation section, distillation columns are used to recycle ethylene to the reaction system and purify the hexene-1 product. Hexene-1 and C8+ by-product is transferred to storage tanks for eventual off-loading.

The TCPD Unit will produce a tricyclopentadiene (TCPD) product from a dicyclopentadiene (DCPD) feed stock. The DCPD is pre-heated and is then fed into a reactor where TCPD will form. The TCPD will be worked up in a product recovery section consisting of a distillation tower and associated unit operations. The TCPD final product will be sent tanks for storage then transferred off-site via truck and/or railcar.

The TCPD process generates a coproduct stream that is separated into condensable and non-condensable fractions by a process condenser. The condensable (liquid-phase) fraction and the non-condensable (vapor-phase) fraction are separately routed to the boiler as fuel. The noncondensable (vapor phase) fraction may also be flared during intermittent periods when it is not compatible with the boiler. Part or all of the coproduct streams may be stored in a coproduct storage tank and subsequently marketed to off-site customers via truck or railcar.

Supporting operations include a flare system for disposing of vent gas, cooling tower heat exchange systems for removal of process heat, boilers for generation of process steam, and other miscellaneous equipment.

The flare system (EPN FLR **and FLR2**) is used to dispose of vent gases that cannot be recycled or recovered. The ground flare is a multi-stage unit which employs a traditional, steam-assisted burner for routine flows and seven high-pressure stages for non-routine flows generated during plant upsets. The ground flare

system additionally contains a dedicated tip for destruction of vapors from the catalyst system, which may contain trace amounts of organometallic compounds.

The site will contain ~~two~~ three cooling towers (EPNs CTW, CTW2, and CTW3) which are used to remove process heat, including heat removal associated with the pumparound loops in each of the three process units.

Process steam requirements for the existing "Raven 1" unit is met by (2) 40 MMBtu/hr boilers (EPNs BL-A, BL-B). An additional 99 MMBtu/hr (EPN BL-C) boiler will be constructed to meet increasing steam demand occasioned by construction of the two new process units. Another boiler (EPN: BL-D-TCPD) will be used to provide heat to the TCPD production process.

Molecular sieves used to dry fresh ethylene must be periodically regenerated with hot nitrogen (spent regeneration nitrogen is flared). Liquid nitrogen is stored onsite and received by truck. The existing molecular sieve makes use of (1) 1.3 MMBtu/hr heater (EPN RGN1) to supply hot nitrogen. Two additional 2 MMBtu/hr heaters (EPNs RGN2, RGN3) will be constructed to accommodate additional molecular sieves used to dry fresh ethylene consumed by the new units. Three emergency engines (EPNs FWP, FWP2, EGEN1) are currently in use to supply power to run firefighting equipment and to maintain electrical power during grid outages. An additional three engines (EPNs FWP3, EGEN2, EGEN3) will be installed to provide emergency power generation support for the new process units.

Off-take of butene-1 product, hexene-1 product, and C6+/C8+ byproducts is via loading of pressurized trucks and railcars (EPN LOAD). Displaced butene-1 vapors are captured by a reciprocating compressor ("vapor recovery unit") and returned to the storage sphere. Other displaced vapors are conveyed to the flare system for control (EPN FLR and FLR2).

Virgin catalyst in solution is received onsite via truck, and spent catalyst is off-loaded by truck. Loading and unloading of catalyst or spent catalyst solutions is controlled by the portion of the flare system dedicated for waste gas that may contain organometallic compounds.

Cooling tower and boiler blowdown are collected in a wastewater treatment tank to provide pH adjustment and control prior to discharge, and VOC emissions from wastewater conveyances are negligible. Rain, slab runoff, and washwater runoff is handled in two separators that serve to skim floating polymer from the surface of wastewater.

3. ADMINISTRATIVE FORMS

This section contains the following forms and information:

- ▶ OP-2 – Application for Permit Revision/Renewal
- ▶ OP-SUMR – Individual Unit Summary for Revisions
- ▶ OP-PBRSUP – Permit By Rule Supplemental Table

**Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 1
Texas Commission on Environmental Quality**

Date:	06/20/2025														
Permit No.:	O4404														
Regulated Entity No.:	RN110461415														
Company Name:	Arcanum Infrastructure, LLC														
For Submissions to EPA															
Has an electronic copy of this application been submitted (or is being submitted) to EPA?										X	YES		NO		
I. Application Type															
Indicate the type of application:															
	Renewal														
X	Streamlined Revision (Must include provisional terms and conditions as explained in the instructions.)														
	Significant Revision														
	Revision Requesting Prior Approval														
	Administrative Revision														
	Response to Reopening														
II. Qualification Statement															
For SOP Revisions Only										X	YES		NO		
For GOP Revisions Only											YES		NO		
III. Major Source Pollutants (Complete this section if the permit revision is due to a change at the site or change in regulations.)															
Indicate all pollutants for which the site is a major source based on the site's potential to emit:															
<i>(Check the appropriate box[es].)</i>															
X	VOC	X	NO _x		SO ₂		PM ₁₀	X	CO		Pb		HAPs		
Other:															
IV. Reference Only Requirements (For reference only)															
Has the applicant paid emissions fees for the most recent agency fiscal year (September 1 - August 31)?										X	YES		NO		N/A
V. Delinquent Fees and Penalties															
Notice: 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.															

**Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 2
Texas Commission on Environmental Quality**

Date:	06/20/2025
Permit No.:	04404
Regulated Entity No.:	RN110461415
Company Name:	Arcanum Infrastructure, LLC

Using the table below, provide a description of the revision.

Revision No.	Revision Code	Unit/Group/Process			NSR Authorization	Description of Change and Provisional Terms and Conditions
		New Unit	ID No.	Applicable Form		
1	MS-A	Yes	Various	Various	169700	Incorporate the TCPD process unit into the Title V permit, which is authorized by NSR permit 169700.
2	MS-A	No	N/A	OP-REQ1	106.263/11/01/2001	Incorporate emissions authorized by MSS PBR 106.263.
3	MS-C	Yes	BL-D-TCPD, CTW3-TCPD, DIST-TCPD, LOAD-TCPD, FLR2-TCPD, FUG-TCPD, PRO-TCPD, REACT-TCPD, TK-TCPD-1, TK-TCPD-2, TK-TCPD-3, TK-TCPD-4, TK-TCPD-5, TK-TCPD-6, and VENTS-TCPD	Various	169700	Add the following new units to the Title V permit. Some additions include permit shields for documentation only. These permit shields will be added formally in the next renewal or significant revision.
4	MS-C	No	R1-REACT and R2-REACT	OP-UA48	162443	Revise the 40 CFR Part 60, Subpart RRR applicability for these units.
5	MS-C	No	N/A	OP-PBRSUP	N/A	Form OP-PBRSUP is being submitted to include the latest units authorized by PBRs and latest issued PBR registrations.

Texas Commission on Environmental Quality
Federal Operating Permit Program
Individual Unit Summary for Revisions
Form OP-SUMR

Table 1

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/30 TAC Chapter 106	Preconstruction Authorizations Title I
A	3	BL-D-TCPD	OP-UA6	Boiler D		169700	
A	3	CTW3-TCPD	OP-REQ2	Cooling Tower 3		169700	
A	3	DIST-TCPD	OP-UA17	TCPD Distillation Unit		169700	
A	3	LOAD-TCPD	OP-UA4	Truck/Railcar Loading		169700	
A	3	FLR2-TCPD	OP-UA7	Flare 2		169700	
A	3	FUG-TCPD	OP-REQ2	TCPD Unit Fugitives		169700	
A	3	PRO-TCPD	OP-REQ2	TCPD Process Unit		169700	
A	3	REACT-TCPD	OP-UA48	TCPD Reactors		169700	
A	3	TK-TCPD-1	OP-UA3	DCPD Feed Tank		169700	
A	3	TK-TCPD-2	OP-UA3	TCPD Product Tank		169700	
A	3	TK-TCPD-3	OP-UA3	TCPD Product Tank		169700	
A	3	TK-TCPD-4	OP-UA3	TCPD Rundown Tank		169700	
A	3	TK-TCPD-5	OP-UA3	Coproduct Tank		169700	
A	3	TK-TCPD-6	OP-UA3	Solvent Tank		169700	
A	3	VENTS-TCPD	OP-UA15	TCPD Process Vents		169700	

Texas Commission on Environmental Quality
 Permit By Rule Supplemental Table (Page 1)
 Table A: Registered Permits By Rule (30 TAC Chapter 106) for the Application Area

Date	Permit Number	Regulated Entity Number	Area Name
06/20/2025	04404	RN110461415	Arcanum Baytown Site

Unit ID No.	Registration No.	PBR No.	Registration Date
CTW	136004	106.371	10/15/2015

Texas Commission on Environmental Quality
Permit By Rule Supplemental Table (Page 2)

Table B: Claimed (not registered) Permits By Rule (30 TAC Chapter 106) for the Application Area

Date	Permit Number	Regulated Entity Number	Area Name
06/20/2025	04404	RN110461415	Arcanum Baytown Site

Unit ID No.	PBR No.	Version No./Date
MSS	106.263	11/01/2001

Texas Commission on Environmental Quality
Permit By Rule Supplemental Table (Page 3)

Table C: Claimed (not registered) Permits By Rule (30 TAC Chapter 106) for Insignificant Sources for the Application Area

Date	Permit Number	Regulated Entity Number	Area Name
06/20/2025	04404	RN110461415	Arcanum Baytown Site

PBR No.	Version No./Date
N/A	N/A

Texas Commission on Environmental Quality

Permit By Rule Supplemental Table (Page 4)

Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area

Date	Permit Number	Regulated Entity Number	Area Name
06/20/2025	04404	RN110461415	Arcanum Baytown Site

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
CTW	106.371	136004	The site conducts conductivity measurements on an annual basis and uses hourly total VOC readings to demonstrate compliance with 106.4 requirements. 106.371 itself is complied with through a non-contact design. Emissions are currently calculated on a calendar year basis for Emissions Inventory.
MSS	106.263	11/01/2001	Keep records on-site of the type and reason for MSS activity, the processes and equipment involved; date, time, and duration of the activity or facility operation; and the air contaminants and amounts which are emitted as a result of the activity or facility operation per 106.263(g)(1)-(4). MSS emissions are recorded by the end of the month following the month during which the MSS activity occurred; these emissions are summed monthly, and the rolling 12-month emissions record is updated on a monthly basis to demonstrate compliance with the limits in 106.4 and 106.263(f). Calculated emissions are kept on-site.

4. UNIT ATTRIBUTE FORMS

This section contains the following Unit Attribute Forms:

- ▶ OP-UA3 – Storage Tank Vessel Attributes
- ▶ OP-UA4 – Loading/Unloading Operations Attributes
- ▶ OP-UA6 – Boiler/Steam Generator/Steam Generating Unit Attributes
- ▶ OP-UA7 – Flare Attributes
- ▶ OP-UA15 – Emission Point/Stationary Vent/Distillation Operation/Process Vent Attributes
- ▶ OP-UA17 – Distillation Unit Attributes
- ▶ OP-UA48 – Air Oxidation Unit Process Attributes (Reactors)

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 3)
Federal Operating Permit Program
Table 3: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)
Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels
(Including Petroleum Liquid Storage Vessels)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP/GOP Index No.	Product Stored	Storage Capacity	WW Tank Control	Maximum TVP	Storage Vessel Description	AMEL ID No.	Guidepole	Reid Vapor Pressure	Control Device ID No.
TK-TCPD-1	60Kb-1	VOL	40K+	NONE	0.5-					
TK-TCPD-2	60Kb-1	VOL	40K+	NONE	0.5-					
TK-TCPD-3	60Kb-1	VOL	40K+	NONE	0.5-					
TK-TCPD-4	60Kb-1	VOL	40K+	NONE	0.5-					
TK-TCPD-5	60Kb-1	VOL	40K+	NONE	0.75-11.1	IFR-MT				
TK-TCPD-6	60Kb-1	VOL	40K+	NONE	0.75-11.1	IFR-MT				

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 4)
Federal Operating Permit Program
Table 4a: 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
TK-TCPD-1	R5112-1	NO		VOC1	A40K+			
TK-TCPD-2	R5112-1	NO		VOC1	A40K+			
TK-TCPD-3	R5112-1	NO		VOC1	A40K+			
TK-TCPD-4	R5112-1	NO		VOC1	A40K+			
TK-TCPD-5	R5112-1	NO		VOC1	A40K+			
TK-TCPD-6	R5112-1	NO		VOC1	A40K+			

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 5)
Federal Operating Permit Program
Table 4b: 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
TK-TCPD-1	R5112-1		NONE1	1-				
TK-TCPD-2	R5112-1		NONE1	1-				
TK-TCPD-3	R5112-1		NONE1	1-				
TK-TCPD-4	R5112-1		NONE1	1-				
TK-TCPD-5	R5112-1		IFR1	1.5+A				
TK-TCPD-6	R5112-1		IFR1	1.5+A				

Texas Commission on Environmental Quality
Loading/Unloading Operations Attributes
Form OP-UA04 (Page 1)

Federal Operating Permit Program

Table 1a: 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)

Subchapter C: Loading and Unloading of Volatile Organic Compounds

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP/GOP Index No.	Chapter 115 Facility Type	Alternate Control Requirement (ACR)	ACR ID No.	Product Transferred	Transfer Type	True Vapor Pressure	Daily Throughput	Control Options
LOAD-TCPD	R5217-FLR	OTHER	NONE		VOC1	LOAD	0.5+	NCE2	CON
LOAD-TCPD	R5217-TVP	OTHER	NONE		VOC1	LOAD	0.5-		

Texas Commission on Environmental Quality
Loading/Unloading Operations Attributes
Form OP-UA04 (Page 2)

Federal Operating Permit Program

Table 1b: 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)

Subchapter C: Loading and Unloading of Volatile Organic Compounds

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP/GOP Index No.	Chapter 115 Control Device Type	Chapter 115 Control Device ID No.	Vapor-Tight	Vapor Space Holding Tank	Marine Terminal Exemptions	VOC Flash Point	Uncontrolled VOC Emissions
LOAD-TCPD	R5217-FLR	FLARE	FLR2-TCPD	NO				
LOAD-TCPD	R5217-TVP							

Boiler/Steam Generator/Steam Generating Unit Attributes
Form OP-UA6 (Page 6)
Federal Operating Permit Program
Table 3a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)
Subpart Db: Standards of Performance for Industrial-Commercial Steam Generating Units
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP Index No.	Construction/Modification Date	Heat Input Capacity	Subpart Da	Changes to Existing Affected Facility	Subpart Ea, Eb, or AAAA	Subpart KKKK	Subpart Cb or BBBB
BL-D-TCPD	60Db-1	05+CR	100-					

Boiler/Steam Generator/Steam Generating Unit Attributes

Form OP-UA6 (Page 11)

Federal Operating Permit Program

Table 4a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

Subpart Dc: Standards of Performance for Industrial-Commercial Steam Generating Units

Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP Index No.	Construction/Modification Date	Maximum Design Heat Input Capacity	Applicability	Heat Input Capacity	D-Series Fuel Type	D-Series Fuel Type	D-Series Fuel Type	ACF Option SO ₂	ACF Option PM	30% Coal Duct Burner
BL-D-TCPD	60Dc-1	05+	10-100	NONE	30-75	NG	OTHER		OTHR	OTHR	NO

Boiler/Steam Generator/Steam Generating Unit Attributes

Form OP-UA6 (Page 12)

Federal Operating Permit Program

Table 4b: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

Subpart Dc: Standards of Performance for Industrial-Commercial Steam Generating Units

Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP/GOP Index No.	Monitoring Type PM	Monitoring Type SO₂ Inlet	Monitoring Type SO₂ Outlet	Technology Type	43CE-Option	47C-Option
BL-D-TCPD	60Dc-1	NONE	NONE	NONE	NONE		

**Boiler/Steam Generator/Steam Generating Unit Attributes
Form OP-UA6 (Page 13)**

Federal Operating Permit Program

Table 5a: Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117)

**Subpart B: Combustion Control at Major Industrial, Commercial and
Institutional Sources in Ozone Nonattainment Areas**

Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP Index No.	Unit Type	MRC	RACT Date Placed in Service	Functionally Identical Replacement	Fuel Type	Fuel Type	Fuel Type	Annual Heat Input
BL-D-TCPD	R7310-2	ICIB	2-40			NG	GS	LQD	

**Boiler/Steam Generator/Steam Generating Unit Attributes
Form OP-UA6 (Page 14)**

Federal Operating Permit Program

Table 5b: Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117)

**Subpart B: Combustion Control at Major Industrial, Commercial and
Institutional Sources in Ozone Nonattainment Areas**

Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP Index No.	NO _x Emission Limitation	Opt-In Unit	23C-Option	Title 30 TAC Chapter 116 Permit Limit	EGF System Cap Unit	NO _x Emission Limit Average	NO _x Reduction	Common Stack Combined
BL-D-TCPD	R7310-2	310D				NO		NONE	

**Boiler/Steam Generator/Steam Generating Unit Attributes
Form OP-UA6 (Page 15)**

Federal Operating Permit Program

Table 5c: Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117)

**Subpart B: Combustion Control at Major Industrial, Commercial and
Institutional Sources in Ozone Nonattainment Areas
Texas Commission on Environmental Quality**

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP Index No.	Fuel Type Heat Input	NO _x Monitoring System	Fuel Flow Monitoring	CO Emission Limitation	CO Monitoring System	NH ₃ Emission Limitation	NH ₃ Emission Monitoring
BL-D-TCPD	R7310-2		MERT	X40A	310C	OTHER		

Texas Commission on Environmental Quality
 Flare Attributes
 Form OP-UA7 (Page 1)
 Federal Operating Permit Program
 Table 1: Title 30 Texas Administrative Code Chapter 111 (30 TAC Chapter 111)
 Control of Air Pollutants from Visible Emissions and Particulate Matter

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit ID No.	SOP/GOP Index No.	Acid Gases Only	Emergency/Upset Conditions Only	Alternative Opacity Limitation (AOL)	AOL ID No.	Construction Date
FLR2-TCPD	R1111-1	NO	NO			

Texas Commission on Environmental Quality

Flare Attributes

Form OP-UA7 (Page 3)

Federal Operating Permit Program

Table 3: Title 40 Code of Federal Regulations Part 60 and 61 (40 CFR Part 60 40 CFR Part 61)

**Subpart A: General Provisions of Standards of Performance for New Stationary Sources and
National Emission Standards for Hazardous Air Pollutants**

Date	Permit No.	Regulated Entity No.
06/20/2025	O4404	RN110461415

Unit ID No.	SOP/GOP Index No.	Subject to 40 CFR §60.18	Adhering to Heat Content Specifications	Flare Assist Type	Flare Exit Velocity	Heating Value of Gas
FLR2-TCPD	60A-1	YES	YES	NONE	60-	

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes

Form OP-UA15 (Page 3)

Federal Operating Permit Program

Table 2a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)

Subchapter B: Vent Gas Control

Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Emission Point ID No.	SOP/GOP Index No.	Chapter 115 Division	Combustion Exhaust	Vent Type	Total Uncontrolled VOC Weight	Combined 24-Hour VOC Weight	VOC Concentration	VOC Concentration or Emission Rate at Maximum Operating Conditions
VENTS-TCPD	R5122-FLR	NO	NO	REGVAPPL				
VENTS-TCPD	R5122-BLR	NO	NO	REGVAPPL				

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes

Form OP-UA15 (Page 4)

Federal Operating Permit Program

Table 2b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)

Subchapter B: Vent Gas Control

Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Emission Point ID No.	SOP Index No.	Alternate Control Requirement	ACR ID No.	Control Device Type	Control Device ID No.
VENTS-TCPD	R5122-FLR	NONE		FLARE	FLR2-TCPD
VENTS-TCPD	R5122-BLR	NONE		OTHER	BL-D-TCPD

Texas Commission on Environmental Quality

Distillation Unit Attributes

Form OP-UA17 (Page 1)

Federal Operating Permit Program

Table 1a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

**Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic
Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations**

Date:	06/20/2025
Permit No.:	04404
Regulated Entity No.:	RN110461415

Unit ID No.	SOP Index No.	Subpart NNN Chemicals	Construction/ Modification Date	Vent Type	Distillation Unit Type	Total Design Capacity	Vent Stream Flow Rate
DIST-TCPD	60NNN-BLR	YES	83+	NOVRS	NONE	1+	8+
DIST-TCPD	60NNN-FLR	YES	83+	NOVRS	NONE	1+	8+

Texas Commission on Environmental Quality

Distillation Unit Attributes

Form OP-UA17 (Page 2)

Federal Operating Permit Program

Table 1b: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

**Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic
Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations**

Date:	06/20/2025
Permit No.:	04404
Regulated Entity No.:	RN110461415

Unit ID No.	SOP Index No.	Total Resource Effectiveness	TOC Reduction	Subpart NNN Control Device	ACT ID No.	Subpart NNN Control Device ID No.	Emission Point ID No(s).		Organic Monitoring Device
DIST-TCPD	60NNN-BLR	8-B	YES	BPH44-		BL-D-TCPD	BL-D-TCPD		
DIST-TCPD	60NNN-FLR	8-B	NO	FLARE		FLR2-TCPD	FLR2-TCPD		

Texas Commission on Environmental Quality

Reactor Attributes

Form OP-UA48 (Page 3)

Federal Operating Permit Program

Table 2a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

Subpart RRR: Standards of Performance for Volatile Organic Compound Emissions from
Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes

Date:	06/20/2025
Permit No.:	04404
Regulated Entity No.:	RN110461415

Unit ID No.	SOP Index No.	Chemicals Listed in §60.707	Construction/Modification Date	Affected Facility Type	Subject to Title 40 CFR Part 60, Subpart DDD	Subject to Title 40 CFR Part 60, Subpart NNN	TRE Index Value	TRE for Halogenated Vent Stream
R1-REACT	60RRR-NNN	YES	90+	REACT	NO	YES		
R2-REACT	60RRR-NNN	YES	90+	REACT	NO	YES		
REACT-TCPD	60RRR-NNN	YES	90+	REACT	NO	YES		
R1-REACT	60RRR-BLR							
R1-REACT	60RRR-FLR							
R2-REACT	60RRR-BLR							
R2-REACT	60RRR-FLR							

5. APPLICABLE REQUIREMENTS SUMMARY FORMS

This section contains the following forms and information:

- ▶ Form OP-REQ1 pages 88 and 89 – Application Area-Wide Applicability Determinations and General Information
- ▶ Form OP-REQ2 – Negative Applicable Requirement Determinations
- ▶ Form OP-REQ3 – Applicable Requirements Summary

Application Area-Wide Applicability Determinations and General Information
Form OP-REQ1 (Page 88)
Federal Operating Permit Program
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	O4404	RN110461415

For SOP applications, answer ALL questions unless otherwise directed.

◆ For GOP applications, answer ONLY these questions unless otherwise directed.

XII. NSR Authorizations (Attach additional sheets if necessary for sections XII.E-J.)

E. PSD Permits and PSD Major Pollutants

Permit No.	Issuance Date	Pollutant(s):	Permit No.	Issuance Date	Pollutant(s):

If PSD Permits are held for the application area, please complete the Major NSR Summary Table located under the Technical Forms heading at: www.tceq.texas.gov/permitting/air/titlev/site/site_experts.html.

F. Nonattainment (NA) Permits and NA Major Pollutants

Permit No.	Issuance Date	Pollutant(s):	Permit No.	Issuance Date	Pollutant(s):

If NA Permits are held for the application area, please complete the Major NSR Summary Table located under the Technical Forms heading at: www.tceq.texas.gov/permitting/air/titlev/site/site_experts.html.

G. NSR Authorizations with FCAA § 112(g) Requirements

NSR Permit No.	Issuance Date	NSR Permit No.	Issuance Date	NSR Permit No.	Issuance Date

Application Area-Wide Applicability Determinations and General Information
Form OP-REQ1 (Page 89)
Federal Operating Permit Program
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	O4404	RN110461415

For SOP applications, answer ALL questions unless otherwise directed.

- ◆ For GOP applications, answer ONLY these questions unless otherwise directed.

XII. NSR Authorizations (continued) - (Attach additional sheets if necessary for sections XII.E-J.)

- ◆ **H. Title 30 TAC Chapter 116 Permits, Special Permits, Standard Permits, Other Authorizations (Other Than Permits By Rule, PSD Permits, NA Permits) for the Application Area**

Authorization No.	Issuance Date	Authorization No.	Issuance Date	Authorization No.	Issuance Date
162443	08/03/2021				
169700	10/17/2022				

- ◆ **I. Permits by Rule (30 TAC Chapter 106) for the Application Area**

A list of selected Permits by Rule (previously referred to as standard exemptions) that are required to be listed in the FOP application is available in the instructions.

PBR No.	Version No./Date	PBR No.	Version No./Date	PBR No.	Version No./Date
106.263	11/01/2001				
106.371	09/04/2000				

- ◆ **J. Municipal Solid Waste and Industrial Hazardous Waste Permits with an Air Addendum**

Permit No.	Issuance Date	Permit No.	Issuance Date	Permit No.	Issuance Date

Form OP-REQ2
Negative Applicable/Superseded Requirement Determinations
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability Reason
A	3	CTW3-TCPD	OP-REQ2	30 TAC Chapter 115, Subchapter H, Division 2	§115.760(a)	Cooling tower heat exchange system does not emit HRVOCs nor has the potential to emit a HRVOC.
A	3	FUG-TCPD	OP-UA12	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	§115.352	The process unit doesn't meet the definition of a petroleum refinery; a synthetic organic chemical, polymer, resin, or methyl-tert-butyl ether manufacturing process; or a natural gas/gasoline processing operation, as defined in §115.10.
A	3	FUG-TCPD	OP-UA12	30 TAC Chapter 115, HRVOC Fugitive Emissions	§115.780(a)	HRVOC is not present in the raw material, intermediate, final product, or in the waste stream in the process unit.
A	3	FUG-TCPD	OP-UA12	40 CFR Part 60, Subpart VVa	§60.480a(a)(1)	The process unit does not produce one or more of the chemicals listed in §60.489a as an intermediate or final product. Therefore, it doesn't meet the definition of a synthetic organic chemicals manufacturing industry.
A	3	TK-TCPD-1	OP-UA3	40 CFR Part 60, Subpart Kb	§60.110b(b)	Storage vessel has a capacity greater than than 151 cubic meters (39,900 gallons) and stores a liquid with a maximum TVP less than 3.5 kPa (0.5 psia).
A	3	TK-TCPD-2	OP-UA3	40 CFR Part 60, Subpart Kb	§60.110b(b)	Storage vessel has a capacity greater than than 151 cubic meters (39,900 gallons) and stores a liquid with a maximum TVP less than 3.5 kPa (0.5 psia).
A	3	TK-TCPD-3	OP-UA3	40 CFR Part 60, Subpart Kb	§60.110b(b)	Storage vessel has a capacity greater than than 151 cubic meters (39,900 gallons) and stores a liquid with a maximum TVP less than 3.5 kPa (0.5 psia).

Form OP-REQ2
Negative Applicable/Superseded Requirement Determinations
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
06/20/2025	04404	RN110461415

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability Reason
A	3	TK-TCPD-4	OP-UA3	40 CFR Part 60, Subpart Kb	§60.110b(b)	Storage vessel has a capacity greater than than 151 cubic meters (39,900 gallons) and stores a liquid with a maximum TVP less than 3.5 kPa (0.5 psia).
A	3	PRO-TCPD	OP-REQ2	40 CFR Part 63, Subpart VVVVV	§63.11494(a)	A HAP listed in Table 1 of 40 CFR Part 63, Subpart VVVVV is not present in the CMPU as specified in §63.11494(a)(2).
A	3	BL-D-TCPD	OP-UA6	40 CFR Part 63, Subpart JJJJJ	§63.11237	Gas-fired boilers as defined in §63.11237 are not subject to this subpart.

**Applicable Requirements Summary
Form OP-REQ3 (Page 1)
Federal Operating Permit Program**

Table 1a: Additions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No.	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
3	TK-TCPD-1	OP-UA3	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§115.111(a)(1)
3	TK-TCPD-2	OP-UA3	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§115.111(a)(1)
3	TK-TCPD-3	OP-UA3	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§115.111(a)(1)
3	TK-TCPD-4	OP-UA3	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§115.111(a)(1)
3	TK-TCPD-5	OP-UA3	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§115.112(e)(1) §115.112(e)(2), (e)(2)(A)-(D) §115.112(e)(2)(F), [G](e)(2)(I) §115.114(a)(1)(A)
3	TK-TCPD-5	OP-UA3	60Kb-1	VOC	40 CFR Part 60, Subpart Kb	§60.112b(a)(1) §60.112b(a)(1)(i), (a)(1)(ii)(C) §60.112b(a)(1)(iii)-(ix)
3	TK-TCPD-6	OP-UA3	R5112-1	VOC	30 TAC Chapter 115, Storage of VOCs	§115.112(e)(1) §115.112(e)(2), (e)(2)(A)-(D) §115.112(e)(2)(F), [G](e)(2)(I) §115.114(a)(1)(A)
3	TK-TCPD-6	OP-UA3	60Kb-1	VOC	40 CFR Part 60, Subpart Kb	§60.112b(a)(1) §60.112b(a)(1)(i), (a)(1)(ii)(C) §60.112b(a)(1)(iii)-(ix)
3	LOAD-TCPD	OP-UA4	R5217-FLR	VOC	30 TAC Chapter 115, Loading and Unloading of VOCs	§115.212(a)(1) §115.212(a)(1)(A) §115.212(a)(3)(A), (a)(3)(A)(ii) §115.212(a)(3)(B) [G]§115.212(a)(3)(C), (a)(3)(E) §115.214(a)(1)(B), (a)(1)(C) §60.18
3	LOAD-TCPD	OP-UA4	R5217-TVP	VOC	30 TAC Chapter 115, Loading and Unloading of VOCs	§115.217(a)(1) §115.214(a)(1)(B) §115.214(a)(1)(D) §115.214(a)(1)(D)(i)

**Applicable Requirements Summary
Form OP-REQ3 (Page 2)
Federal Operating Permit Program**

Table 1b: Additions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
3	TK-TCPD-1	R5112-1	VOC	[G]§115.117	§115.118(a)(1), (a)(5), (a)(6)(A), (a)(7)	None
3	TK-TCPD-2	R5112-1	VOC	[G]§115.117	§115.118(a)(1), (a)(5), (a)(6)(A), (a)(7)	None
3	TK-TCPD-3	R5112-1	VOC	[G]§115.117	§115.118(a)(1), (a)(5), (a)(6)(A), (a)(7)	None
3	TK-TCPD-4	R5112-1	VOC	[G]§115.117	§115.118(a)(1), (a)(5), (a)(6)(A), (a)(7)	None
3	TK-TCPD-5	R5112-1	VOC	§115.114(a)(1), (a)(1)(A) [G]§115.117	§115.118(a)(3), (a)(5) §115.118(a)(6)(C), (a)(7)	§115.114(a)(1)(B)
3	TK-TCPD-5	60Kb-1	VOC	§60.113b(a)(1)-(2), (a)(4) §60.113b(a)(5) §60.116b(a)-(c) §60.116b(e), (e)(1), [G](e)(3)	§60.115b, (a)(2) §60.116b(a)-(c)	§60.113b(a)(2), (a)(5) §60.115b, (a)(1), (a)(3)
3	TK-TCPD-6	R5112-1	VOC	§115.114(a)(1), (a)(1)(A) [G]§115.117	§115.118(a)(3), (a)(5) §115.118(a)(6)(C), (a)(7)	§115.114(a)(1)(B)
3	TK-TCPD-6	60Kb-1	VOC	§60.113b(a)(1)-(2), (a)(4) §60.113b(a)(5) §60.116b(a)-(c) §60.116b(e), (e)(1), [G](e)(3)	§60.115b, (a)(2) §60.116b(a)-(c)	§60.113b(a)(2), (a)(5) §60.115b, (a)(1), (a)(3)
3	LOAD-TCPD	R5217-FLR	VOC	§115.212(a)(3)(B) §115.214(a)(1)(A) §115.214(a)(1)(A)(i)-(iii) §115.215, (1), [G](2)-(3), (4), (9), (10) §115.216(1)	§115.216, (1), (1)(B), (2), (3)(A) §115.216 (3)(A)(i), (3)(A)(ii), (3)(A)(iii) §115.216(3)(B)	None
3	LOAD-TCPD	R5217-TVP	VOC	§115.214(a)(1)(A) §115.214(a)(1)(A)(i) §115.215, (4)	§115.216 §115.216(2) §115.216(3)(B)	None

Applicable Requirements Summary
Form OP-REQ3 (Page 1)
Federal Operating Permit Program

Table 1a: Additions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No.	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
3	BL-D-TCPD	OP-UA6	R7310-2	NOx	30 TAC Chapter 117, Subchapter B	§117.310(d)(3) §117.310(a), (a)(1)(C), (a)(7), (b), [G](e)(1), (e)(2) [G]§117.310(e)(3), (e)(4) §117.340(l)(2), (p)(1), (p)(2)(C), (p)(3)
3	BL-D-TCPD	OP-UA6	R7310-2	CO	30 TAC Chapter 117, Subchapter B	§117.310(c)(1) 1 §117.310(c)(1)(B), (c)(3)
3	BL-D-TCPD	OP-UA6	60Dc-1	SO ₂	40 CFR Part 60, Subpart Dc	§60.40c(a)
3	BL-D-TCPD	OP-UA6	60Dc-1	PM	40 CFR Part 60, Subpart Dc	§60.40c(a)
3	BL-D-TCPD	OP-UA6	60Dc-1	PM	40 CFR Part 60, Subpart Dc	§60.40c(a)
3	FLR2-TCPD	OP-UA7	R1111-1	Opacity	30 TAC Chapter 111, Visible Emissions	§111.111(a)(4)(A) 1
3	FLR2-TCPD	OP-UA7	60A-1	Opacity	40 CFR Part 60, Subpart A	§60.18(b) §60.18(c)(1), (c)(2), (c)(3)(ii) §60.18(c)(4)(i), (c)(6) §60.18(e)
3	VENTS-TCPD	OP-UA15	R5122-FLR	VOC	30 TAC Chapter 115, Vent Gas Control	§115.122(a)(1) §115.121(a)(1) §115.122(a)(1)(B) §60.18
3	VENTS-TCPD	OP-UA15	R5122-BLR	VOC	30 TAC Chapter 115, Vent Gas Control	§115.122(a)(1) §115.121(a)(1) §115.122(a)(1)(C)
3	DIST-TCPD	OP-UA17	60NNN-BLR	VOC/TOC	40 CFR Part 60, Subpart NNN	§60.662(a)
3	DIST-TCPD	OP-UA17	60NNN-FLR	VOC/TOC	40 CFR Part 60, Subpart NNN	§60.662(b) §60.18

**Applicable Requirements Summary
Form OP-REQ3 (Page 2)
Federal Operating Permit Program**

Table 1b: Additions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
3	BL-D-TCPD	R7310-2	NOx	[G]§117.335(a)(1), (a)(4), (b) §117.335(d)-(e), (g) §117.340(a), (l)(2), (o)(1), (p)(1) §117.340(p)(2)(A)-(C) §117.8000(b)-(c), (c)(1), (c)(3) §117.8000(c)(5)-(6), [G](d)	§117.345(a), (f), (f)(1), (f)(9)	§117.335(b), (g) §117.340(p)(2)(D) [G]§117.345(b)-(c) §117.8010, [G](1), (2), (2)(A)-(D) [G]§117.8010(3), (4), [G](5) §117.8010(6), [G](7)
3	BL-D-TCPD	R7310-2	CO	[G]§117.335(a)(1), (a)(4), (b) §117.335(d)-(e), (g) §117.340(a) §117.8000(b)-(c), (c)(2) §117.8000(c)(3), (c)(5)-(6) [G]§117.8000(d)	§117.345(a), (f), (f)(1), (f)(9)	§117.335(b), (g) [G]§117.345(b)-(c) §117.8010, [G](1), (2), (2)(A)-(B) [G]§117.8010(3), (4), [G](5) §117.8010(6), [G](7)
3	BL-D-TCPD	60Dc-1	SO2	None	§60.48c(g)(1)-(3), (i)	[G]§60.48c(a)
3	BL-D-TCPD	60Dc-1	PM	None	§60.48c(g)(1)-(3), (i)	[G]§60.48c(a)
3	BL-D-TCPD	60Dc-1	PM	None	§60.48c(g)(1)-(3), (i)	[G]§60.48c(a)
3	FLR2-TCPD	R1111-1	Opacity	[T]§111.111(a)(4)(A)(i) §111.111(a)(4)(A)(ii)	§111.111(a)(4)(A)(iii)	None
3	FLR2-TCPD	60A-1	Opacity	§60.18(d) [T]§60.18(f)(1), (f)(2), [T](f)(3), [T](f)(4)	None	None
3	VENTS-TCPD	R5122-FLR	VOC	[G]§115.125 §115.126(1) §115.126(1)(B) §115.126(2)	§115.126 §115.126(1) §115.126(1)(B) §115.126(2)	None
3	VENTS-TCPD	R5122-BLR	VOC	[G]§115.125 §115.126(1) §115.126(1)(C) §115.126(2)	§115.126 §115.126(1) §115.126(1)(C) §115.126(2)	None
3	DIST-TCPD	60NNN-BLR	VOC/TOC	§60.663(c), (c)(1) §60.663(c)(2) [T]§60.664(a), [T](b) [T]§60.664(b)(1)-(3), [T][G](b)(4)	§60.663(c)(1), (c)(2) §60.665(b), (b)(2), (b)(2)(i), (b)(2)(ii), (c) §60.665(c)(3), (c)(4), (d)	§60.665(a), (b), (b)(2), (b)(2)(i), (b)(2)(ii) §60.665(c), (c)(3), (c)(4), (k) §60.665(l), (l)(1), (l)(2)
3	DIST-TCPD	60NNN-FLR	VOC/TOC	§60.663(b), (b)(1), (b)(2) [T]§60.664(a), [T](d), [T][G](e)	§60.663(b)(2) §60.665(b), (b)(3), (d), (f)	§60.665(a), (b), (b)(3) §60.665(k), (l), (l)(2), (l)(4)

**Applicable Requirements Summary
Form OP-REQ3 (Page 1)
Federal Operating Permit Program**

Table 1a: Additions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No.	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
4	R1-REACT	OP-UA48	60RRR-NNN	VOC/TOC	40 CFR Part 60, Subpart RRR	§60.700(c)(5)
4	R2-REACT	OP-UA48	60RRR-NNN	VOC/TOC	40 CFR Part 60, Subpart RRR	§60.700(c)(5)
3	REACT-TCPD	OP-UA48	60RRR-NNN	VOC/TOC	40 CFR Part 60, Subpart RRR	§60.700(c)(5)

Applicable Requirements Summary
Form OP-REQ3 (Page 2)
Federal Operating Permit Program

Table 1b: Additions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
4	R1-REACT	60RRR-NNN	VOC/TOC	None	None	§60.705(r)
4	R2-REACT	60RRR-NNN	VOC/TOC	None	None	§60.705(r)
3	REACT-TCPD	60RRR-NNN	VOC/TOC	None	None	§60.705(r)

Applicable Requirements Summary
Form OP-REQ3 (Page 3)
Federal Operating Permit Program

Table 2a: Deletions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No.	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
4	R1-REACT	OP-UA48	60RRR-BLR	VOC/TOC	40 CFR Part 60, Subpart RRR	§ 60.702(a) [G]§ 60.704(b)(5)
4	R1-REACT	OP-UA48	60RRR-FLR	VOC/TOC	40 CFR Part 60, Subpart RRR	§ 60.702(b) § 60.18
4	R2-REACT	OP-UA48	60RRR-BLR	VOC/TOC	40 CFR Part 60, Subpart RRR	§ 60.702(a) [G]§ 60.704(b)(5)
4	R2-REACT	OP-UA48	60RRR-FLR	VOC/TOC	40 CFR Part 60, Subpart RRR	§ 60.702(b) § 60.18

Applicable Requirements Summary
Form OP-REQ3 (Page 4)
Federal Operating Permit Program

Table 2b: Deletions

Date: 06/20/2025	Regulated Entity No.: RN110461415	Permit No.: 04404
Company Name: Arcanum Infrastructure, LLC	Area Name: Arcanum Baytown Site	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
4	R1-REACT	60RRR-BLR	VOC/TOC	§ 60.703(c) § 60.704(a) § 60.704(b) § 60.704(b)(1) § 60.704(b)(2) § 60.704(b)(3) [G]§ 60.704(b)(4)	§ 60.705(b) § 60.705(b)(2)(i) § 60.705(c) § 60.705(c)(4) § 60.705(s)	§ 60.705(a) § 60.705(b) § 60.705(b)(2)(i) § 60.705(c) § 60.705(c)(4) § 60.705(k) § 60.705(l) § 60.705(l)(1) § 60.705(s)
4	R1-REACT	60RRR-FLR	VOC/TOC	§ 60.703(b) § 60.703(b)(1) § 60.704(a) § 60.704(c) [G]§ 60.704(d)	§ 60.705(b) § 60.705(b)(3) § 60.705(e) § 60.705(s)	§ 60.705(a) § 60.705(b) § 60.705(b)(3) § 60.705(k) § 60.705(l) § 60.705(l)(3) § 60.705(s)
4	R2-REACT	60RRR-BLR	VOC/TOC	§ 60.703(c) § 60.704(a) § 60.704(b) § 60.704(b)(1) § 60.704(b)(2) § 60.704(b)(3) [G]§ 60.704(b)(4)	§ 60.705(b) § 60.705(b)(2)(i) § 60.705(c) § 60.705(c)(4) § 60.705(s)	§ 60.705(a) § 60.705(b) § 60.705(b)(2)(i) § 60.705(c) § 60.705(c)(4) § 60.705(k) § 60.705(l) § 60.705(l)(1) § 60.705(s)
4	R2-REACT	60RRR-FLR	VOC/TOC	§ 60.703(b) § 60.703(b)(1) § 60.704(a) § 60.704(c) [G]§ 60.704(d)	§ 60.705(b) § 60.705(b)(3) § 60.705(e) § 60.705(s)	§ 60.705(a) § 60.705(b) § 60.705(b)(3) § 60.705(k) § 60.705(l) § 60.705(l)(3) § 60.705(s)