

**Red Lion Facility  
Coastal Zone Permit Application**

**PUBLIC HEARING  
Tuesday, July 16, 2019**

<b>1.</b>	<b>4/15/19</b>	<b>Formosa Plastics Application to Certification Emission Reduction</b>
<b>2.</b>	<b>5/24/19</b>	<b>DNREC ERC Letter</b>
<b>3.</b>	<b>6/3/19</b>	<b>DNREC Approval re Permit APC-2003/0739-OPERATION (Amendment 3)(NSPS)(CAP)</b>
<b>4.</b>	<b>6/3/19</b>	<b>DNREC "Final" 7 DE Admin. Code 1130 Operating Permit</b>



**Formosa Plastics\***

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**Formosa Plastics Corporation, U.S.A.**  
9 Peach Tree Hill Road  
Livingston, NJ 07039  
Telephone: (973) 992-2090

April 15, 2019

Angela Marconi, Engineer VI  
Engineering and Compliance Section  
Delaware Department of Natural Resources and Environmental Control  
Division of Air Quality  
715 Grantham Lane  
New Castle, DE 19702

Dear Ms. Marconi:

**RE: Application to Certify Emission Reduction for Formosa Plastics Corporation,  
Delaware Facility ID: 1000300027**

Enclosed is an application requesting certification of emission reduction that are the result of our September 2018 shut down of our Delaware City facility.

AECOM has prepared the application to include the information required by 7 Del. Admin. Code § 1134 Emission Banking and Trading Program (Rule 1134). The application includes information required by Rule 1134 to quantify and request certification of the emission reductions. The content and format of the application was discussed in a pre-application telephone conference on February 25, 2019, with you and Mark Prettyman of the DAQ. Key directions taken from that conference call which are considered in the application include:

- The 24 month baseline emissions relate to the 2016 to 2017 calendar year operations of the facility.
- Pollutant specific emission limits from the Title V Operating Permit at the Emission Unit level, in units of tons per year, are the allowable limits to which the reported annual emissions are compared.

In addition to NO<sub>x</sub> and VOC, this application presents emission reductions of non-ozone precursors for review, consideration and certification as Coastal Zone Offsets (CZOs). Information regarding the emission reductions of CO, NH<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> related to the facility shutdown is included in the application. This information is provided in response to recommendations by Mark Prettyman (DAQ) and Judith Jordan, Delaware's State Coastal Zone Act, Manager.

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As AECOM communicated to the DAQ, the intended use of the ERCs and CZOs presented in the application are to offset the estimated air emission rate increases relating to a Coastal Zone Act Permit Application submitted to Department of Natural Resources and Environmental Control by Veolia North America Regeneration Services, LLC.

Please let me or Scott Anderson of AECOM know if you have any questions or need any additional information for the application. I can be reached at (973) 716-7257. Scott Anderson with AECOM can be reached (610) 832-6191 or at [scott.anderson@aecom.com](mailto:scott.anderson@aecom.com).

Sincerely,



Thomas S. Andersen  
Corporate Environmental Manager  
Formosa Plastics Corporation, USA

Cc: W. Tao  
D. Fratterelli, Veolia – Letter only  
S. Anderson, AECOM – Letter only  
J. Jordan, DNREC, Coastal Zone – Letter only

**Enclosure: Application with Attachments A & B**

## Application for Certification of an Emission Reduction as ERCs

Formosa Plastics Corporation Delaware

Facility ID: 1000300027

Date: 04-11-19

### 1 Introduction

The Emission Reduction Credits (ERCs) Application has been prepared in accordance with the requirements of 7 Del. Admin. Code § 1134 Emission Banking and Trading Program (Rule 1134). The application requests certification of Emission Reduction Credits (ERCs) related to the September 2018 shutdown of the Formosa Plastics Corporation facility located at 780 School House Road, New Castle, DE (herein "Facility" or "facility"). The application provides the information specified in Rule 1134, Section 5.0 - Application for Certification of an Emission Reduction and Section 6.0 - Baseline.

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#### Application Information

Submitted to: Department of Natural Resources and Environmental Control (DNREC) -  
Division of Air Quality (DAQ)

Applicant: Formosa Plastics Corporation Delaware

Facility I.D. Number: 10/003/00027

Facility Address: 780 School House Road  
New Castle, DE 19720

Title V Permit Number: AQM-003100027-Renewal (R2) (Expired December 31, 2018)

Application Prepared by: AECOM, 625 W Ridge Pike  
Conshohocken, PA 190428

Application Date: April 12, 2019

The application is a request for the Division of Air Quality (DAQ) to certify Emission Reductions related to the shutdown of the Formosa Plastics Corporation facility as Ozone Precursor Emission Reduction Credits (ERCs) (VOC and NO<sub>x</sub>). In addition, the application requests the DAQ certify other non-ozone precursor (CO, NH<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub>) Emission Reductions for use as Coastal Zone Offsets (CZOs). The application presents information to demonstrate that these emission reductions are enforceable, permanent, quantifiable, real, and surplus, in accordance with Rule 1134.

The calculation of emission reductions for the purpose of quantifying ERCs or CZOs is based on the formula:

$$\{Emission\ Reduction\ =\ [Baseline\ Emission\ Rate]\ -\ [Future\ Emission\ Rate]\}$$

In this case, because of the shutdown of the Formosa Plastics facility, future emissions are zero. Therefore, the quantity of emission reductions is the same as Baseline Emissions:

$$\{Emission\ Reduction = [Baseline\ Emission\ Rate] - [0] = Baseline\ Emission\ Rate\}$$

## 2 Required Application Information

The following subsections in Section 2 of this application provide the requisite information described in Rule 1134, Sections 5.4 to 5.7 which describes the requirements of an Application for Certification of an Emission Reduction as an ERC.

### 2.1 Confirmation of Emission Reduction Measures

The application is being made for the shutdown of the facility in September 2018. The shutdown is considered a single reduction measure. This meets the requirements of Rule 1134, Section 5.4, which states: "A single application must be made for each emission reduction measure employed."

### 2.2 Confirmation that Emission Reductions are quantified for Ozone and Non-Ozone Seasons

The emission rates in this application quantify the emission reductions of VOC and NO<sub>x</sub> in tons for each Emission Unit for the following time periods and time based units:

- A. Full – Annual in tons per year (or 12-month rolling total)
- B. Ozone Season in tons per ozone season
- C. Non-Ozone Season in tons per non-ozone season

Rule 1134 defines "Ozone season" as "the period of time beginning on and including April 1 and continuing through October 31 of each calendar year". This meets the requirements of Rule 1134, Section 5.5, which states: "Applications for ERC certification shall express emission reductions in both ozone season tons per year and non-ozone season tons per year."

Additionally, the emission reductions of other non-ozone precursor pollutants are presented on a full annual basis (or 12-month rolling total).

As summarized above in Section 1 of this application, the quantified Emission Reductions are equivalent to the Baseline Emissions which are provided in attached tables and discussed in Section 2.4.7 below. Section 2.4.8 describes the methodology and basis of calculations used to quantify the Baseline Emissions. These are quantified as annual amounts for all pollutants and seasonal emission rates for ozone precursors.

### 2.3 Detailed Application Contents

The subsections under Section 2.4 are organized to provide the information required by Rule 1134, Section 5.6, which states: "A person shall apply for certification of an emission reduction by submitting to the Department the following information".

### 2.4 General Company/Source Info

Section 5.6.1 of Rule 1134 requests the following facility information:

**2.4.1 Company name and address:**

Formosa Plastics Corporation Delaware  
P.O. Box 320  
Delaware City, DE 19706

**2.4.2 Plant name and address:**

Formosa Plastics Corporation Delaware  
780 School House Road  
Delaware City, DE 19706

**2.4.3 Name of the Responsible Official submitting the application:**

Name: Weijing Tao  
Title: Plant Manager

**2.4.4 Contact Information of the Responsible Official submitting the application:**

Name: Weijing Tao  
Title: Plant Manager  
Phone: 302.836.2246  
Email: wtao@fdde.fpcusa.com

Contact's Mailing Address:

Formosa Plastics Corporation Delaware  
P.O. Box 320  
Delaware City, DE 19706

**2.4.5 The permit number of each emission unit involved in the emission reduction:**

Section 5.6.1 of Rule 1134 also requires information about the emission units involved in the emissions reduction. The shutdown emissions reduction includes all Emission Units permitted under Title V Permit Number: AQM-003/00027-Renewal (R2). Title V Permit, Section 1, Emission Unit Identification, paragraph a, lists the facility emission units involved in the emission reduction. Table 1 below is a summary of the emission units involved in the emission reduction.

The Title V Permit, which contains the applicable emission controls and emission rate limits, and DAQ's Air Emission Inventory system (the State and Local Emissions Inventory System, or SLEIS), which contains the reported actual emissions; use different ID's and descriptions. Table 1 also provides a Cross Reference on how both these documents/systems identify the Facility's emission units considered herein for the shutdown emission reductions. The Emission Unit and Emission Unit Descriptions in Table 1 are as these are listed in Condition 1 – Emission Unit Identification in the Title V Permit. The SLEIS ID and Descriptions are included as *Italic Font* within parentheses.

**Table 1 – Emission Units involved in the emission reduction – Permit and SLEIS Cross Reference**

Emission Unit <i>(SLEIS ID, Description)</i>	Emission Unit Description
Boiler PB-705 <i>(EU 002, Boiler #1, PB 705)</i>	Boiler with de-rated maximum heat input of 30.1 MMBTU/ hr, fired on natural gas
Boiler PB-706 <i>(EU 005, Boiler #2, PB 706)</i>	Boiler with de-rated maximum heat input of 40.1 MMBTU/hr, fired on natural gas
Distillate Oil Storage Tank (PT—708A)	100,000 gallon storage tank for distillate oil, installed in 1971.
E2 PVC Resin Production Plant <i>(EU 011, PVC Emulsion Plant E-2LPV)</i> <i>(EU 012, E-2 PVC Dryer)</i>	Eight 6,000 gallon reactors (one of which is dedicated to seed batches), VCM bullets, drop tank, blend tank, seed tank, shaker screen, spray dryer with associated burner and collector (DG601A through H), VCM recovery system (heat exchangers used as condensers). The reactors are used as strippers for removal of residual vinyl chloride monomer (RVCM).
S2 PVC Resin Production Plant <i>(EU 020, PVC Emulsion Plant #S2LPV)</i> <i>(EU 021, PVC Plant S-2 Poly Dryer)</i>	Five 6,000 gallon reactors, VCM bullets, blend tank, seed tanks, shaker screen, spray dryer with associated burner and collector (EGSOZA through D), VCM recovery system (heat exchangers used as condensers). The reactors are used as strippers for removal of residual vinyl chloride monomer (RVCM).
Vinyl Acetate Monomer (VAM) System <i>(EU 030, Vinyl Acetate Storage Tank)</i>	34,000 gallon storage tank (PT-102) for vinyl acetate monomer (VAM) and a transfer rack used for filling the tank only.
Primary Thermal Oxidizer (WE—710) with Scrubber (WD-710) <i>(CD 11, WB710 (711 Secondary))</i>	The thermal oxidizers destroy exhaust gases which result from the stripping of residual vinyl chloride (and, when applicable vinyl acetate) from the resin batches following the polymerization step, after those gases have passed through the VCM recovery system. These thermal oxidizers have traditionally been referred to as “incinerators”. The thermal oxidizers destroy VCM which results in the generation of hydrogen chloride which is reduced in concentration in the bottom of the oxidizers by contact with water and then piped to the scrubber associated with the thermal oxidizer in use. The scrubbers use a sodium hydroxide solution to reduce hydrogen chloride concentrations.
Secondary Thermal Oxidizer (WB—711) with Scrubber (WD—71 1) <i>(CD 11, WB710 (711 Secondary))</i>	
Materials Processing and Handling Equipment <i>(013, E-2 PVC Handling/Storage)</i> <i>(022, Plant S-2 PVC Handling)</i>	Transfer collectors, storage silos, grinder feed hoppers, grinders, bag and supersack packers, bag cleaning units, and bagging area vacuum system. See Appendix B of this permit for a full list.
Cold Solvent Degreaser <i>(N/A, Emissions not reported)</i>	Remote reservoir spray sink cold solvent degreaser located in the Maintenance Shop.

Emission Unit (SLEIS ID, Description)	Emission Unit Description
Emergency Generators (047, Emergency generators & fire pumps)	E2 Plant Generator – KATO Model 600 SR9D with a Stand By Power Rating of 675 KW and an Engine Horsepower of 970 HP S2 Plant Generator – G.E. Model 5AT1830745A3 with an Engine Horsepower of 910 HP Carbon Bed – Rudox Model M621 RM-750 with a Stand By Power Rating of 850 KW and an Engine Horsepower of 1140 HP Wastewater Treatment Plant – Cummins Model 680FOC41DA with an Engine Horsepower of 700 HP
Fire Pumps (047, Emergency generators & fire pumps)	Cummins Diesel Model N-855-F Fire Pump with an Engine Horsepower of 250 HP Cummins Diesel Model NHC-ZSO Fire Pump

Section 1.b. of the Title V Permit is a table listing the underlying air permits whose provisions have been incorporated into the Title V permit and which is incorporated by reference in this application.

**2.4.6 Applicable Emission Controls/Limits**

Section 5.6.2 of Rule 1134 requires that the application include “Citations of all applicable emission control regulations, including any applicable requirements as defined in 7 DE Admin. Code 1130.” Rule 1130 is the Title V State Operating Permit Program. Per a pre-application February 25, 2019, telephone conference with Angela Marconi and Mark Prettyman of the Division of Air Quality, it was agreed that providing a summary of the pollutant specific emission limits from the Title V Operating Permit at the Emission Unit level, in units of tons per year would be an acceptable approach to this requirement.

Table A-5 provided in Attachment A provides a summary of the annual emission limits included in the Title V Operating Permit. These annual emission limits are presented for the Emission Units included in this application to meet this requirement. Where applicable, the limits are shown for processes or equipment within an emission unit. In some cases, the applicable limits are based on Unit Processes within the respective Emission Units. In many cases the Permit does not include specific annual emission limits. However, specific annual emission limits are presented when available.

Table A-6 in Attachment A presents the comparison of the reported actual annual emissions for 2016 and 2017 to the identified annual permit limits. In all cases, it is demonstrated that the reported emissions comply with the applicable limits.

In preparing this application, it was noted that Vinyl Acetate Monomer (VAM) emissions were reported for the S2 PVC Resin Production Plant. The reported VOC (as VAM) emissions were 1.12 tons for 2016 and 0.005979 tons for 2017. However, the applicant will not seek ERCs for



these particular reported VOC emissions. We believe that these emissions were conservatively reported for Emission Unit 021 and Process 1 (“PVC PLANT S-2 POLY DRYER”, “S-2 DRYER - FUGITIVES”, as explained in further detail below.

Based on process knowledge, there should be no VAM emissions from the S2 PVC Resin PVC Resin Production Plant as VAM was not used in this batch production line. We suspect that the estimate of VAM emissions are a result of “false positive” in laboratory results of batch testing, or due to some other affect such as method interferences, lab reporting error, or other artifact or problem in batch testing such as sample contamination or mistakes in sample chain of custody. Instead, based on process knowledge and revised engineering judgment, the VAM emissions from this source were most likely zero regardless if VAM emissions were conservatively reported in SLEIS as high biased estimate based on information available and the routine traditional methods of Total Organic Hazardous Air Pollutant (TOHAP) analysis and reporting used at the plant at the time of reporting.

**2.4.7 Baseline Emissions**

Section 5.6.3 of Rule 1134 requires that the baseline emissions for each emission unit be presented in the ERC Application. As summarized above, the “reduction method” in this case is a complete facility shutdown. This is proposed to suffice as a description of the method used to reduce emissions. The emissions reduction that resulted from the shutdown are based on an average of the reported annual emissions for years 2016 and 2017, the two full years of operation before the facility shutdown in 2018. Again, the quantities of emission reductions submitted for certification are equivalent to the baseline emissions because future emissions are zero due to the full facility shutdown.

Table 2 below is a summary of Baseline Emissions and Emissions Reductions being applied for certification of ERCs and CZOs. As required by Rule 1134, the baseline emissions of VOC and NOx are expressed in ozone season and non-ozone season tons per season, as well as a total for tons per year. The other CZO pollutants are provided in annual emission rates of tons per year. These rates are the average emission rates for 24 months of facility operation during the calendar years 2016 and 2017.

**TABLE 2 – Summary of Baseline Emissions and Emissions Reduction**

SLEIS ID, Description	NOx	VOC	Ozone Season		Non-Ozone Season		CO	NH3	PM10 PRI	PM2.5	SO2
			NOx	VOC	NOx	VOC					
EU 002, Boiler #1, PB 705	4.93	0.27	2.04	0.11	2.89	0.16	4.13	0.16	0.03	0.02	0.03
EU 005, Boiler #2, PB 706	6.88	0.38	2.81	0.15	4.06	0.22	5.77	0.22	0.04	0.03	0.04
EU 011, PVC Emulsion Plant E-2LPV		3.02		1.68		1.34					
EU 012, E-2 PVC Dryer	11.22	30.76	6.24	17.04	4.98	13.72	6.73	0.32	4.38	3.48	0.05

SLEIS ID, Description	NOx	VOC	Ozone Season		Non-Ozone Season		CO	NH3	PM10 PRI	PM2.5	SO2
			NOx	VOC	NOx	VOC					
EU 013, E-2 PVC Handling/Storage									1.28	1.28	
EU 020, S2 PVC Resin Production Plant		1.12		0.64		0.48					
EU 021 PVC Plant S-2 Poly Dryer	4.52	7.96	2.58	4.54	1.94	3.41	2.71	1.22	7.15	5.69	0.02
EU 022 Plant S-2 PVC Handling									2.13	2.13	
EU 030, Vinyl Acetate Storage Tank		3.30		1.92		1.37					
EU 031, Waste Water Strippers		0.003		0.001		0.001					
EU 043, Incinerators WB710 and WB711	0.09	0.01					0.05				
EU 044, QC Lab Hoods		0.06		0.037		0.026					
EU 047, Emergency Engines; Cold Degreaser	0.94	0.05	0.55	0.03	0.39	0.02	0.20		0.02	0.02	0.06
<b>Appendix B - Materials Processing and Handling Equipment</b>											
EU 037, E2 DG670 Grinder Collect ED2D-4									1.13	1.13	
EU 038, E2 DG671A Grinder (E2D-15)									1.06	1.06	
EU 039, E2 Silos (7)									0.47	0.47	
EU 040, E2 DG680 Grinder (E2D-4)									0.54	0.54	
EU 042, DG691 Resin Recovery (E2D-25)									0.12	0.12	
EU 046 Dust Collector for Packers DG611A (E2D-29)									0.93	0.93	
<b>Totals</b>	<b>28.6</b>	<b>46.9</b>	<b>14.2</b>	<b>25.9</b>	<b>14.4</b>	<b>21.0</b>	<b>19.6</b>	<b>1.9</b>	<b>19.3</b>	<b>16.9</b>	<b>0.2</b>

Tables A-1, A-2, and A-3 in Attachment A provide details of the emission quantities summarized above in Table 2.

**2.4.8 Basis of Calculations to Quantify Baseline Emissions**

Rule 1134, Section 5.6.4 requires that the application include the test methods used, or the calculations used, to quantify the baseline emissions and the post reduction emissions rate, along with all supporting documentation.

The calculations used in the application to quantify the baseline emissions refer to emission rates reported in the facility’s SLEIS reports for operating years 2016 and 2017. The quantification of the emission reductions also considers related operational information reported in these reports, or facility records of data used in the preparation of these reports. The specific estimation method of the annual actual reported emission quantities are specified

within the annual SLEIS reports. These include the use of emission factors, emission testing results, and engineering estimates such as mass balances and process knowledge. Copies of the SLEIS reports for 2016 and 2017 are included as Appendix B to provide a copy of this information to meet the section 5.6.4 requirement. It is also assumed that the DAQ can access and reference the SLEIS database as needed to review and confirm the Baseline Emissions presented in this application.

The facility calculations and summary operating data used in preparing the SLEIS reported actual emissions for 2016 and 2017 were also referenced as needed to confirm the Baseline Emissions. An example is the estimation of ozone season and non-ozone season rates. In addition, some operating schedule details were obtained from plant operating records to quantify the seasonal sub-total emission rates for VOC and NOx.

The Ozone season is defined in DE to be April 1 to October 31. The data available in printed SLEIS reports as Seasonal Operations includes percentages for ranges of months, namely March to May, June to August, December to February, and September to November. It also includes Total Summer and Total Ozone Season Days. The detailed monthly throughputs, fuel use and production of many Emission Units and Processes are reported within SLEIS; but, these details are not included in report printouts. Nevertheless, monthly activity data for April through October was used in this analysis to quantify the emissions from April 1 to October 31. The monthly data was obtained from either the SLEIS online data (not printed in reports), or the calculations and summary operating data in facility records used to prepare the 2016 and 2017 SLEIS reports.

For Emission units 002, 005, 011, 012, 013, 020, 021, 022, 043, 038, 039, an "ozone season coefficient" was calculated from the monthly operating data (such as production quantities or fuel use, etc.). The coefficient is the calculated ratio of the subtotal for April through October operations divided by the total annual operations. This coefficient was then multiplied by the reported annual NOx and VOC emissions for each year to estimate the Ozone Season and Non-Ozone Season emission rates.

Another method was used for Emission Units with smaller VOC emission rates, and emission processes that have uniform operations throughout the year, such as emergency generators. In these cases, an engineering estimate of 7 months (April to October) over 12 months, or 0.58 (or 58%) was used for the ozone season coefficient. This is noted in Tables A-1 and A-2 as *Assumed* for these values in Emission Units 030, 031, 044 and 047.

#### **2.4.9 Request to Cancel All Formosa Facility Air Permits**

Rule 1134, Section 5.6.5 requires that "for shutdowns, a request for the Department to cancel all applicable permit or permits" be included in the application. The applicant understands that the DAQ has canceled all of Formosa's air permits, including AQM-003100027-Renewal (R2). Therefore, this requirement has been met.

3 PROPOSED ASSURANCE THAT EMISSION REDUCTIONS ARE ENFORCABLE

3.1.1 Compliance assurance measures

The permanent shutdown of the Formosa facility is the assurance that the emission reductions are permanent and enforceable. The facility will not operate in the future; and therefore, future emissions are zero.

4 CERTIFICATION

Section 5.6.7 of Rule 1134 requires a certification by the Responsible Official. The certification is to confirm that to the best of the Responsible Official's knowledge, and after reasonable inquiry:

- The information contained in the application is true, accurate and complete,
- The emission reductions generated are real, surplus, enforceable, permanent and quantifiable; and,
- The shutdown or reduction in production or in the hours of operation were not undertaken solely to create ERCs.

The certification below is made to meet these requirements.

Responsible Official Certification

I, Weijing Tao, hereby certify as Plant Manager and designated Responsible Official of the Formosa Plastics Corporation facility in Delaware City, DE, to the best of my knowledge, and after reasonable inquiry, that the information contained in this application is true, accurate and complete. That the emission reductions resulting from the shutdown of this facility generated are real, surplus, enforceable, permanent and quantifiable, and that, the shutdown of the facility was not undertaken solely to create ERCs.

Weijing Tao  
Signature

4/11/19.  
Date

## **APPENDIX A**

### **Baseline Emissions and Allowable (Permit) Limits Tables**

- Table A-1 Reported Actual Emissions for 2016 - TPY
- Table A-2 Reported Actual Emissions for 2017 - TPY
- Table A-3 Reported Actual Emissions Average for 2016 - 2017 - TPY
- Table A-4 Applicable Emission Limits
- Table A-5 Comparison of 2016 Actual Emissions to Allowable Emissions - TPY
- Table A-6 Comparison of 2017 Actual Emissions to Allowable Emissions - TPY

Table A-1 Reported Actual Emissions for 2016 - TPY

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Coefficients for ozone season	2016 Signed Summary Emissions							Ozone Season 2016 (April 1 - October 31)		Regular Season 2016 (Jan 1 - March 31, Nov 1 - Dec 31)	
			2016	NOx	VOC	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>	NOx	VOC	NOx
002	PB705 (page 72) (Boiler #1, PB 705)	0.44	5.543	0.304	4.65	0.18	0.03	0.024	0.033	2.439	0.134	3.104	0.170
005	PB706 (page 82) (Boiler #2, PB 706)	0.44	6.596	0.363	5.538	0.21	0.035	0.029	0.04	2.90	0.16	3.69	0.20
011	E-2 LPV (page 87)  PVC Emulsion Plant E-2LPV	0.53	2.969		0					1.57		1.40	
012	E2D-1 (page 4) and DG601A H (page 30) (E-2 PVC Dryer)	0.53	10.57	32.03	6.34	0.25	3.77	2.995	0.045	5.60	16.97	4.97	15.05
013	DG660 & DG661 (pg 95)  (E-2 PVC Handling/Storage)	0.53					1.335	1.335					
020	S2-1 (page 7) (S2 PVC Resin Production Plant)	0.56	1.036							0.58		0.46	
021	N/A (page 8) (PVC Plant S-2 Poly Dryer)	0.56	4.101	7.192	2.461	0.74	3.338	2.659	0.018	2.30	4.03	1.80	3.16
022	EG602A-D (Plant S-2 PVC Handling)	0.59					1.903	1.903					
030	N/A (page 13) (Vinyl Acetate Storage Tank)	0.58	3.181							1.86		1.33	
031	N/A (page 14) (Waste Water Strippers)	0.58 <i>Assumed</i>	0.002							0.001		0.001	

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Coefficients for ozone season	2016 Signed Summary Emissions							Ozone Season 2016 (April 1 - October 31)		Regular Season 2016 (Jan 1 - March 31, Nov 1 - Dec 31)	
			2016	NOx	VOC	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>	NOx	VOC	NOx
043	WB710 & WB711 (page 62) (Incinerators WB710 and WB711)	0.57	0.091	0.014	0.055					0.05	0.01	0.04	0.01
044	N/A (page 133) (QC Lab Hoods)	0.58 <i>Assumed</i>		0.053							0.03		0.02
047	N/A (page 141) (Emergency Generators and Fire Pumps; Cold Solvent Degreaser)	0.58  <i>Assumed</i>	1.01	0.054	0.217		0.023	0.023	0.066	0.59	0.03	0.42	0.02
<b>Appendix B - Materials Processing and Handling Equipment</b>													
E2D-27, S2D-19, Baghouse DF609A&B	(E2D-27, S2D-19, Baghouse DF609A, Baghouse DF609B)												
037	DG670 (page 56) E2 DG670 Grinder Collect (E2D-14)						1.21	1.21					
038	DG671A and DG671B (page 57) E2 DG671A Grinder (E2D-15)	0.54					1.137	1.137					
039	DT608A-G (page 58) E2 Silos (7)	0.53					0.482	0.482					
040	DG680 (page 59) E2 DG680 Grinder (E2D-4)						0.581	0.581					
042	DG691 (page 61) DG691 Resin Recovery (E2D 25)						0.124	0.124					
046	N/A (page 65) Dust Collector for Packers DG611A (E2D-29)						1.113	1.113					
		<b>Total (tpy)</b>	<b>27.9</b>	<b>47.2</b>	<b>19.3</b>	<b>1.38</b>	<b>15.08</b>	<b>13.6</b>	<b>0.20</b>	<b>13.9</b>	<b>25.4</b>	<b>14.0</b>	<b>21.8</b>

Table A-2 Reported Actual Emissions for 2017 - TPY

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Coefficients for ozone season	2017 Signed Summary Emissions							Ozone Season 2017 (April 1 - October 31)		Regular Season 2017 (Jan 1 - March 31, Nov 1 - Dec 31)	
			2017	NOx <sup>3</sup>	VOC	CO	NH <sub>3</sub>	PM10 PRI <sup>4</sup>	PM2.5	SO <sub>2</sub>	NOx <sup>3</sup>	VOC	NOx <sup>3</sup>
002	PB705 (page 72) (Boiler #1, PB 705)	0.38	4.31	0.237	3.614	0.138	0.023	0.019	0.026	1.64	0.09	2.67	0.15
005	PB706 (page 82) (Boiler #2, PB 706)	0.38	7.154	0.393	6.007	0.229	0.038	0.031	0.043	2.72	0.15	4.44	0.24
011	E-2 LPV (page 87)  PVC Emulsion Plant E-2LPV	0.58	3.07		0					1.78		1.29	
012	E2D-1 (page 4) and DG601A H (page 30) (E-2 PVC Dryer)	0.58	11.877	29.488	7.126	0.397	4.996	3.969	0.051	6.89	17.10	4.99	12.38
013	DG660 & DG661 (pg 95)  (E-2 PVC Handling/Storage)	0.58					1.23	1.23					
020	S2-1 (page 7) (S2 PVC Resin Production Plant)	0.58	1.209							0.70		0.51	
021	N/A (page 8) (PVC Plant S-2 Poly Dryer)	0.58	4.946	8.719	2.968	1.695	10.958	8.73	0.021	2.87	5.06	2.08	3.66
022	EG602A-D (Plant S-2 PVC Handling)	0.58					2.36	2.36					
030	N/A (page 13) (Vinyl Acetate Storage Tank)	0.58	3.417							1.99		1.42	
031	N/A (page 14) (Waste Water Strippers)	0.58 <i>Assumed</i>	0.003							0.002		0.001	



Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Coefficients for ozone season	2017 Signed Summary Emissions							Ozone Season 2017 (April 1 - October 31)		Regular Season 2017 (Jan 1 - March 31, Nov 1 - Dec 31)	
			2017	NOx <sup>3</sup>	VOC	CO	NH <sub>3</sub>	PM10 PRI <sup>4</sup>	PM2.5	SO <sub>2</sub>	NOx <sup>3</sup>	VOC	NOx <sup>3</sup>
043	WB710 & WB711 (page 62) (Incinerators WB710 and WB711)		0.08	0.005	0.048				0	0.08	0.01	0.00	0.00
044	N/A (page 133) (QC Lab Hoods)	0.58 <i>Assumed</i>		0.074							0.04		0.03
047	N/A (page 141) (Emergency Generators and Fire Pumps; Cold Solvent Degreaser)	0.58  <i>Assumed</i>	0.868	0.046	0.187		0.02	0.02	0.057	0.51	0.03	0.36	0.02
<b>Appendix B - Materials Processing and Handling Equipment</b>													
E2D-27, S2D-19, Baghouse DF609A&B	(E2D-27, S2D-19, Baghouse DF609A, Baghouse DF609B)												
037	DG670 (page 56) E2 DG670 Grinder Collect (E2D-14)						1.053	1.053					
038	DG671A and DG671B (page 57) E2 DG671A Grinder (E2D-15)	0.58					0.99	0.99					
039	DT608A-G (page 58) E2 Silos (7)	0.58					0.464	0.464					
040	DG680 (page 59) E2 DG680 Grinder (E2D-4)						0.505	0.505					
042	DG691 (page 61) DG691 Resin Recovery (E2D 25)						0.115	0.115					
046	N/A (page 65) Dust Collector for Packers DG611A (E2D-29)						0.749	0.749					
		<b>Total (tpy)</b>	<b>29.2</b>	<b>46.7</b>	<b>20.0</b>	<b>2.5</b>	<b>23.5</b>	<b>20.2</b>	<b>0.2</b>	<b>14.7</b>	<b>27.0</b>	<b>14.5</b>	<b>19.7</b>

Table A-3 Reported Actual Emissions Average for 2016 - 2017 - TPY

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Average Emissions: 2016-2017							Average Emissions: 2016-2017 Ozone Season		Average Emissions: 2016-2017 Regular Season	
		NOx	VOC	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>	NOx	VOC	NOx	VOC
002	PB705 (page 72) (Boiler #1, PB 705)	4.93	0.27	4.13	0.16	0.03	0.02	0.03	2.04	0.11	2.89	0.16
005	PB706 (page 82) (Boiler #2, PB 706)	6.88	0.38	5.77	0.22	0.04	0.03	0.04	2.81	0.15	4.06	0.22
011	E-2 LPV (page 87)  PVC Emulsion Plant E-2LPV	3.02							1.68		1.34	
012	E2D-1 (page 4) and DG601A H (page 30) (E-2 PVC Dryer)	11.22	30.76	6.73	0.32	4.38	3.48	0.05	6.24	17.04	4.98	13.72
013	DG660 & DG661 (pg 95)  (E-2 PVC Handling/Storage)	1.28 1.28										
020	S2-1 (page 7) (S2 PVC Resin Production Plant)	1.12							0.64		0.48	
021	N/A (page 8) (PVC Plant S-2 Poly Dryer)	4.52	7.96	2.71	1.22	7.15	5.69	0.02	2.58	4.54	1.94	3.41
022	EG602A-D (Plant S-2 PVC Handling)	2.13 2.13										
030	N/A (page 13) (Vinyl Acetate Storage Tank)	3.30							1.92		1.37	
031	N/A (page 14) (Waste Water Strippers)	0.003							0.001		0.001	

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Average Emissions: 2016-2017							Average Emissions: 2016-2017 Ozone Season		Average Emissions: 2016-2017 Regular Season	
		NOx	VOC	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>	NOx	VOC	NOx	VOC
043	WB710 & WB711 (page 62) (Incinerators WB710 and WB711)	0.09	0.01	0.05					0.07	0.01	0.02	0.00
044	N/A (page 133) (QC Lab Hoods)		0.06							0.037		0.026
047	N/A (page 141) (Emergency Generators and Fire Pumps; Cold Solvent Degreaser)	0.94	0.05	0.20		0.02	0.02	0.06	0.55	0.03	0.39	0.02
<b>Appendix B - Materials Processing and Handling Equipment</b>												
E2D-27, S2D-19, Baghouse (E2D-27, S2D-19, Baghouse DF609A&B DF609A, Baghouse DF609B)												
037	DG670 (page 56) E2 DG670 Grinder Collect (E2D-14)					1.13	1.13					
038	DG671A and DG671B (page 57) E2 DG671A Grinder (E2D-15)					1.06	1.06					
039	DT608A-G (page 58) E2 Silos (7)					0.47	0.47					
040	DG680 (page 59) E2 DG680 Grinder (E2D-4)					0.54	0.54					
042	DG691 (page 61) DG691 Resin Recovery (E2D 25)					0.12	0.12					
046	N/A (page 65) Dust Collector for Packers DG611A (E2D-29)					0.93	0.93					
		<b>28.6</b>	<b>46.9</b>	<b>19.6</b>	<b>1.9</b>	<b>19.3</b>	<b>16.9</b>	<b>0.2</b>	<b>14.3</b>	<b>26.2</b>	<b>14.3</b>	<b>20.8</b>

Table A-4 - Applicable Emission Limits

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Permit Limits in Tons per Year NOTE ID for details of Permit Condition (see Table Notes)									
		NOx	VOC	VCM	VAM	HCl	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>
002	PB705 (page 72) (Boiler #1, PB 705)	0 NOx-1	-					77.68 NH3-1	- PM10-1		- SO2-1
005	PB706 (page 82) (Boiler #2, PB 706)	0 NOx-1	-					77.68 NH3-1	- PM10-1		- SO2-2
011	E-2 LPV (page 87)  PVC Emulsion Plant E-2LPV	-	43.19 VOC-0	30.35 VOC-1	12.84 VOC-1			77.68 NH3-1	-	-	-
012	E2D-1 (page 4) and DG601A H (page 30) (E-2 PVC Dryer)	-	47.8 VOC-0		47.8 VOC-2			77.68 NH3-1	24.97 PM10-2	-	-
013	DG660 & DG661 (pg 95)  (E-2 PVC Handling/Storage)	-	-					77.68 NH3-1	-	-	-
020	S2-1 (page 7) (S2 PVC Resin Production Plant)	-	3.7 VOC-0	3.7 VOC-3	0 VOC-3			77.68 NH3-1	-	-	-
021	N/A (page 8) (PVC Plant S-2 Poly Dryer)	-	14.31 VOC-0	14.31 VOC-4				77.68 NH3-1	13.2 PM10-3	-	-
022	EG602A-D (Plant S-2 PVC Handling)	-	-					77.68 NH3-1	-	-	-
030	N/A (page 13) (Vinyl Acetate Storage Tank)	0 NOx-2						77.68 NH3-1			
031	N/A (page 14) (Waste Water Strippers)	-	-					77.68 NH3-1	-	-	-

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Permit Limits in Tons per Year									
		Note ID for details of Permit Condition (see Table Notes)									
		NOx	VOC	VCM	VAM	HCl	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>
043	WB710 & WB711 (page 62) (Incinerators WB710 and WB711)	-	0.05	0.05		1.09	-	77.68	-	-	-
			VOC-0	VOC-5		VOC-5		NH3-1			
044	N/A (page 133) (QC Lab Hoods)	-	-				-	77.68	-	-	-
								NH3-1			
047	N/A (page 141) (Emergency Generators and Fire Pumps; Cold Solvent Degreaser)	0						77.68			
		NOx-3						NH3-1			
<b>Appendix B - Materials Processing and Handling Equipment</b>											
E2D-27, S2D-19, Baghouse DF609A&B	(E2D-27, S2D-19, Baghouse DF609A, Baghouse DF609B)							77.68	1.5	0.6	
								NH3-1	PM10-4	PM2.5-1	
037	DG670 (page 56) E2 DG670 Grinder Collect (E2D-14)							77.68			
								NH3-1			
038	DG671A and DG671B (page 57) E2 DG671A Grinder (E2D-15)							77.68			
								NH3-1			
039	DT608A-G (page 58) E2 Silos (7)							77.68			
								NH3-1			
040	DG680 (page 59) E2 DG680 Grinder (E2D-4)							77.68			
								NH3-1			
042	DG691 (page 61) DG691 Resin Recovery (E2D-25)							77.68			
								NH3-1			
046	N/A (page 65) Dust Collector for Packers DG611A (E2D-29)							77.68			
								NH3-1			

Table A-5 Comparison of 2016 Actual Emissions to Allowable Emissions - TPY

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Permit Limits Exceeded in 2016? Actual Emission in Tons Per Year									
		NOx	VOC	VCM	VAM	HCl	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>
002	PB705 (page 72) (Boiler #1, PB 705)	NR									
005	PB706 (page 82) (Boiler #2, PB 706)	NR									
011	E-2 LPV (page 87)  PVC Emulsion Plant E-2LPV		N/A 2.9686	NO 2.5256	NO 0.443						NR
012	E2D-1 (page 4) and DG601A H (page 30) (E-2 PVC Dryer)		N/A 32.027	NO 12.03	NO 17.0955					NR	NR
013	DG660 & DG661 (pg 95)  (E-2 PVC Handling/Storage)	NR									
020	S2-1 (page 7) (S2 PVC Resin Production Plant)		N/A	NO 1.03636	NR					NR	NR
021	N/A (page 8) (PVC Plant S-2 Poly Dryer)		N/A	NO 4.9					NO 0.73472	NO 3.338	
022	EG602A-D (Plant S-2 PVC Handling)	NR									
030	N/A (page 13) (Vinyl Acetate Storage Tank)	NR									
031	N/A (page 14) (Waste Water Strippers)	NR									

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Permit Limits Exceeded in 2016? Actual Emission in Tons Per Year										
		NOx	VOC	VCM	VAM	HCl	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>	
043	WB710 & WB711 (page 62) (Incinerators WB710 and WB711)		N/A 0.010125	NO 0.010125			NO 0.160618			NR		
044	N/A (page 133) (QC Lab Hoods)									NR		
047	N/A (page 141) (Emergency Generators and Fire Pumps; Cold Solvent Degreaser)									NR		
<b>Appendix B - Materials Processing and Handling Equipment</b>												
E2D-27, S2D-19, Baghouse DF609A&B	(E2D-27, S2D-19, Baghouse DF609A, Baghouse DF609B)									NR	NR	NR
037	DG670 (page 56) E2 DG670 Grinder Collect (E2D-14)									NR		
038	DG671A and DG671B (page 57) E2 DG671A Grinder (E2D-15)									NR		
039	DT608A-G (page 58) E2 Silos (7)									NR		
040	DG680 (page 59) E2 DG680 Grinder (E2D-4)									NR		
042	DG691 (page 61) DG691 Resin Recovery (E2D 25)									NR		
046	N/A (page 65) Dust Collector for Packers DG611A (E2D-29)									NR		

Table A-6 Comparison of 2017 Actual Emissions to Allowable Emissions - TPY

Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Permit Limits Exceeded in 2017? Actual Emission in Tons Per Year									
		NOx	VOC	VCM	VAM	HCl	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>
002	PB705 (page 72) (Boiler #1, PB 705)	NR									
005	PB706 (page 82) (Boiler #2, PB 706)	NR									
011	E-2 LPV (page 87)  PVC Emulsion Plant E-2LPV		N/A 3.07	NO 2.699	NO 0.3704						NR
012	E2D-1 (page 4) and DG601A H (page 30) (E-2 PVC Dryer)		N/A		NO 13.53			NO 0.397	NO 4.996		
013	DG660 & DG661 (pg 95)  (E-2 PVC Handling/Storage)	NR									
020	S2-1 (page 7) (S2 PVC Resin Production Plant)		N/A	NO 1.209	NR			NR	NR		
021	N/A (page 8) (PVC Plant S-2 Poly Dryer)		N/A	NO 6.089				NR	NO 10.958		
022	EG602A-D (Plant S-2 PVC Handling)	NR									
030	N/A (page 13) (Vinyl Acetate Storage Tank)	NR									
031	N/A (page 14) (Waste Water Strippers)	NR									



Emission Unit ID in Emission Summary	Site Stack Identifier or Equipment ID in Emissions Report	Permit Limits Exceeded in 2017? Actual Emission in Tons Per Year									
		NOx	VOC	VCM	VAM	HCl	CO	NH <sub>3</sub>	PM10 PRI	PM2.5	SO <sub>2</sub>
043	WB710 & WB711 (page 62) (Incinerators WB710 and WB711)		N/A	NO 0.0023				NR			
044	N/A (page 133) (QC Lab Hoods)							NR			
047	N/A (page 141) (Emergency Generators and Fire Pumps; Cold Solvent Degreaser)							NR			
<b>Appendix B - Materials Processing and Handling Equipment</b>											
E2D-27, S2D-19, Baghouse DF609A&B	(E2D-27, S2D-19, Baghouse DF609A, Baghouse DF609B)							NR	NR	NR	
037	DG670 (page 56) E2 DG670 Grinder Collect (E2D-14)							NR			
038	DG671A and DG671B (page 57) E2 DG671A Grinder (E2D-15)							NR			
039	DT608A-G (page 58) E2 Silos (7)							NR			
040	DG680 (page 59) E2 DG680 Grinder (E2D-4)							NR			
042	DG691 (page 61) DG691 Resin Recovery (E2D-25)							NR			
046	N/A (page 65) Dust Collector for Packers DG611A (E2D-29)							NR			

**APPENDIX B**

**Signed Emission Summary for 2016**  
**Annual Emission Inventory Report\* for 2016**  
**Signed Emission Summary for 2017**  
**Annual Emission Inventory Report\* for 2017**

**\*as Printed from SLEIS Web Application**

**Annual Emission Inventory Report for 2016**

## Delaware Division of Air Quality

## 2016 Annual Air Emission Inventory and Emissions Statement Report

Facility Name: FORMOSA PLASTICS CORPORATIONFacility Id: 1000300027 Year: 2016

## Emissions Unit Summary in Tons/Year

Emissions Unit Id	Emissions Unit Description	CO	NH3	NOx	Lead	PM10-PRI	PM25-PRI	SO2	VOC
<u>002</u>	<u>BOILER #1, PB 705</u>	<u>4.650</u>	<u>0.177</u>	<u>5.543</u>	<u>0.000</u>	<u>0.030</u>	<u>0.024</u>	<u>0.033</u>	<u>0.304</u>
<u>005</u>	<u>BOILER #2 PB 706</u>	<u>5.538</u>	<u>0.211</u>	<u>6.596</u>	<u>0.000</u>	<u>0.035</u>	<u>0.029</u>	<u>0.040</u>	<u>0.363</u>
<u>011</u>	<u>PVC EMULSION PLANT E-2LPV</u>								<u>2.969</u>
<u>012</u>	<u>E-2 PVC DRYER</u>	<u>6.340</u>	<u>0.252</u>	<u>10.567</u>		<u>3.770</u>	<u>2.995</u>	<u>0.045</u>	<u>32.027</u>
<u>013</u>	<u>E-2 PVC HANDLING/STORAGE</u>					<u>1.335</u>	<u>1.335</u>		
<u>020</u>	<u>PVC EMULSION PLANT #S2LPV</u>								<u>1.036</u>
<u>021</u>	<u>PVC PLANT S-2 POLY DRYER</u>	<u>2.461</u>	<u>0.735</u>	<u>4.101</u>		<u>3.338</u>	<u>2.659</u>	<u>0.018</u>	<u>7.192</u>
<u>022</u>	<u>PLANT S-2 PVC HANDLING</u>					<u>1.903</u>	<u>1.903</u>		
<u>030</u>	<u>VINYL ACETATE STORAGE TNK</u>								<u>3.181</u>
<u>031</u>	<u>WASTE WATER STRIPPERS</u>								<u>0.002</u>
<u>035</u>	<u>ACCIDENTAL RELEASE</u>								<u>11.500</u>
<u>037</u>	<u>E2 DG670 GRINDER COLLECT</u>					<u>1.210</u>	<u>1.210</u>		
<u>038</u>	<u>E2 DG671A GRINDER</u>					<u>1.137</u>	<u>1.137</u>		
<u>039</u>	<u>E2 SILOS (7)</u>					<u>0.482</u>	<u>0.482</u>		

Facility Name: FORMOSA PLASTICS CORPORATION

Facility Id: 1000300027

Year: 2016

Emissions Unit Summary in Tons/Year

Emissions Unit Id	Emissions Unit Description	CO	NH3	NOx	Lead	PM10-PRI	PM25-PRI	SO2	VOC
<u>040</u>	<u>E2 DG680 GRINDER</u>					<u>0.581</u>	<u>0.581</u>		
<u>042</u>	<u>DG 691 RESIN RECOVERY</u>					<u>0.124</u>	<u>0.124</u>		
<u>043</u>	<u>INCINERATORS WB710/711</u>	<u>0.055</u>		<u>0.091</u>	<u>0.000</u>			<u>0.000</u>	<u>0.014</u>
<u>044</u>	<u>QC LAB HOODS</u>								<u>0.053</u>
<u>046</u>	<u>Dust collector for packers</u>					<u>1.113</u>	<u>1.113</u>		
<u>047</u>	<u>Emergency generators &amp; fire pumps</u>	<u>0.217</u>		<u>1.010</u>		<u>0.023</u>	<u>0.023</u>	<u>0.066</u>	<u>0.054</u>
		<u>CO</u>	<u>NH3</u>	<u>NOx</u>	<u>Lead</u>	<u>PM10-PRI</u>	<u>PM25-PRI</u>	<u>SO2</u>	<u>VOC</u>
		<u>19.261</u>	<u>1.376</u>	<u>27.909</u>	<u>0.000</u>	<u>15.080</u>	<u>13.614</u>	<u>0.203</u>	<u>58.695</u>

Pursuant to 7 DE Admin. Code 1130, I, the undersigned, am a Responsible Official and I have personally examined and am familiar with the information submitted in this document and all its attachments. I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

Responsible Official: Roger Boone (Please Print)  
Title: Plant Manager (Please Print)  
Signature: Roger Boone Date: 6/22/17

# 2016 Emissions Report

## Facility General Information

Identifier: 1000300027  
 Facility Name: FORMOSA PLASTICS CORPORATION Company/Owner Name: Formosa Plastics Corporation USA  
 Description: PVC PRODUCTION  
 Status: OP - Operating Status Date:  
 Category: UNK - Facility category per 40 CFR 70 Major Source definitions is unknown.  
 NAICS: 325211 - Plastics Material and Resin Manufacturing  
 Comments:

Emissions Contact: KIM BENNETT (EHS MANAGER)

Contact Type	Value
Phone	(302) 836-2256
Email	KBENNETT@FDDE.FPCUSA.COM
Fax	(302) 836-1909

Permit Contact:

Contact Type	Value
Undefined	

Compliance Contact:

Contact Type	Value
Undefined	

## Location Address

780 SCHOOLHOUSE ROAD, , DELAWARE CITY, DE 19706

## Mailing Address

PO BOX 320, , DELAWARE CITY, DE 19706

## Location/Coordinates

Latitude (decimal degrees): 39.585  
 UTM X (Meters): 444250.247050  
 UTM Zone: 18

Longitude (decimal degrees): -75.6492  
 UTM Y (Meters): 4381899.196195

Collection Method:

Collection Date:

Reference Point:

Reference System:

## Additional Information

Field	Value
Principal Product or Type of Business	PVC POLYMER

Facility Employees	95
Facility Area (Acres)	115.0

# Release Points

## Release Point

Identifier: 11  
 Description: E-2 LPV  
 Release Point Type: 2 - Vertical  
 Status: OP - Operating  
 Stack Shape Code: C  
 Stack Height: 69.0  
 Stack Opening Length:  
 Stack Opening Width:  
 Stack Diameter: 1.80  
 Exit Gas Temp: 75  
 Exit Gas Flow Rate: 201.53945  
 Exit Gas Velocity: 79.2  
 Fence Line Distance:  
 Fugitive Height:  
 Fugitive Width:  
 Fugitive Length:  
 Fugitive Angle:  
 Comments:

### Status Date:

Stack Height UOM: FEET  
 Stack Opening Length UOM:  
 Stack Opening Width UOM:  
 Stack Diameter UOM: FEET  
 Exit Gas Temp UOM: °F  
 Exit Gas Flow Rate UOM: ACFS  
 Exit Gas Velocity UOM: FPS  
 Fence Line Distance UOM: FEET  
 Fugitive Height UOM:  
 Fugitive Width UOM:  
 Fugitive Length UOM: FEET  
 Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
 Latitude (decimal degrees): 39.586944  
 UTM X (Meters): 444246.000  
 UTM Zone: 18  
 Collection Method:  
 Reference Point:

Longitude (decimal degrees): -75.649166  
 UTM Y (Meters): 4381920.000  
 Collection Date:  
 Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	



## Release Point

Identifier: 12  
Description: E-2 PVC DRYER  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 90  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	E2D-1

## Release Point

Identifier: 13  
Description: E-2 PVC HANDLING/STORAGE  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 30.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.40  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 5000  
Exit Gas Velocity: 54.1  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 2  
Description: BOILER #1 PB705  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 38.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 3.50  
Exit Gas Temp: 520  
Exit Gas Flow Rate: 15560  
Exit Gas Velocity: 27  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 20  
Description: PVC EMULSION PLANT S#2  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:

Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:

Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:

Fence Line Distance:  
Fugitive Height: 58

Fence Line Distance UOM:  
Fugitive Height UOM: FEET

Fugitive Width:

Fugitive Width UOM:

Fugitive Length:

Fugitive Length UOM: FEET

Fugitive Angle:

Fugitive Angle UOM: Degrees

Comments:

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000

Collection Method:

Collection Date:

Reference Point:

Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	S2-1

## Release Point

Identifier: 21  
Description: PVC PLANT S-2/POLYMER DRY  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 65.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 5.30  
Exit Gas Temp: 150  
Exit Gas Flow Rate: 65500  
Exit Gas Velocity: 50.4  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588055  
UTM X (Meters): 444173.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382055.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

**Identifier:** 22  
**Description:** PLANT S-2 PVC HANDLING  
**Release Point Type:** 2 - Vertical  
**Status:** OP - Operating  
**Stack Shape Code:** C  
**Stack Height:** 75.0  
**Stack Opening Length:**  
**Stack Opening Width:**  
**Stack Diameter:** 1.00  
**Exit Gas Temp:** 68  
**Exit Gas Flow Rate:** 6000  
**Exit Gas Velocity:** 127.3  
**Fence Line Distance:**  
**Fugitive Height:**  
**Fugitive Width:**  
**Fugitive Length:**  
**Fugitive Angle:**  
**Comments:**

**Status Date:**

**Stack Height UOM:** FEET  
**Stack Opening Length UOM:**  
**Stack Opening Width UOM:**  
**Stack Diameter UOM:** FEET  
**Exit Gas Temp UOM:** °F  
**Exit Gas Flow Rate UOM:** ACFM  
**Exit Gas Velocity UOM:** FPS  
**Fence Line Distance UOM:**  
**Fugitive Height UOM:**  
**Fugitive Width UOM:**  
**Fugitive Length UOM:** FEET  
**Fugitive Angle UOM:** Degrees

### Location/Coordinates

**Uses Facility Site Location?** False  
**Latitude (decimal degrees):** 39.588333  
**UTM X (Meters):** 444174.000  
**UTM Zone:** 18  
**Collection Method:**  
**Reference Point:**

**Longitude (decimal degrees):** -75.650000  
**UTM Y (Meters):** 4382079.000  
**Collection Date:**  
**Reference System:**

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 25  
Description: PVC PILOT PLANT  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 30  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 26  
Description: PILOT PLANT DRYER  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 30  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
  
Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
Longitude (decimal degrees): -75.650000  
UTM X (Meters): 444174.000  
UTM Y (Meters): 4382079.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	



## Release Point

Identifier: 27  
Description: PVC PILOT PLANT/POLY. DRY  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 20  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 30  
Description: VINYL ACETATE STORAGE TNK  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 20.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 0.30  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 0.12723  
Exit Gas Velocity: 1.8  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
Longitude (decimal degrees): -75.650000  
UTM X (Meters): 444174.000  
UTM Y (Meters): 4382079.000  
UTM Zone: 18  
Collection Method:  
Collection Date:  
Reference Point:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 31  
Description: WASTE WATER STRIPPER S-2  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 1  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 35  
Description: ACCIDENTAL RELEASE  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:

Stack Height:

Stack Height UOM:

Stack Opening Length:

Stack Opening Length UOM:

Stack Opening Width:

Stack Opening Width UOM:

Stack Diameter:

Stack Diameter UOM:

Exit Gas Temp:

Exit Gas Temp UOM: °F

Exit Gas Flow Rate:

Exit Gas Flow Rate UOM:

Exit Gas Velocity:

Exit Gas Velocity UOM:

Fence Line Distance:

Fence Line Distance UOM:

Fugitive Height: 30

Fugitive Height UOM: FEET

Fugitive Width:

Fugitive Width UOM:

Fugitive Length:

Fugitive Length UOM: FEET

Fugitive Angle:

Fugitive Angle UOM: Degrees

Comments:

### Location/Coordinates

Uses Facility Site Location? False

Latitude (decimal degrees): 39.588333

Longitude (decimal degrees): -75.650000

UTM X (Meters): 444174.000

UTM Y (Meters): 4382079.000

UTM Zone: 18

Collection Method:

Collection Date:

Reference Point:

Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 36  
Description: E-1 BAGHOUSES  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 26.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.20  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 4000  
Exit Gas Velocity: 62  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

**Identifier:** 37  
**Description:** E2 BAGHOUSE GRINDER COLLE  
**Release Point Type:** 2 - Vertical  
**Status:** OP - Operating  
**Stack Shape Code:** C  
**Stack Height:** 30.0  
**Stack Opening Length:**  
**Stack Opening Width:**  
**Stack Diameter:** 3.20  
**Exit Gas Temp:** 60  
**Exit Gas Flow Rate:** 10000  
**Exit Gas Velocity:** 20.7  
**Fence Line Distance:**  
**Fugitive Height:**  
**Fugitive Width:**  
**Fugitive Length:**  
**Fugitive Angle:**  
**Comments:**

**Status Date:**

**Stack Height UOM:** FEET  
**Stack Opening Length UOM:**  
**Stack Opening Width UOM:**  
**Stack Diameter UOM:** FEET  
**Exit Gas Temp UOM:** °F  
**Exit Gas Flow Rate UOM:** ACFM  
**Exit Gas Velocity UOM:** FPS  
**Fence Line Distance UOM:**  
**Fugitive Height UOM:**  
**Fugitive Width UOM:**  
**Fugitive Length UOM:** FEET  
**Fugitive Angle UOM:** Degrees

### Location/Coordinates

**Uses Facility Site Location?** False  
**Latitude (decimal degrees):** 39.588333  
**UTM X (Meters):** 444174.000  
**UTM Zone:** 18  
**Collection Method:**  
**Reference Point:**

**Longitude (decimal degrees):** -75.650000  
**UTM Y (Meters):** 4382079.000  
**Collection Date:**  
**Reference System:**

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 38  
Description: E-2 DG-671 BAGHOUSE  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 25.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 2.40  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 3000  
Exit Gas Velocity: 11.1  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 39  
Description: E2 SILOS (7)  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 118.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.30  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 17.65339  
Exit Gas Velocity: 13.3  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	



## Release Point

Identifier: 4  
Description: BOILER PB 704  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 35  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 40  
 Description: E2 DG680 GRINDER BAGHOU  
 Release Point Type: 2 - Vertical  
 Status: OP - Operating  
 Stack Shape Code: C  
 Stack Height: 32.0  
 Stack Opening Length:  
 Stack Opening Width:  
 Stack Diameter: 1.50  
 Exit Gas Temp: 70  
 Exit Gas Flow Rate: 6000  
 Exit Gas Velocity: 56.6  
 Fence Line Distance:  
 Fugitive Height:  
 Fugitive Width:  
 Fugitive Length:  
 Fugitive Angle:  
 Comments:

Status Date:  
 Stack Height UOM: FEET  
 Stack Opening Length UOM:  
 Stack Opening Width UOM:  
 Stack Diameter UOM: FEET  
 Exit Gas Temp UOM: °F  
 Exit Gas Flow Rate UOM: ACFM  
 Exit Gas Velocity UOM: FPS  
 Fence Line Distance UOM:  
 Fugitive Height UOM:  
 Fugitive Width UOM:  
 Fugitive Length UOM: FEET  
 Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
 Latitude (decimal degrees): 39.588333  
 UTM X (Meters): 444174.000  
 UTM Zone: 18  
 Collection Method:  
 Reference Point:

Longitude (decimal degrees): -75.650000  
 UTM Y (Meters): 4382079.000  
 Collection Date:  
 Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 41  
Description: E2 DG610/611 BAGGERS  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 30.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 0.80  
Exit Gas Temp: 70  
Exit Gas Flow Rate: 30.96354  
Exit Gas Velocity: 61.6  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 42  
Description: VACUUM CLEANING SYSTEM  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 12.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 0.70  
Exit Gas Temp: 70  
Exit Gas Flow Rate: 54.57104  
Exit Gas Velocity: 141.8  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 43  
Description: WASTE GAS INCINERATORS  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 33.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.00  
Exit Gas Temp: 150  
Exit Gas Flow Rate: 634  
Exit Gas Velocity: 13.5  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 44  
Description: QC LAB HOODS  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 10  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 45  
Description: WASTE WATER TREATMENT  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 20  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 46  
Description: Packer dust collector  
Release Point Type: 5 - Vertical with Rain Cap  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 15.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.80  
Exit Gas Temp: 104  
Exit Gas Flow Rate: 8000  
Exit Gas Velocity: 3143.80135  
Fence Line Distance: 300  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date: 4/30/2015 12:00:00 AM  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPM  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.585  
UTM X (Meters): 444250.247050  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.6492  
UTM Y (Meters): 4381899.196195  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	



## Release Point

Identifier: 47  
Description: emergency generator exhaust vents  
Release Point Type: 3 - Horizontal  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 15.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.00  
Exit Gas Temp: 275  
Exit Gas Flow Rate: 50  
Exit Gas Velocity: 63.66198  
Fence Line Distance: 75  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date: 8/27/2015 12:00:00 AM

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? True  
Latitude (decimal degrees):  
UTM X (Meters):  
UTM Zone:  
Collection Method:  
Reference Point:

Longitude (decimal degrees):  
UTM Y (Meters):  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 5  
Description: BOILER #2 PB 706  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 38.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 3.50  
Exit Gas Temp: 520  
Exit Gas Flow Rate: 15560  
Exit Gas Velocity: 27  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

# Control Devices

## Control Device

Identifier: 1  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse

Comments:

## Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.96
PM10	Particulate Matter Less Than 10 Microns	99.96
PM10-FIL	PM10 Filterable	99.96
PM10-PRI	PM10 Primary (Filt + Cond)	99.96
PM25-FIL	PM2.5 Filterable	99.96
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.96

## Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30

## Control Device

Identifier: 10  
Description: CAUSTIC SCRUBBER  
Status: OP - Operating  
Control Measure: 141 - Wet Scrubber

Status Date:

Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
7647010	Hydrochloric Acid	99.90

### Additional Information

Field	Value
Local Abatement Equipment ID	WD710/711
Serial Number	
Manufacturer	CROLL REYNOLDS
Installation Date	1993-12-31

## Control Device

Identifier: 11  
Description: INCINERATOR  
Status: OP - Operating Status Date:  
Control Measure: 131 - Thermal Oxidizer  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
75014	Vinyl Chloride	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	WB710 (711 SECONDARY)
Serial Number	
Manufacturer	PROCESS COMBUSTION CONTROL
Installation Date	1982-12-31

## Control Device

Identifier: 12  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

Status Date:

### Controlled Pollutants

Pollutant	Description	Efficiency
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### Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30

## Control Device

Identifier: 13  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
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### Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30

## Control Device

Identifier: 14  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

Status Date:

### Controlled Pollutants

Pollutant	Description	Efficiency
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### Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30



## Control Device

Identifier: 2  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DG660/661
Serial Number	120LST100
Manufacturer	MAC INDUSTRIES
Installation Date	1976-06-30

## Control Device

Identifier: 3  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DG670
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1982-06-30

## Control Device

Identifier: 4  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DG671A/B
Serial Number	
Manufacturer	MAC
Installation Date	2000-09-30

## Control Device

Identifier: 5  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

Status Date:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.95
PM-FIL	PM Filterable	99.95
PM10	Particulate Matter Less Than 10 Microns	99.95
PM10-FIL	PM10 Filterable	99.95
PM10-PRI	PM10 Primary (Filt + Cond)	99.95
PM25-FIL	PM2.5 Filterable	99.95
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.95

### Additional Information

Field	Value
Local Abatement Equipment ID	DT608A-G
Serial Number	84CT30
Manufacturer	FLEX KLEEN
Installation Date	1976-01-30

## Control Device

Identifier: 6  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DT608A-G
Serial Number	84CT30
Manufacturer	FLEX KLEEN
Installation Date	1976-01-30

## Control Device

Identifier: 7  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating  
Control Measure: 127 - Fabric Filter / Baghouse

Status Date:

Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.96
PM-FIL	PM Filterable	99.96
PM10	Particulate Matter Less Than 10 Microns	99.96
PM10-FIL	PM10 Filterable	99.96
PM10-PRI	PM10 Primary (Filt + Cond)	99.96
PM25-FIL	PM2.5 Filterable	99.96
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.96

### Additional Information

Field	Value
Local Abatement Equipment ID	DG691
Serial Number	84CT30
Manufacturer	FLEX KLEEN
Installation Date	1994-06-01

## Control Device

Identifier: 8  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.95
PM-FIL	PM Filterable	99.95
PM10	Particulate Matter Less Than 10 Microns	99.95
PM10-FIL	PM10 Filterable	99.95
PM10-PRI	PM10 Primary (Filt + Cond)	99.95
PM25-FIL	PM2.5 Filterable	99.95
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.95

### Additional Information

Field	Value
Local Abatement Equipment ID	EG502A-D
Serial Number	36301416
Manufacturer	DUSTEX CORP.
Installation Date	1986-08-01

## Control Device

Identifier: 9  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating  
Control Measure: 127 - Fabric Filter / Baghouse

Status Date:

Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	EG602A-D
Serial Number	120LST100
Manufacturer	MAC INDUSTRIES
Installation Date	1990-06-30



# Emission Units

## Emission Unit

Identifier: 002  
Description: BOILER #1, PB 705  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 25.35  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	PB-705
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 005  
Description: BOILER #2 PB 706  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 33.8  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	PB-706
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 011  
Description: PVC EMULSION PLANT E-2LPV  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 9  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: LB/HR - POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	E2 REACTOR
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

# Emission Unit

Identifier: 012  
Description: E-2 PVC DRYER  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 41.4  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

## Additional Information

Field	Value
Emission Unit Site Identifier/Name	E2 DRYER
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 013  
Description: E-2 PVC HANDLING/STORAGE  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 5.1  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 020  
Description: PVC EMULSION PLANT #S2LPV  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 9  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: LB/HR - POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	S2 REACTOR
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 021  
Description: PVC PLANT S-2 POLY DRYER  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 20  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	S2 DRYER
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 022  
Description: PLANT S-2 PVC HANDLING  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 3.3  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	S2 GRINDER
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	



## Emission Unit

Identifier: 030  
Description: VINYL ACETATE STORAGE TNK  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 34  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: A - 1000 GALLONS

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	PT102
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 031  
Description: WASTE WATER STRIPPERS  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 12.2  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: A - 1000 GALLONS

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	E2 & S2
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 035  
Description: ACCIDENTAL RELEASE  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity:  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM:

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

# Emission Unit

Identifier: 036  
Description: EG-601 A&B E1 BAGHOUSE  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 2  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

## Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 037  
Description: E2 DG670 GRINDER COLLECT  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 2.5  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG670
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

# Emission Unit

Identifier: 038  
Description: E2 DG671A GRINDER  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 2.5  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

## Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG671A/B
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 039  
Description: E2 SILOS (7)  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 10  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DT608A-G
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

# Emission Unit

Identifier: 040  
Description: E2 DG680 GRINDER  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 1.25  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

## Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG680
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	



## Emission Unit

Identifier: 041  
Description: E2 DG610/DG611 BAGGERS  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 1000  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: LB/HR - POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG611 S2
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

# Emission Unit

Identifier: 042  
Description: DG 691 RESIN RECOVERY  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 25  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E3LB/HR - 1000 POUNDS PER HOUR

## Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG691
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 043  
Description: INCINERATORS WB710/711  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 2  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	WB710/71
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 044  
Description: QC LAB HOODS  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity:  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM:

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 045  
Description: WASTE WATER TREATMENT  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 720  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: A - 1000 GALLONS

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 046  
Description: Dust collector for packers  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity: 5  
Comments:

Status Date: 4/30/2014 12:00:00 AM  
Operation Start Date: 4/30/2014 12:00:00 AM  
Design Capacity UOM: E3LB/HR - 1000 POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 047  
Description: Emergency generators & fire pumps  
Status: OP - Operating  
Type: 290 - Other combustion  
Design Capacity: 4200  
Comments:

Status Date: 8/27/2015 12:00:00 AM  
Operation Start Date: 1/1/1975 12:00:00 AM  
Design Capacity UOM: HP - HORSEPOWER

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

# Unit Processes

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 002 - BOILER #1, PB 705  
Description: #1 & #2 FUEL OIL  
SCC: 10200501 - External Combustion Boilers-Industrial-Distillate Oil - Grades 1 and 2-Boiler

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
2	BOILER #1 PB705	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 0.828 Throughput UOM: E3GAL - 1000 GALLONS  
Throughput Type: I - Input  
Throughput Material: 823 - Distillate Oil (No. 1 & 2)

Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%): 0.00150  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 1.0 Average Weeks/Year: 1.0



Average Hours/Day: 3.0

Actual Hours: 3.0

**Seasonal Operations**

March-May (%): 0.0

June-August (%): 0.0

September-November (%): 0.0

December-February (%): 100.0

Total Summer Season Days: 0

Total Ozone Season Days: 0

Total CO Season Days:

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.00002	E3GAL	28 - USEPA EF (pre-control)	0.00000000828		
Pyrene	0.00004	E3GAL	28 - USEPA EF (pre-control)	0.00000001656		
Benzo[g,h,i]Perylene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.00000000414		
Indeno[1,2,3-c,d]Pyrene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.00000000414		
Benzo[b]Fluoranthene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.00000000414		
Fluoranthene	0.00000276	E3GAL	28 - USEPA EF (pre-control)	0.00000000114264		
Benzo[k]Fluoranthene	0.00008	E3GAL	28 - USEPA EF (pre-control)	0.000000003312		
Acenaphthylene	0.00006	E3GAL	28 - USEPA EF (pre-control)	0.000000002484		
Chrysene	0.00000139	E3GAL	28 - USEPA EF (pre-control)	0.00000000057546		
Benzo[a]Pyrene	0.00000134	E3GAL	28 - USEPA EF (pre-control)	0.00000000055476		
Dibenzo[a,h]Anthracene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.00000000414		
Benz[a]Anthracene	0.000000944	E3GAL	28 - USEPA EF (pre-control)	0.000000000390816		
Acenaphthene	0.00021	E3GAL	28 - USEPA EF (pre-control)	0.00000008694		

Phenanthrene	0.00037	E3GAL	28 - USEPA EF (pre-control)	0.00000015318		
Fluorene	0.00012	E3GAL	28 - USEPA EF (pre-control)	0.00000004968		
Methane	0.619	E3GAL	28 - USEPA EF (pre-control)	0.000256266		
Nitrous Oxide	0.186	E3GAL	28 - USEPA EF (pre-control)	0.00007700399999 9		
PM-CON	1.3	E3GAL	28 - USEPA EF (pre-control)	0.00053819999999 9		
PM10-FIL	1	E3GAL	28 - USEPA EF (pre-control)	0.000414		
PM25-FIL	0.25	E3GAL	28 - USEPA EF (pre-control)	0.0001035		
PM25-PRI	1.55	E3GAL	28 - USEPA EF (pre-control)	0.00064169999999 9		
PM10-PRI	2.3	E3GAL	28 - USEPA EF (pre-control)	0.00095219999999 9		
SO2	143.6	E3GAL	28 - USEPA EF (pre-control)	0.0000891756		
NOX	24	E3GAL	28 - USEPA EF (pre-control)	0.009936		
VOC	0.2	E3GAL	28 - USEPA EF (pre-control)	0.0000828		
CO	5	E3GAL	28 - USEPA EF (pre-control)	0.00206999999999 9		
Lead	0.00125	E3GAL	8 - USEPA EF (post-control)	0.00000051749999 9		
NH3	0.8	E3GAL	28 - USEPA EF (pre-control)	0.0003312		
Arsenic	0.00056	E3GAL	28 - USEPA EF (pre-control)	0.00000023183999 9		
Beryllium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000017388		

Cadmium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000017388		
Chromium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000017388		
Manganese	0.00084	E3GAL	28 - USEPA EF (pre-control)	0.00000034776		
Mercury	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000017388		
Naphthalene	0.00033	E3GAL	28 - USEPA EF (pre-control)	0.00000013662		
Nickel	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000017388		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benz[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	
Nitrous Oxide	

PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

## Unit Process

Unit Process Identifier: 2 Emission Unit Identifier: 002 - BOILER #1, PB 705  
Description: NATURAL GAS  
SCC: 10200602 - External Combustion Boilers-Industrial-Natural Gas-10-100 Million BTU/hr

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
2	BOILER #1 PB705	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	PB705
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 110.67  
Throughput Type: I - Input Throughput UOM: E6FT3 - MILLION CUBIC FEET  
Throughput Material: 209 - Natural Gas  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 41.0  
Average Hours/Day: 24.0 Actual Hours: 6888.0

**Seasonal Operations**

March-May (%): 35.4  
 September-November (%): 6.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 29.6  
 December-February (%): 28.8  
 Total Ozone Season Days: 143

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.0000012	E6FT3	28 - USEPA EF (pre-control)	0.000000066401999		
Pyrene	0.000005	E6FT3	28 - USEPA EF (pre-control)	0.000000276675		
Benzo[g,h,i]Perylene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.000000033200999		
Indeno[1,2,3-c,d]Pyrene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.0000000498015		
Benzo[b]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.0000000498015		
Fluoranthene	0.000003	E6FT3	28 - USEPA EF (pre-control)	0.000000166004999		
Benzo[k]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.0000000498015		
Acenaphthylene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.0000000498015		
Chrysene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.0000000498015		
Benzo[a]Pyrene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.000000033200999		
Dibenzo[a,h]Anthracene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.000000033200999		
Benz[a]Anthracene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.0000000498015		
Acenaphthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.0000000498015		

Phenanthrene	0.00002	E6FT3	28 - USEPA EF (pre-control)	0.0000011067		
Fluorene	0.0000028	E6FT3	28 - USEPA EF (pre-control)	0.000000154938		
Methane	11	E6FT3	28 - USEPA EF (pre-control)	0.608685		
Carbon Dioxide	121000	E6FT3	28 - USEPA EF (pre-control)	6695.535		
Nitrous Oxide	0.22	E6FT3	28 - USEPA EF (pre-control)	0.0121737		
PM-CON	0.32	E6FT3	28 - USEPA EF (pre-control)	0.0177072		
PM10-FIL	0.2	E6FT3	28 - USEPA EF (pre-control)	0.011067		
PM25-FIL	0.11	E6FT3	28 - USEPA EF (pre-control)	0.00608685		
PM25-PRI	0.43	E6FT3	28 - USEPA EF (pre-control)	0.02379404999999 9		
PM10-PRI	0.52	E6FT3	28 - USEPA EF (pre-control)	0.0287742		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.033201		
NOX	100	E6FT3	28 - USEPA EF (pre-control)	5.5335		
VOC	5.5	E6FT3	28 - USEPA EF (pre-control)	0.3043425		
CO	84	E6FT3	28 - USEPA EF (pre-control)	4.64814		
Lead	0.0005	E6FT3	28 - USEPA EF (pre-control)	0.0000276675		
NH3	3.2	E6FT3	28 - USEPA EF (pre-control)	0.177072		
Arsenic	0.0002	E6FT3	28 - USEPA EF (pre-control)	0.000011067		

Beryllium	0.00001	E6FT3	28 - USEPA EF (pre-control)	0.00000055335		
Cadmium	0.0011	E6FT3	28 - USEPA EF (pre-control)	0.0000608685		
Chromium	0.0014	E6FT3	28 - USEPA EF (pre-control)	0.000077469		
Manganese	0.00038	E6FT3	28 - USEPA EF (pre-control)	0.0000210273		
Mercury	0.00026	E6FT3	28 - USEPA EF (pre-control)	0.00001438709999 9		
Naphthalene	0.00061	E6FT3	28 - USEPA EF (pre-control)	0.00003375435		
Nickel	0.0021	E6FT3	28 - USEPA EF (pre-control)	0.0001162035		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benz[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	



Carbon Dioxide	
Nitrous Oxide	
PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

# Unit Process

Unit Process Identifier: 1  
Description: #1 & #2 FUEL OIL  
SCC: 10200501 - External Combustion Boilers-Industrial-Distillate Oil - Grades 1 and 2-Boiler

Emission Unit Identifier: 005 - BOILER #2 PB 706

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True  
Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
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## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
5	BOILER #2 PB 706	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	PB706
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 0.313  
Throughput Type: I - Input  
Throughput Material: 823 - Distillate Oil (No. 1 & 2)  
Throughput UOM: E3GAL - 1000 GALLONS  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%):  
Heat Content (MMBTU/Unit):  
Sulfur Content (%): 0.00150

## Operations

Average Days/Week: 1.0  
Average Hours/Day: 3.0  
Average Weeks/Year: 1.0  
Actual Hours: 3.0

**Seasonal Operations**

March-May (%): 0.0  
 September-November (%): 100.0  
 Total Summer Season Days: 0  
 Total CO Season Days:

June-August (%): 0.0  
 December-February (%): 0.0  
 Total Ozone Season Days: 2

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.00002	E3GAL	28 - USEPA EF (pre-control)	0.00000000313		
Pyrene	0.00004	E3GAL	28 - USEPA EF (pre-control)	0.00000000626		
Benzo[g,h,i]Perylene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Indeno[1,2,3-c,d]Pyrene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Benzo[b]Fluoranthene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Fluoranthene	0.00000276	E3GAL	28 - USEPA EF (pre-control)	0.0000000043194		
Benzo[k]Fluoranthene	0.00008	E3GAL	28 - USEPA EF (pre-control)	0.00000001252		
Acenaphthylene	0.00006	E3GAL	28 - USEPA EF (pre-control)	0.00000000939		
Chrysene	0.00000139	E3GAL	28 - USEPA EF (pre-control)	0.00000000217535		
Benzo[a]Pyrene	0.00000134	E3GAL	28 - USEPA EF (pre-control)	0.0000000020971		
Dibenzo[a,h]Anthracene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Benz[a]Anthracene	0.000000944	E3GAL	28 - USEPA EF (pre-control)	0.00000000147736		
Acenaphthene	0.00021	E3GAL	28 - USEPA EF (pre-control)	0.000000032865		

Phenanthrene	0.00037	E3GAL	28 - USEPA EF (pre-control)	0.000000057905		
Fluorene	0.00012	E3GAL	28 - USEPA EF (pre-control)	0.00000001878		
Methane	0.619	E3GAL	28 - USEPA EF (pre-control)	0.0000968735		
Carbon Dioxide	22400	E3GAL	28 - USEPA EF (pre-control)	3.5056		
Nitrous Oxide	0.186	E3GAL	28 - USEPA EF (pre-control)	0.000029109		
PM-CON	1.3	E3GAL	28 - USEPA EF (pre-control)	0.00020345		
PM10-FIL	1	E3GAL	28 - USEPA EF (pre-control)	0.0001565		
PM25-FIL	0.25	E3GAL	28 - USEPA EF (pre-control)	0.000039125		
PM25-PRI	1.55	E3GAL	28 - USEPA EF (pre-control)	0.000242575		
PM10-PRI	2.3	E3GAL	28 - USEPA EF (pre-control)	0.00035995		
SO2	143.6	E3GAL	28 - USEPA EF (pre-control)	0.0000337101		
NOX	24	E3GAL	28 - USEPA EF (pre-control)	0.003756		
VOC	0.2	E3GAL	28 - USEPA EF (pre-control)	0.0000313		
CO	5	E3GAL	28 - USEPA EF (pre-control)	0.0007825		
Lead	0.00125	E3GAL	28 - USEPA EF (pre-control)	0.000000195625		
NH3	0.8	E3GAL	28 - USEPA EF (pre-control)	0.0001252		
Arsenic	0.00056	E3GAL	28 - USEPA EF (pre-control)	0.00000008764		

Beryllium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Cadmium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Chromium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Manganese	0.00084	E3GAL	28 - USEPA EF (pre-control)	0.00000013146		
Mercury	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Naphthalene	0.00033	E3GAL	28 - USEPA EF (pre-control)	0.000000051645		
Nickel	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benzo[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	

Carbon Dioxide	
Nitrous Oxide	
PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

## Unit Process

Unit Process Identifier: 2 Emission Unit Identifier: 005 - BOILER #2 PB 706  
Description: NATURAL GAS  
SCC: 10200602 - External Combustion Boilers-Industrial-Natural Gas-10-100 Million BTU/hr

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
5	BOILER #2 PB 706	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	PB706
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 131.84  
Throughput Type: I - Input Throughput UOM: E6FT3 - MILLION CUBIC FEET  
Throughput Material: 209 - Natural Gas  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 37.0  
Average Hours/Day: 24.0 Actual Hours: 6216.0

**Seasonal Operations**

March-May (%): 24.7  
 September-November (%): 30.4  
 Total Summer Season Days: 0  
 Total CO Season Days:

June-August (%): 0.0  
 December-February (%): 44.8  
 Total Ozone Season Days: 13

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.0000012	E6FT3	28 - USEPA EF (pre-control)	0.000000079103999		
Pyrene	0.0000005	E6FT3	28 - USEPA EF (pre-control)	0.00000003296		
Benzo[g,h,i,l]Perylene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.000000039551999		
Indeno[1,2,3-c,d]Pyrene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000059328		
Benzo[b]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000059328		
Fluoranthene	0.0000003	E6FT3	28 - USEPA EF (pre-control)	0.000000019776		
Benzo[k]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000059328		
Acenaphthylene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000059328		
Chrysene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000059328		
Benzo[a]Pyrene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.000000039551999		
Dibenzo[a,h]Anthracene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.000000039551999		
Benz[a]Anthracene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000059328		
Acenaphthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000059328		



Phenanthrene	0.00002	E6FT3	28 - USEPA EF (pre-control)	0.0000013184		
Fluorene	0.0000028	E6FT3	28 - USEPA EF (pre-control)	0.000000184576		
Methane	11	E6FT3	28 - USEPA EF (pre-control)	0.72512		
Carbon Dioxide	121000	E6FT3	28 - USEPA EF (pre-control)	7976.32		
Nitrous Oxide	0.22	E6FT3	28 - USEPA EF (pre-control)	0.0145024		
PM-CON	0.32	E6FT3	28 - USEPA EF (pre-control)	0.0210944		
PM10-FIL	0.2	E6FT3	28 - USEPA EF (pre-control)	0.013184		
PM25-FIL	0.11	E6FT3	28 - USEPA EF (pre-control)	0.0072512		
PM25-PRI	0.43	E6FT3	28 - USEPA EF (pre-control)	0.0283456		
PM10-PRI	0.52	E6FT3	28 - USEPA EF (pre-control)	0.0342784		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.039552		
NOX	100	E6FT3	28 - USEPA EF (pre-control)	6.592		
VOC	5.5	E6FT3	28 - USEPA EF (pre-control)	0.36256		
CO	84	E6FT3	28 - USEPA EF (pre-control)	5.53728		
Lead	0.0005	E6FT3	28 - USEPA EF (pre-control)	0.00003296		
NH3	3.2	E6FT3	28 - USEPA EF (pre-control)	0.210944		
Arsenic	0.0002	E6FT3	28 - USEPA EF (pre-control)	0.000013184		

Beryllium	0.00001	E6FT3	28 - USEPA EF (pre-control)	0.0000066592		
Cadmium	0.0011	E6FT3	28 - USEPA EF (pre-control)	0.000072512		
Chromium	0.0014	E6FT3	28 - USEPA EF (pre-control)	0.000092288		
Manganese	0.00038	E6FT3	28 - USEPA EF (pre-control)	0.0000250496		
Mercury	0.00026	E6FT3	28 - USEPA EF (pre-control)	0.0000171392		
Naphthalene	0.00061	E6FT3	28 - USEPA EF (pre-control)	0.0000402112		
Nickel	0.0021	E6FT3	28 - USEPA EF (pre-control)	0.000138432		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benz[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	

Carbon Dioxide	
Nitrous Oxide	
PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 011 - PVC EMULSION PLANT E-2LPV

Description: REACTORS/VESSELS/VENTS

SCC: 30101818 - Industrial Processes-Chemical Manufacturing-Plastics Production-Reactor

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
11	E-2 LPV	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 22867.68

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 52.0

Average Hours/Day: 24.0

Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 26.7  
 September-November (%): 24.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 20.2  
 December-February (%): 29.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			3 - Material Balance	2.9686		
Vinyl Acetate			3 - Material Balance	0.443		
Vinyl Chloride			3 - Material Balance	2.5256		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Acetate	
Vinyl Chloride	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 012 - E-2 PVC DRYER  
Description: POLYMER DRY - FUGITIVES  
SCC: 30101820 - Industrial Processes-Chemical Manufacturing-Plastics Production-Polymer Drying

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
1	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
12	E-2 PVC DRYER	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 22867.68  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 26.7  
 September-November (%): 24.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 20.2  
 December-February (%): 29.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			4 - Stack Test	2.2151		
PM-CON			2 - Engineering Judgment	2.1085		
PM10-FIL			2 - Engineering Judgment	1.6613		
PM25-FIL			3 - Material Balance	0.886		
PM25-PRI			2 - Engineering Judgment	2.9945		
PM10-PRI			3 - Material Balance	3.7698		
VOC			3 - Material Balance	31.8155		
NH3			3 - Material Balance	0.2524		
Acetaldehyde			2 - Engineering Judgment	0.761572323		
Bis(2-Ethylhexyl)Phthalate			3 - Material Balance	0.9718387		
Chloroform			2 - Engineering Judgment	0.00052685		
Cumene			3 - Material Balance	0.000164533		
Ethyl Benzene			3 - Material Balance	0.0023708		
Ethyl Chloride			2 - Engineering Judgment	0.21295103		
Ethylene Dichloride			2 - Engineering Judgment	0.00606682		

Ethylene Glycol			2 - Engineering Judgment	0.2795646		
Ethylidene Dichloride			2 - Engineering Judgment	0.00205258		
Formaldehyde			2 - Engineering Judgment	0.404002856		
Hexane			2 - Engineering Judgment	0.0048571		
Methyl Chloride			2 - Engineering Judgment	0.00147109		
Methylene Chloride			2 - Engineering Judgment	0.0113105		
1,1,2,2-Tetrachloroethane			3 - Material Balance	0.00379146		
Toluene			2 - Engineering Judgment	0.002781		
1,1,2-Trichloroethane			3 - Material Balance	0.00050766		
2,2,4-Trimethylpentane			3 - Material Balance	0.0051567		
Vinyl Acetate			3 - Material Balance	17.0955		
Vinyl Chloride			2 - Engineering Judgment	12.03		
Vinylidene Chloride			3 - Material Balance	0.00029408		
Xylenes (Mixed Isomers)			3 - Material Balance	0.008836		

#### Emissions Comments

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	This pollutant is polyvinyl chloride resin (PVC) particulate matter. All other PM are a subset of total PVC PM.
PM-CON	
PM10-FIL	
PM25-FIL	



PM25-PRI	
PM10-PRI	
VOC	
NH3	
Acetaldehyde	
Bis(2-Ethylhexyl)Phthalate	
Chloroform	
Cumene	
Ethyl Benzene	
Ethyl Chloride	
Ethylene Dichloride	
Ethylene Glycol	
Ethylidene Dichloride	
Formaldehyde	
Hexane	
Methyl Chloride	
Methylene Chloride	
1,1,2,2-Tetrachloroethane	
Toluene	
1,1,2-Trichloroethane	
2,2,4-Trimethylpentane	
Vinyl Acetate	
Vinyl Chloride	
Vinylidene Chloride	
Xylenes (Mixed Isomers)	

# Unit Process

Unit Process Identifier: 2 Emission Unit Identifier: 012 - E-2 PVC DRYER  
Description: NATURAL GAS  
SCC: 30190003 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Process Heater: Natural Gas

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
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## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
12	E-2 PVC DRYER	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 150.959 Throughput UOM: E6FT3 - MILLION CUBIC FEET  
Throughput Type: I - Input  
Throughput Material: 209 - Natural Gas

Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 27.5  
 September-November (%): 24.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 21.9  
 December-February (%): 26.5  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Carbon Dioxide	121000	E6FT3	29 - S/L/T EF (pre-control)	9133.0195		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.0452877		
NOX	140	E6FT3	28 - USEPA EF (pre-control)	10.56713		
VOC	2.8	E6FT3	28 - USEPA EF (pre-control)	0.2113426		
CO	84	E6FT3	29 - S/L/T EF (pre-control)	6.340278		

**Emissions Comments**

Pollutant	Comment
Carbon Dioxide	
SO2	
NOX	
VOC	
CO	

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 013 - E-2 PVC HANDLING/STORAGE  
Description: HANDLING PVC  
SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
2	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
13	E-2 PVC HANDLING/STORAGE	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG660,661
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 7622.562  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product

Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 26.7  
 September-November (%): 24.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 20.2  
 December-February (%): 29.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	1.3351		
PM25-PRI			2 - Engineering Judgment	1.3351		
PM10-PRI			2 - Engineering Judgment	1.3351		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 020 - PVC EMULSION PLANT #S2LPV  
Description: REACTOR S2 LPV  
SCC: 30101818 - Industrial Processes-Chemical Manufacturing-Plastics Production-Reactor

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
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## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
20	PVC EMULSION PLANT S#2	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 9320.786  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 24.5

September-November (%): 25.1

Total Summer Season Days: 92

Total CO Season Days:

June-August (%): 22.2

December-February (%): 28.2

Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	1.03636		
Vinyl Chloride			2 - Engineering Judgment	1.03636		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Chloride	

# Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 021 - PVC PLANT S-2 POLY DRYER

Description: S-2 DRYER - FUGITIVES

SCC: 30101820 - Industrial Processes-Chemical Manufacturing-Plastics Production-Polymer Drying

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
8	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
21	PVC PLANT S-2/POLYMER DRY	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 9320.786

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

## Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0

Average Weeks/Year: 52.0

Average Hours/Day: 24.0

Actual Hours: 8736.0



**Seasonal Operations**

March-May (%): 24.5

September-November (%): 25.1

Total Summer Season Days: 92

Total CO Season Days:

June-August (%): 22.2

December-February (%): 28.2

Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Butyl Acrylate			2 - Engineering Judgment	0.00058842		
POLYVINYL CHLORIDE LATEX			4 - Stack Test	3.82273		
PM-CON			2 - Engineering Judgment	1.883685		
PM10-FIL			2 - Engineering Judgment	1.454316		
PM25-FIL			2 - Engineering Judgment	0.775635		
PM25-PRI			2 - Engineering Judgment	2.65932		
PM10-PRI			4 - Stack Test	3.338001		
VOC			3 - Material Balance	7.11		
NH3			2 - Engineering Judgment	0.73472		
Acetaldehyde			2 - Engineering Judgment	0.310414067		
Benzene			2 - Engineering Judgment	0.000283771		
Bis(2- Ethylhexyl)Phthalat e			2 - Engineering Judgment	0.3961179		
Chloroform			2 - Engineering Judgment	0.000214742		
Cumene			3 - Material Balance	0.0000670631		

Ethyl Benzene		3 - Material Balance	0.0009663		
Ethyl Chloride		2 - Engineering Judgment	0.08679805		
Ethylene Dichloride		2 - Engineering Judgment	0.00247281		
Ethylene Glycol		2 - Engineering Judgment	0.1139577		
Ethylidene Dichloride		2 - Engineering Judgment	0.00011987		
Formaldehyde		2 - Engineering Judgment	0.164670072		
Hexane		2 - Engineering Judgment	0.0019797		
Methyl Chloride		2 - Engineering Judgment	0.00599961		
Methylene Chloride		2 - Engineering Judgment	0.0046101		
1,1,2,2-Tetrachloroethane		3 - Material Balance	0.00154539		
Toluene		3 - Material Balance	0.001134		
2,2,4-Trimethylpentane		2 - Engineering Judgment	0.0021018		
Vinyl Acetate		2 - Engineering Judgment	1.12		
Vinyl Chloride		3 - Material Balance	4.9		

**Emissions Comments**

Pollutant	Comment
Butyl Acrylate	
POLYVINYL CHLORIDE LATEX	This pollutant is polyvinyl chloride resin (PVC) particulates. All other PM are a subset of this PM.
PM-CON	
PM10-FIL	
PM25-FIL	

PM25-PRI	
PM10-PRI	
VOC	
NH3	
Acetaldehyde	
Benzene	
Bis(2-Ethylhexyl)Phthalate	
Chloroform	
Cumene	
Ethyl Benzene	
Ethyl Chloride	
Ethylene Dichloride	
Ethylene Glycol	
Ethylidene Dichloride	
Formaldehyde	
Hexane	
Methyl Chloride	
Methylene Chloride	
1,1,2,2-Tetrachloroethane	
Toluene	
2,2,4-Trimethylpentane	
Vinyl Acetate	
Vinyl Chloride	

## Unit Process

Unit Process Identifier: 2

Emission Unit Identifier: 021 - PVC PLANT S-2 POLY DRYER

Description: NATURAL GAS

SCC: 30190003 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Process Heater: Natural Gas

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
21	PVC PLANT S-2/POLYMER DRY	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 58.584

Throughput Type: I - Input

Throughput UOM: E6FT3 - MILLION CUBIC FEET

Throughput Material: 209 - Natural Gas

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 50.0

Average Hours/Day: 22.0

Actual Hours: 7700.0

**Seasonal Operations**

March-May (%): 24.2  
 September-November (%): 23.3  
 Total Summer Season Days: 42  
 Total CO Season Days:

June-August (%): 22.3  
 December-February (%): 30.2  
 Total Ozone Season Days: 123

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Carbon Dioxide	121000	E6FT3	29 - S/L/T EF (pre-control)	3544.332		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.0175752		
NOX	140	E6FT3	28 - USEPA EF (pre-control)	4.10088		
VOC	2.8	E6FT3	28 - USEPA EF (pre-control)	0.0820176		
CO	84	E6FT3	29 - S/L/T EF (pre-control)	2.460528		

**Emissions Comments**

Pollutant	Comment
Carbon Dioxide	
SO2	
NOX	
VOC	
CO	

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 022 - PLANT S-2 PVC HANDLING  
Description: PVC HANDLING  
SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
9	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
22	PLANT S-2 PVC HANDLING	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	EG602A-D
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 9320.786  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 24.5  
 September-November (%): 25.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 22.2  
 December-February (%): 28.2  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	1.902505		
PM25-PRI			2 - Engineering Judgment	1.902505		
PM10-PRI			2 - Engineering Judgment	1.902505		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 030 - VINYL ACETATE STORAGE TNK

Description: BREATHING LOSS

SCC: 40704419 - Chemical Evaporation-Organic Chemical Storage-Fixed Roof Tanks - Esters-Vinyl Acetate: Breathing Loss

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
30	VINYL ACETATE STORAGE TNK	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 7968.203

Throughput Type: E - Existing

Throughput UOM: E3GAL - 1000 GALLONS

Throughput Material: 938 - Vinyl Acetate

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 52.0

Average Hours/Day: 24.0

Actual Hours: 8736.0



**Seasonal Operations**

March-May (%): 25.6  
 September-November (%): 29.5  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 10.5  
 December-February (%): 34.4  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	0.32345		
Vinyl Acetate			2 - Engineering Judgment	0.32345		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Acetate	

# Unit Process

Unit Process Identifier: 2  
Description: WORKING LOSS  
SCC: 40704420 - Chemical Evaporation-Organic Chemical Storage-Fixed Roof Tanks - Esters-Vinyl Acetate: Working Loss

Emission Unit Identifier: 030 - VINYL ACETATE STORAGE TNK

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True      Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
30	VINYL ACETATE STORAGE TNK	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 7968.203  
Throughput Type: I - Input  
Throughput Material: 938 - Vinyl Acetate  
Comments:

Throughput UOM: E3GAL - 1000 GALLONS

## Supplemental Calculation Parameters:

Ash Content (%):      Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0      Average Weeks/Year: 52.0  
Average Hours/Day: 24.0      Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 25.6

September-November (%): 29.5

Total Summer Season Days: 92

Total CO Season Days:

June-August (%): 10.5

December-February (%): 34.4

Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	2.85764		
Vinyl Acetate			2 - Engineering Judgment	2.85764		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Acetate	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 031 - WASTE WATER STRIPPERS  
Description: WW STRIPPERS E2 & S2  
SCC: 30182002 - Industrial Processes-Chemical Manufacturing-Wastewater Treatment-General

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
31	WASTE WATER STRIPPER S-2	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 1200  
Throughput Type: I - Input Throughput UOM: E3GAL - 1000 GALLONS  
Throughput Material: 4 - Wastewater  
Comments: These are the same emissions as would have been reported in unit #45

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 1.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 1248.0

**Seasonal Operations**

March-May (%): 25.0

September-November (%): 25.0

Total Summer Season Days: 3

Total CO Season Days:

June-August (%): 25.0

December-February (%): 25.0

Total Ozone Season Days: 5

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	0.00221		
Vinyl Chloride			2 - Engineering Judgment	0.00221		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Chloride	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 035 - ACCIDENTAL RELEASE  
Description: OPERATOR ERROR  
SCC: 30101817 - Industrial Processes-Chemical Manufacturing-Plastics Production-General

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
35	ACCIDENTAL RELEASE	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 11.5  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 1.0 Average Weeks/Year: 0.0  
Average Hours/Day: 8.0 Actual Hours: 0.0

**Seasonal Operations**

March-May (%): 0.0  
 September-November (%): 0.0  
 Total Summer Season Days: 1  
 Total CO Season Days:

June-August (%): 100.0  
 December-February (%): 0.0  
 Total Ozone Season Days: 1

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			3 - Material Balance	11.5		
Vinyl Acetate			3 - Material Balance	11.5		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Acetate	VAM spill as a result of a failed pump seal on 8/10/16

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 036 - EG-601 A&B E1 BAGHOUSE

Description: SCREW DRYER/SHAKER/GRINDR

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
36	E-1 BAGHOUSES	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput:

Throughput Type: Throughput UOM:

Throughput Material:

Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):

Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: Average Weeks/Year:

Average Hours/Day: Actual Hours:



**Seasonal Operations**

March-May (%):

September-November (%):

Total Summer Season Days:

Total CO Season Days:

June-August (%):

December-February (%):

Total Ozone Season Days:

**Emissions**

<b>Pollutant</b>	<b>Emission Factor (lbs/Unit)</b>	<b>EF UoM</b>	<b>Calc. Method Desc</b>	<b>Estimated Emissions (Tons)</b>	<b>Summer Day Emissions (Tons)</b>	<b>Ozone Season Emissions (Tons)</b>
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**Emissions Comments**

<b>Pollutant</b>	<b>Comment</b>
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## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 037 - E2 DG670 GRINDER COLLECT  
Description: PVC GRINDER  
SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
3	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
37	E2 BAGHOUSE GRINDER COLLE	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG670
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 3811.281  
Throughput Type: I - Input Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 50.0  
Average Hours/Day: 22.0 Actual Hours: 7700.0

**Seasonal Operations**

March-May (%): 26.7  
 September-November (%): 24.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 20.2  
 December-February (%): 29.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	1.209681		
PM25-PRI			2 - Engineering Judgment	1.209681		
PM10-PRI			2 - Engineering Judgment	1.209681		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

# Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 038 - E2 DG671A GRINDER

Description: DG671A/B PVC GRINDER

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
4	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
38	E-2 DG-671 BAGHOUSE	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG671A/B
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 7622.562

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

## Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0

Average Weeks/Year: 50.0

Average Hours/Day: 20.0

Actual Hours: 7000.0

**Seasonal Operations**

March-May (%): 26.7  
 September-November (%): 24.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 20.2  
 December-February (%): 29.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	1.1368625		
PM25-PRI			2 - Engineering Judgment	1.1368625		
PM10-PRI			2 - Engineering Judgment	1.1368625		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 039 - E2 SILOS (7)

Description: PVC STORAGE

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
5	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
39	E2 SILOS (7)	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 32558.57

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 52.0

Average Hours/Day: 24.0

Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 25.7  
 September-November (%): 24.1  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 20.6  
 December-February (%): 29.6  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.481922		
PM25-PRI			2 - Engineering Judgment	0.481922		
PM10-PRI			2 - Engineering Judgment	0.481922		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

# Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 040 - E2 DG680 GRINDER

Description: PVC BAGHOUSE

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
6	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
40	E2 DG680 GRINDER BAGHOU	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG680
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 3811.281

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

## Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0

Average Weeks/Year: 50.0

Average Hours/Day: 20.0

Actual Hours: 8400.0



**Seasonal Operations**

March-May (%): 26.7

September-November (%): 24.1

Total Summer Season Days: 92

Total CO Season Days:

June-August (%): 20.2

December-February (%): 29.0

Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.580568		
PM25-PRI			2 - Engineering Judgment	0.580568		
PM10-PRI			2 - Engineering Judgment	0.580568		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 041 - E2 DG610/DG611 BAGGERS

Description: DG611 E2 BAG WASHER

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
41	E2 DG610/611 BAGGERS	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG611
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput:

Throughput Type:

Throughput UOM:

Throughput Material:

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week:

Average Weeks/Year:

Average Hours/Day:

Actual Hours:

**Seasonal Operations**

March-May (%):

September-November (%):

Total Summer Season Days:

Total CO Season Days:

June-August (%):

December-February (%):

Total Ozone Season Days:

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
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**Emissions Comments**

Pollutant	Comment
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# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 042 - DG 691 RESIN RECOVERY  
Description: DUST COLLECTION  
SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing  
Final Emissions Year:  
Comments:

## Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
7	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
42	VACUUM CLEANING SYSTEM	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG691
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 81.199  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 4.0 Actual Hours: 1456.0

**Seasonal Operations**

March-May (%): 25.0  
 September-November (%): 25.0  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 25.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.124456		
PM25-PRI			2 - Engineering Judgment	0.124456		
PM10-PRI			2 - Engineering Judgment	0.124456		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

# Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 043 - INCINERATORS WB710/711

Description: WASTE GAS INCINERATION

SCC: 30190014 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Incinerator: Process Gas

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
10	CAUSTIC SCRUBBER

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
43	WASTE GAS INCINERATORS	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 3.788

Throughput Type: I - Input

Throughput UOM: E6FT3 - MILLION CUBIC FEET

Throughput Material: 251 - Process Gas

Comments:

## Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0

Average Weeks/Year: 52.0

Average Hours/Day: 14.0

Actual Hours: 5096.0

**Seasonal Operations**

March-May (%): 31.7  
 September-November (%): 26.5  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 20.5  
 December-February (%): 21.2  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			4 - Stack Test	0.010125		
Hydrochloric Acid			4 - Stack Test	0.160618		
Vinyl Chloride			2 - Engineering Judgment	0.010125		

**Emissions Comments**

Pollutant	Comment
VOC	These VOC emissions is Vinyl chloride
Hydrochloric Acid	
Vinyl Chloride	

## Unit Process

Unit Process Identifier: 2

Emission Unit Identifier: 043 - INCINERATORS WB710/711

Description: NATURAL GAS

SCC: 30190013 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Incinerator: Natural Gas

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
43	WASTE GAS INCINERATORS	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 1.304

Throughput Type: I - Input

Throughput UOM: E6FT3 - MILLION CUBIC FEET

Throughput Material: 209 - Natural Gas

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 52.0

Average Hours/Day: 24.0

Actual Hours: 8736.0



**Seasonal Operations**

March-May (%): 25.5  
 September-November (%): 21.7  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 23.3  
 December-February (%): 29.5  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
SO2	0.6	E6FT3	33 - Other EF (pre-control)	0.000391199999999999		
NOX	140	E6FT3	33 - Other EF (pre-control)	0.09128		
VOC	5.6	E6FT3	28 - USEPA EF (pre-control)	0.0036512		
CO	84	E6FT3	33 - Other EF (pre-control)	0.054768		
Lead	0.005	E6FT3	33 - Other EF (pre-control)	0.00000326		

**Emissions Comments**

Pollutant	Comment
SO2	
NOX	
VOC	
CO	
Lead	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 044 - QC LAB HOODS  
Description: SOLVENT VENTS  
SCC: 30199998 - Industrial Processes-Chemical Manufacturing-Other Not Classified-Other Not Classified

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
44	QC LAB HOODS	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 0.387  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 25.0  
 September-November (%): 25.0  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 25.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
CYCLOHEXANONE			2 - Engineering Judgment	0.00844		
VOC			2 - Engineering Judgment	0.05304		
Methanol			2 - Engineering Judgment	0.0446		

**Emissions Comments**

Pollutant	Comment
CYCLOHEXANONE	
VOC	
Methanol	

## Unit Process

Unit Process Identifier:

1

Emission Unit Identifier:

045 - WASTE WATER TREATMENT

Description:

WWTP FUGITIVES

SCC:

30182002 - Industrial Processes-Chemical Manufacturing-Wastewater Treatment-General

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?:

True

Capture Efficiency (%):

0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
45	WASTE WATER TREATMENT	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput:

Throughput Type:

Throughput UOM:

Throughput Material:

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week:

Average Weeks/Year:

Average Hours/Day:

Actual Hours:

**Seasonal Operations**

March-May (%):

September-November (%):

Total Summer Season Days:

Total CO Season Days:

June-August (%):

December-February (%):

Total Ozone Season Days:

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
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**Emissions Comments**

Pollutant	Comment
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# Unit Process

Unit Process Identifier: 2

Description: FUGITVES

SCC: 30182002 - Industrial Processes-Chemical Manufacturing-Wastewater Treatment-General

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True

Emission Unit Identifier: 045 - WASTE WATER TREATMENT

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
45	WASTE WATER TREATMENT	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput:

Throughput Type:

Throughput Material:

Comments:

Throughput UOM:

## Supplemental Calculation Parameters:

Ash Content (%):

Heat Content (MMBTU/Unit):

Sulfur Content (%):

## Operations

Average Days/Week:

Average Hours/Day:

Average Weeks/Year:

Actual Hours:

**Seasonal Operations**

March-May (%):

September-November (%):

Total Summer Season Days:

Total CO Season Days:

June-August (%):

December-February (%):

Total Ozone Season Days:

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
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**Emissions Comments**

Pollutant	Comment
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## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 046 - Dust collector for packers  
Description: Dust collector for packer enclosures  
SCC: 30101817 - Industrial Processes-Chemical Manufacturing-Plastics Production-General  
Final Emissions Year:  
Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Fabric filters

### Control Devices

Control Device Identifier	Description
1	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
46	Packer dust collector	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	N
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 192  
Throughput Type: I - Input Throughput UOM: TON - TONS  
Throughput Material: 982 - Polyvinyl Chloride  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 20.0 Actual Hours: 7280.0



**Seasonal Operations**

March-May (%): 22.4  
 September-November (%): 32.4  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 25.1  
 December-February (%): 20.1  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	1.112966		
PM25-PRI			2 - Engineering Judgment	1.112966		
PM10-PRI			2 - Engineering Judgment	1.112966		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	This pollutant is polyvinyl chloride resin particulate matter
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 047 - Emergency generators & fire pumps  
Description: Diesel Fuel  
SCC: 20100102 - Internal Combustion Engines-Electric Generation-Distillate Oil (Diesel)-Reciprocating

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0

Control Approach Description:

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
47	emergency generator exhaust vents	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	N
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 3.345  
Throughput Type: I - Input Throughput UOM: E3GAL - 1000 GALLONS  
Throughput Material: 44 - Diesel  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 2.0 Average Weeks/Year: 44.0  
Average Hours/Day: 3.0 Actual Hours: 104.0

**Seasonal Operations**

March-May (%): 25.0  
 September-November (%): 25.0  
 Total Summer Season Days: 13  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 25.0  
 Total Ozone Season Days: 22

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
PM10-FIL	14	E3GAL	28 - USEPA EF (pre-control)	0.023415		
PM25-FIL	14	E3GAL	28 - USEPA EF (pre-control)	0.023415		
PM25-PRI	14	E3GAL	28 - USEPA EF (pre-control)	0.023415		
PM10-PRI	14	E3GAL	28 - USEPA EF (pre-control)	0.023415		
SO2	39.7	E3GAL	28 - USEPA EF (pre-control)	0.06639825		
NOX	604	E3GAL	28 - USEPA EF (pre-control)	1.01019		
VOC	32.1	E3GAL	28 - USEPA EF (pre-control)	0.05368725		
CO	130	E3GAL	28 - USEPA EF (pre-control)	0.217425		

**Emissions Comments**

Pollutant	Comment
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	

## Annual Emission Inventory Report for 2017

Application for Certification of an Emission Reduction as ERCs  
Formosa Plastics Corporation Delaware

Date: 04-11-19  
Facility ID: 1000300027

## 2017 Annual Air Emission Inventory and Emissions Statement Report

**Facility Name:** FORMOSA PLASTICS CORPORATION

**Facility Id:** 1000300027      **Year:** 2017

### Emissions Unit Summary in Tons/Year

<b>Emissions Unit Id</b>	<b>Emissions Unit Description</b>	<b>CO</b>	<b>NH3</b>	<b>NOx</b>	<b>Lead</b>	<b>PM10-PRI</b>	<b>PM25-PRI</b>	<b>SO2</b>	<b>VOC</b>
<u>002</u>	<u>BOILER #1. PB 705</u>	<u>3.614</u>	<u>0.138</u>	<u>4.310</u>	<u>0.000</u>	<u>0.023</u>	<u>0.019</u>	<u>0.026</u>	<u>0.237</u>
<u>005</u>	<u>BOILER #2 PB 706</u>	<u>6.007</u>	<u>0.229</u>	<u>7.154</u>	<u>0.000</u>	<u>0.038</u>	<u>0.031</u>	<u>0.043</u>	<u>0.393</u>
<u>011</u>	<u>PVC EMULSION PLANT E-2LPV</u>								<u>3.070</u>
<u>012</u>	<u>E-2 PVC DRYER</u>	<u>7.126</u>	<u>0.397</u>	<u>11.877</u>		<u>4.996</u>	<u>3.969</u>	<u>0.051</u>	<u>29.488</u>
<u>013</u>	<u>E-2 PVC HANDLING/STORAGE</u>					<u>1.230</u>	<u>1.230</u>		
<u>020</u>	<u>PVC EMULSION PLANT #S2LPV</u>								<u>1.209</u>
<u>021</u>	<u>PVC PLANT S-2 POLY DRYER</u>	<u>2.968</u>	<u>1.695</u>	<u>4.946</u>		<u>10.958</u>	<u>8.730</u>	<u>0.021</u>	<u>8.719</u>
<u>022</u>	<u>PLANT S-2 PVC HANDLING</u>					<u>2.360</u>	<u>2.360</u>		
<u>030</u>	<u>VINYL ACETATE STORAGE TNK</u>								<u>3.417</u>
<u>031</u>	<u>WASTE WATER STRIPPERS</u>								<u>0.003</u>
<u>035</u>	<u>ACCIDENTAL RELEASE</u>								<u>0.001</u>
<u>037</u>	<u>E2 DG670 GRINDER COLLECT</u>					<u>1.053</u>	<u>1.053</u>		
<u>038</u>	<u>E2 DG671A GRINDER</u>					<u>0.990</u>	<u>0.990</u>		
<u>039</u>	<u>E2 SILOS (7)</u>					<u>0.464</u>	<u>0.464</u>		

Facility Name: FORMOSA PLASTICS CORPORATION

Facility Id: 1000300027 Year: 2017

Emissions Unit Summary in Tons/Year

Emissions

Unit Id	Emissions Unit Description	CO	NH3	NOx	Lead	PM10-PRI	PM25-PRI	SO2	VOC
<u>040</u>	<u>E2 DG680 GRINDER</u>					<u>0.505</u>	<u>0.505</u>		
<u>042</u>	<u>DG 691 RESIN RECOVERY</u>					<u>0.115</u>	<u>0.115</u>		
<u>043</u>	<u>INCINERATORS WB710/711</u>	<u>0.048</u>		<u>0.080</u>	<u>0.000</u>			<u>0.000</u>	<u>0.005</u>
<u>044</u>	<u>QC LAB HOODS</u>								<u>0.074</u>
<u>046</u>	<u>Dust collector for packers DG611A</u>					<u>0.749</u>	<u>0.749</u>		
<u>047</u>	<u>Emergency generators &amp; fire pumps</u>	<u>0.187</u>		<u>0.868</u>		<u>0.020</u>	<u>0.020</u>	<u>0.057</u>	<u>0.046</u>
		<u>CO</u>	<u>NH3</u>	<u>NOx</u>	<u>Lead</u>	<u>PM10-PRI</u>	<u>PM25-PRI</u>	<u>SO2</u>	<u>VOC</u>
		<u>19.949</u>	<u>2.459</u>	<u>29.234</u>	<u>0.000</u>	<u>23.501</u>	<u>20.235</u>	<u>0.198</u>	<u>46.663</u>

Pursuant to 7 DE Admin. Code 1130, I, the undersigned, am a Responsible Official and I have personally examined and am familiar with the information submitted in this document and all its attachments. I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

Responsible Official: CLIFF TAYLOR FOR ROGER BOONE (Please Print)

Title: MAINTENANCE MANAGER FOR PLANT MANAGER (Please Print)

Signature: C. TAYLOR FOR R. BOONE Date: 6/26/18

# 2017 Emissions Report

## Facility General Information

**Identifier:** 1000300027  
**Facility Name:** FORMOSA PLASTICS CORPORATION **Company/Owner Name:** Formosa Plastics Corporation USA  
**Description:** PVC PRODUCTION  
**Status:** OP - Operating **Status Date:**  
**Category:** UNK - Facility category per 40 CFR 70 Major Source definitions is unknown.  
**NAICS:** 325211 - Plastics Material and Resin Manufacturing  
**Comments:**

Emissions Contact: KIM BENNETT (EHS MANAGER)

Contact Type	Value
Phone	(302) 836-2256
Email	KBENNETT@FDDE.FPCUSA.COM
Fax	(302) 836-1909

Permit Contact:

Contact Type	Value
Undefined	

Compliance Contact:

Contact Type	Value
Undefined	

## Location Address

780 SCHOOLHOUSE ROAD, , DELAWARE CITY, DE 19706

## Mailing Address

PO BOX 320, , DELAWARE CITY, DE 19706

## Location/Coordinates

**Latitude (decimal degrees):** 39.585  
**UTM X (Meters):** 444250.247050  
**UTM Zone:** 18

**Longitude (decimal degrees):** -75.6492  
**UTM Y (Meters):** 4381899.196195

Collection Method:

Collection Date:

Reference Point:

Reference System:

## Additional Information

Field	Value
Principal Product or Type of Business	PVC POLYMER

Facility Employees	95
Facility Area (Acres)	115.0



# Release Points

## Release Point

Identifier: 11  
Description: E-2 LPV  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 69.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.80  
Exit Gas Temp: 75  
Exit Gas Flow Rate: 201.53945  
Exit Gas Velocity: 79.2  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

## Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.586944  
UTM X (Meters): 444246.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.649166  
UTM Y (Meters): 4381920.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 12  
Description: E-2 PVC DRYER  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 90  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	E2D-1

# Release Point

**Identifier:** 13  
**Description:** E-2 PVC HANDLING/STORAGE  
**Release Point Type:** 2 - Vertical  
**Status:** OP - Operating  
**Stack Shape Code:** C  
**Stack Height:** 30.0  
**Stack Opening Length:**  
**Stack Opening Width:**  
**Stack Diameter:** 1.40  
**Exit Gas Temp:** 60  
**Exit Gas Flow Rate:** 5000  
**Exit Gas Velocity:** 54.1  
**Fence Line Distance:**  
**Fugitive Height:**  
**Fugitive Width:**  
**Fugitive Length:**  
**Fugitive Angle:**  
**Comments:**

**Status Date:**  
**Stack Height UOM:** FEET  
**Stack Opening Length UOM:**  
**Stack Opening Width UOM:**  
**Stack Diameter UOM:** FEET  
**Exit Gas Temp UOM:** °F  
**Exit Gas Flow Rate UOM:** ACFM  
**Exit Gas Velocity UOM:** FPS  
**Fence Line Distance UOM:**  
**Fugitive Height UOM:**  
**Fugitive Width UOM:**  
**Fugitive Length UOM:** FEET  
**Fugitive Angle UOM:** Degrees

## Location/Coordinates

**Uses Facility Site Location?** False  
**Latitude (decimal degrees):** 39.588333  
**UTM X (Meters):** 444174.000  
**UTM Zone:** 18  
**Longitude (decimal degrees):** -75.650000  
**UTM Y (Meters):** 4382079.000  
**Collection Method:**  
**Reference Point:**  
**Collection Date:**  
**Reference System:**

## Additional Information

Field	Value
Site.Stack Identifier/Name	

## Release Point

Identifier: 2  
Description: BOILER #1 PB705  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 38.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 3.50  
Exit Gas Temp: 520  
Exit Gas Flow Rate: 15560  
Exit Gas Velocity: 27  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 20  
Description: PVC EMULSION PLANT S#2  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 58  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000

Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	S2-1

## Release Point

Identifier: 21  
Description: PVC PLANT S-2/POLYMER DRY  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 65.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 5.30  
Exit Gas Temp: 150  
Exit Gas Flow Rate: 65500  
Exit Gas Velocity: 50.4  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588055  
UTM X (Meters): 444173.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382055.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

**Identifier:** 22  
**Description:** PLANT S-2 PVC HANDLING  
**Release Point Type:** 2 - Vertical  
**Status:** OP - Operating  
**Stack Shape Code:** C  
**Stack Height:** 75.0  
**Stack Opening Length:**  
**Stack Opening Width:**  
**Stack Diameter:** 1.00  
**Exit Gas Temp:** 68  
**Exit Gas Flow Rate:** 6000  
**Exit Gas Velocity:** 127.3  
**Fence Line Distance:**  
**Fugitive Height:**  
**Fugitive Width:**  
**Fugitive Length:**  
**Fugitive Angle:**  
**Comments:**

**Status Date:**  
**Stack Height UOM:** FEET  
**Stack Opening Length UOM:**  
**Stack Opening Width UOM:**  
**Stack Diameter UOM:** FEET  
**Exit Gas Temp UOM:** °F  
**Exit Gas Flow Rate UOM:** ACFM  
**Exit Gas Velocity UOM:** FPS  
**Fence Line Distance UOM:**  
**Fugitive Height UOM:**  
**Fugitive Width UOM:**  
**Fugitive Length UOM:** FEET  
**Fugitive Angle UOM:** Degrees

## Location/Coordinates

**Uses Facility Site Location?** False  
**Latitude (decimal degrees):** 39.588333  
**UTM X (Meters):** 444174.000  
**UTM Zone:** 18  
**Collection Method:**  
**Reference Point:**

**Longitude (decimal degrees):** -75.650000  
**UTM Y (Meters):** 4382079.000  
**Collection Date:**  
**Reference System:**

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 25  
Description: PVC PILOT PLANT  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 30  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	



# Release Point

Identifier: 26  
Description: PILOT PLANT DRYER  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 30  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 27  
Description: PVC PILOT PLANT/POLY. DRY  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 20  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

**Identifier:** 30  
**Description:** VINYL ACETATE STORAGE TNK  
**Release Point Type:** 2 - Vertical  
**Status:** OP - Operating  
**Stack Shape Code:** C  
**Stack Height:** 20.0  
**Stack Opening Length:**  
**Stack Opening Width:**  
**Stack Diameter:** 0.30  
**Exit Gas Temp:** 60  
**Exit Gas Flow Rate:** 0.12723  
**Exit Gas Velocity:** 1.8  
**Fence Line Distance:**  
**Fugitive Height:**  
**Fugitive Width:**  
**Fugitive Length:**  
**Fugitive Angle:**  
**Comments:**

**Status Date:**  
**Stack Height UOM:** FEET  
**Stack Opening Length UOM:**  
**Stack Opening Width UOM:**  
**Stack Diameter UOM:** FEET  
**Exit Gas Temp UOM:** °F  
**Exit Gas Flow Rate UOM:** ACFS  
**Exit Gas Velocity UOM:** FPS  
**Fence Line Distance UOM:** FEET  
**Fugitive Height UOM:**  
**Fugitive Width UOM:**  
**Fugitive Length UOM:** FEET  
**Fugitive Angle UOM:** Degrees

## Location/Coordinates

**Uses Facility Site Location?** False  
**Latitude (decimal degrees):** 39.588333  
**UTM X (Meters):** 444174.000  
**UTM Zone:** 18  
**Collection Method:**  
**Reference Point:**

**Longitude (decimal degrees):** -75.650000  
**UTM Y (Meters):** 4382079.000  
**Collection Date:**  
**Reference System:**

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 31  
Description: WASTE WATER STRIPPER S-2  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 1  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 35  
 Description: ACCIDENTAL RELEASE  
 Release Point Type: 1 - Fugitive  
 Status: OP - Operating

Status Date:

Stack Shape Code:  
 Stack Height:  
 Stack Opening Length:  
 Stack Opening Width:  
 Stack Diameter:

Stack Height UOM:  
 Stack Opening Length UOM:  
 Stack Opening Width UOM:  
 Stack Diameter UOM:

Exit Gas Temp:  
 Exit Gas Flow Rate:  
 Exit Gas Velocity:

Exit Gas Temp UOM: °F  
 Exit Gas Flow Rate UOM:  
 Exit Gas Velocity UOM:

Fence Line Distance:

Fence Line Distance UOM:

Fugitive Height: 30  
 Fugitive Width:

Fugitive Height UOM: FEET  
 Fugitive Width UOM:

Fugitive Length:  
 Fugitive Angle:

Fugitive Length UOM: FEET  
 Fugitive Angle UOM: Degrees

Comments:

## Location/Coordinates

Uses Facility Site Location? False  
 Latitude (decimal degrees): 39.588333  
 UTM X (Meters): 444174.000  
 UTM Zone: 18

Longitude (decimal degrees): -75.650000  
 UTM Y (Meters): 4382079.000

Collection Method:  
 Reference Point:

Collection Date:  
 Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 36  
Description: E-1 BAGHOUSES  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 26.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.20  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 4000  
Exit Gas Velocity: 62  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 37  
Description: E2 BAGHOUSE GRINDER COLLE  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 30.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 3.20  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 10000  
Exit Gas Velocity: 20.7  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 38  
Description: E-2 DG-671 BAGHOUSE  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 25.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 2.40  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 3000  
Exit Gas Velocity: 11.1  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	



## Release Point

Identifier: 39  
Description: E2 SILOS (7)  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 118.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.30  
Exit Gas Temp: 60  
Exit Gas Flow Rate: 17.65339  
Exit Gas Velocity: 13.3  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 4  
Description: BOILER PB 704  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 35  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 40  
Description: E2 DG680 GRINDER BAGHOU  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 32.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.50  
Exit Gas Temp: 70  
Exit Gas Flow Rate: 6000  
Exit Gas Velocity: 56.6  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 41  
Description: E2 DG610/611 BAGGERS  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 30.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 0.80  
Exit Gas Temp: 70  
Exit Gas Flow Rate: 30.96354  
Exit Gas Velocity: 61.6  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 42  
 Description: VACUUM CLEANING SYSTEM  
 Release Point Type: 2 - Vertical  
 Status: OP - Operating  
 Stack Shape Code: C  
 Stack Height: 12.0  
 Stack Opening Length:  
 Stack Opening Width:  
 Stack Diameter: 0.70  
 Exit Gas Temp: 70  
 Exit Gas Flow Rate: 54.57104  
 Exit Gas Velocity: 141.8  
 Fence Line Distance:  
 Fugitive Height:  
 Fugitive Width:  
 Fugitive Length:  
 Fugitive Angle:  
 Comments:

Status Date:  
 Stack Height UOM: FEET  
 Stack Opening Length UOM:  
 Stack Opening Width UOM:  
 Stack Diameter UOM: FEET  
 Exit Gas Temp UOM: °F  
 Exit Gas Flow Rate UOM: ACFS  
 Exit Gas Velocity UOM: FPS  
 Fence Line Distance UOM: FEET  
 Fugitive Height UOM:  
 Fugitive Width UOM:  
 Fugitive Length UOM: FEET  
 Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
 Latitude (decimal degrees): 39.588333  
 UTM X (Meters): 444174.000  
 UTM Zone: 18  
 Longitude (decimal degrees): -75.650000  
 UTM Y (Meters): 4382079.000  
 Collection Method:  
 Reference Point:  
 Collection Date:  
 Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 43  
Description: WASTE GAS INCINERATORS  
Release Point Type: 2 - Vertical  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 33.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.00  
Exit Gas Temp: 150  
Exit Gas Flow Rate: 634  
Exit Gas Velocity: 13.5  
Fence Line Distance:  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:  
Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFM  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM:  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:  
Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

Identifier: 44  
Description: QC LAB HOODS  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 10  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

## Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 45  
Description: WASTE WATER TREATMENT  
Release Point Type: 1 - Fugitive  
Status: OP - Operating

Status Date:

Stack Shape Code:  
Stack Height:  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter:  
Exit Gas Temp:  
Exit Gas Flow Rate:  
Exit Gas Velocity:  
Fence Line Distance:  
Fugitive Height: 20  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Stack Height UOM:  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM:  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM:  
Exit Gas Velocity UOM:  
Fence Line Distance UOM:  
Fugitive Height UOM: FEET  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? False  
Latitude (decimal degrees): 39.588333  
UTM X (Meters): 444174.000  
UTM Zone: 18  
Collection Method:  
Reference Point:

Longitude (decimal degrees): -75.650000  
UTM Y (Meters): 4382079.000  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	



# Release Point

**Identifier:** 46  
**Description:** Packer dust collector  
**Release Point Type:** 5 - Vertical with Rain Cap  
**Status:** OP - Operating  
**Stack Shape Code:** C  
**Stack Height:** 15.0  
**Stack Opening Length:**  
**Stack Opening Width:**  
**Stack Diameter:** 1.80  
**Exit Gas Temp:** 104  
**Exit Gas Flow Rate:** 8000  
**Exit Gas Velocity:** 3143.80135  
**Fence Line Distance:** 300  
**Fugitive Height:**  
**Fugitive Width:**  
**Fugitive Length:**  
**Fugitive Angle:**  
**Comments:**

**Status Date:** 4/30/2015 12:00:00 AM

**Stack Height UOM:** FEET  
**Stack Opening Length UOM:**  
**Stack Opening Width UOM:**  
**Stack Diameter UOM:** FEET  
**Exit Gas Temp UOM:** °F  
**Exit Gas Flow Rate UOM:** ACFM  
**Exit Gas Velocity UOM:** FPM  
**Fence Line Distance UOM:** FEET  
**Fugitive Height UOM:**  
**Fugitive Width UOM:**  
**Fugitive Length UOM:** FEET  
**Fugitive Angle UOM:** Degrees

## Location/Coordinates

**Uses Facility Site Location?** False  
**Latitude (decimal degrees):** 39.585  
**UTM X (Meters):** 444250.247050  
**UTM Zone:** 18  
**Collection Method:**  
**Reference Point:**

**Longitude (decimal degrees):** -75.6492  
**UTM Y (Meters):** 4381899.196195  
**Collection Date:**  
**Reference System:**

## Additional Information

Field	Value
Site Stack Identifier/Name	

## Release Point

Identifier: 47  
Description: emergency generator exhaust vents  
Release Point Type: 3 - Horizontal  
Status: OP - Operating  
Stack Shape Code: C  
Stack Height: 15.0  
Stack Opening Length:  
Stack Opening Width:  
Stack Diameter: 1.00  
Exit Gas Temp: 275  
Exit Gas Flow Rate: 50  
Exit Gas Velocity: 63.66198  
Fence Line Distance: 75  
Fugitive Height:  
Fugitive Width:  
Fugitive Length:  
Fugitive Angle:  
Comments:

Status Date: 8/27/2015 12:00:00 AM

Stack Height UOM: FEET  
Stack Opening Length UOM:  
Stack Opening Width UOM:  
Stack Diameter UOM: FEET  
Exit Gas Temp UOM: °F  
Exit Gas Flow Rate UOM: ACFS  
Exit Gas Velocity UOM: FPS  
Fence Line Distance UOM: FEET  
Fugitive Height UOM:  
Fugitive Width UOM:  
Fugitive Length UOM: FEET  
Fugitive Angle UOM: Degrees

### Location/Coordinates

Uses Facility Site Location? True  
Latitude (decimal degrees):  
UTM X (Meters):  
UTM Zone:  
Collection Method:  
Reference Point:

Longitude (decimal degrees):  
UTM Y (Meters):  
Collection Date:  
Reference System:

### Additional Information

Field	Value
Site Stack Identifier/Name	

# Release Point

**Identifier:** 5  
**Description:** BOILER #2 PB 706  
**Release Point Type:** 2 - Vertical  
**Status:** OP - Operating  
**Stack Shape Code:** C  
**Stack Height:** 38.0  
**Stack Opening Length:**  
**Stack Opening Width:**  
**Stack Diameter:** 3.50  
**Exit Gas Temp:** 520  
**Exit Gas Flow Rate:** 15560  
**Exit Gas Velocity:** 27  
**Fence Line Distance:**  
**Fugitive Height:**  
**Fugitive Width:**  
**Fugitive Length:**  
**Fugitive Angle:**  
**Comments:**

**Status Date:**

**Stack Height UOM:** FEET  
**Stack Opening Length UOM:**  
**Stack Opening Width UOM:**  
**Stack Diameter UOM:** FEET  
**Exit Gas Temp UOM:** °F  
**Exit Gas Flow Rate UOM:** ACFM  
**Exit Gas Velocity UOM:** FPS  
**Fence Line Distance UOM:**  
**Fugitive Height UOM:**  
**Fugitive Width UOM:**  
**Fugitive Length UOM:** FEET  
**Fugitive Angle UOM:** Degrees

## Location/Coordinates

**Uses Facility Site Location?** False  
**Latitude (decimal degrees):** 39.588333  
**UTM X (Meters):** 444174.000  
**UTM Zone:** 18  
**Collection Method:**  
**Reference Point:**

**Longitude (decimal degrees):** -75.650000  
**UTM Y (Meters):** 4382079.000

**Collection Date:**  
**Reference System:**

## Additional Information

Field	Value
Site Stack Identifier/Name	

# Control Devices

## Control Device

Identifier: 1  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.96
PM10	Particulate Matter Less Than 10 Microns	99.96
PM10-FIL	PM10 Filterable	99.96
PM10-PRI	PM10 Primary (Filt + Cond)	99.96
PM25-FIL	PM2.5 Filterable	99.96
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.96

### Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30

## Control Device

Identifier: 10  
Description: CAUSTIC SCRUBBER  
Status: OP - Operating  
Control Measure: 141 - Wet Scrubber  
Comments:

Status Date:

### Controlled Pollutants

Pollutant	Description	Efficiency
7647010	Hydrochloric Acid	99.90

### Additional Information

Field	Value
Local Abatement Equipment ID	WD710/711
Serial Number	
Manufacturer	CROLL REYNOLDS
Installation Date	1993-12-31

## Control Device

Identifier: 11  
Description: INCINERATOR  
Status: OP - Operating Status Date:  
Control Measure: 131 - Thermal Oxidizer  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
75014	Vinyl Chloride	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	WB710 (711 SECONDARY)
Serial Number	
Manufacturer	PROCESS COMBUSTION CONTROL
Installation Date	1982-12-31

## Control Device

Identifier: 12  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

Status Date:

### Controlled Pollutants

Pollutant	Description	Efficiency
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### Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30

## Control Device

Identifier: 13  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
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### Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30



# Control Device

Identifier: 14  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

Status Date:

## Controlled Pollutants

Pollutant	Description	Efficiency
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## Additional Information

Field	Value
Local Abatement Equipment ID	DG601A-H
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1975-06-30

## Control Device

Identifier: 2  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DG660/661
Serial Number	120LST100
Manufacturer	MAC INDUSTRIES
Installation Date	1976-06-30

## Control Device

Identifier: 3  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DG670
Serial Number	
Manufacturer	MIKROPUL
Installation Date	1982-06-30

## Control Device

Identifier: 4  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DG671A/B
Serial Number	
Manufacturer	MAC
Installation Date	2000-09-30

## Control Device

Identifier: 5  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.95
PM-FIL	PM Filterable	99.95
PM10	Particulate Matter Less Than 10 Microns	99.95
PM10-FIL	PM10 Filterable	99.95
PM10-PRI	PM10 Primary (Filt + Cond)	99.95
PM25-FIL	PM2.5 Filterable	99.95
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.95

### Additional Information

Field	Value
Local Abatement Equipment ID	DT608A-G
Serial Number	84CT30
Manufacturer	FLEX KLEEN
Installation Date	1976-01-30

## Control Device

Identifier: 6  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	DT608A-G
Serial Number	84CT30
Manufacturer	FLEX KLEEN
Installation Date	1976-01-30

## Control Device

Identifier: 7  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.96
PM-FIL	PM Filterable	99.96
PM10	Particulate Matter Less Than 10 Microns	99.96
PM10-FIL	PM10 Filterable	99.96
PM10-PRI	PM10 Primary (Filt + Cond)	99.96
PM25-FIL	PM2.5 Filterable	99.96
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.96

### Additional Information

Field	Value
Local Abatement Equipment ID	DG691
Serial Number	84CT30
Manufacturer	FLEX KLEEN
Installation Date	1994-06-01

## Control Device

Identifier: 8  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.95
PM-FIL	PM Filterable	99.95
PM10	Particulate Matter Less Than 10 Microns	99.95
PM10-FIL	PM10 Filterable	99.95
PM10-PRI	PM10 Primary (Filt + Cond)	99.95
PM25-FIL	PM2.5 Filterable	99.95
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.95

### Additional Information

Field	Value
Local Abatement Equipment ID	EG502A-D
Serial Number	36301416
Manufacturer	DUSTEX CORP.
Installation Date	1986-08-01



## Control Device

Identifier: 9  
Description: FABRIC FILTER - LOW TEMPERATURE, I.E. T<  
Status: OP - Operating Status Date:  
Control Measure: 127 - Fabric Filter / Baghouse  
Comments:

### Controlled Pollutants

Pollutant	Description	Efficiency
9002862	POLYVINYL CHLORIDE LATEX	99.99
PM-FIL	PM Filterable	99.99
PM10	Particulate Matter Less Than 10 Microns	99.99
PM10-FIL	PM10 Filterable	99.99
PM10-PRI	PM10 Primary (Filt + Cond)	99.99
PM25-FIL	PM2.5 Filterable	99.99
PM25-PRI	PM2.5 Primary (Filt + Cond)	99.99

### Additional Information

Field	Value
Local Abatement Equipment ID	EG602A-D
Serial Number	120LST100
Manufacturer	MAC INDUSTRIES
Installation Date	1990-06-30

# Emission Units

## Emission Unit

Identifier: 002  
Description: BOILER #1, PB 705  
Status: OP - Operating  
Type: 100 - Boiler  
Design Capacity: 25.35  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	PB-705
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 005  
Description: BOILER #2 PB 706  
Status: OP - Operating  
Type: 100 - Boiler  
Design Capacity: 33.8  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	PB-706
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 011  
Description: PVC EMULSION PLANT E-2LPV  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 9  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: LB/HR - POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	E2 REACTOR
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 012  
Description: E-2 PVC DRYER  
Status: OP - Operating  
Type: 250 - Direct-fired Dryer  
Design Capacity: 41.4  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	E2 DRYER
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 013  
Description: E-2 PVC HANDLING/STORAGE  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 5.1  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 020  
Description: PVC EMULSION PLANT #S2LPV  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 9  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: LB/HR - POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	S2 REACTOR
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 021  
Description: PVC PLANT S-2 POLY DRYER  
Status: OP - Operating  
Type: 250 - Direct-fired Dryer  
Design Capacity: 20  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	S2 DRYER
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	



## Emission Unit

Identifier: 022  
Description: PLANT S-2 PVC HANDLING  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 3.3  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	S2 GRINDER
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 030  
Description: VINYL ACETATE STORAGE TNK  
Status: OP - Operating  
Type: 400 - Storage Tank  
Design Capacity: 34  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: A - 1000 GALLONS

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	PT102
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 031  
Description: WASTE WATER STRIPPERS  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 12.2  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: A - 1000 GALLONS

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	E2 & S2
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 035  
Description: ACCIDENTAL RELEASE  
Status: OP - Operating  
Type: 999 - Unclassified  
Design Capacity:  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM:

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 036  
Description: EG-601 A&B E1 BAGHOUSE  
Status: PS - Permanently Shutdown  
Type: 999 - Unclassified  
Design Capacity: 2  
Comments:

Status Date: 1/1/2017 12:00:00 AM  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 037  
Description: E2 DG670 GRINDER COLLECT  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 2.5  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG670
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 038  
Description: E2 DG671A GRINDER  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 2.5  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG671A/B
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 039  
Description: E2 SILOS (7)  
Status: OP - Operating  
Type: 780 - Silo  
Design Capacity: 10  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DT608A-G
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	



## Emission Unit

Identifier: 040  
Description: E2 DG680 GRINDER  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 1.25  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: TON/HR - TONS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG680
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 041  
Description: E2 DG610/DG611 BAGGERS  
Status: PS - Permanently Shutdown  
Type: 690 - Other process equipment  
Design Capacity: 1000  
Comments:

Status Date: 1/1/2017 12:00:00 AM  
Operation Start Date:  
Design Capacity UOM: LB/HR - POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG611 S2
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 042  
Description: DG 691 RESIN RECOVERY  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 25  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E3LB/HR - 1000 POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	DG691
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 043  
Description: INCINERATORS WB710/711  
Status: OP - Operating  
Type: 270 - Incinerator  
Design Capacity: 2  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: E6BTU/HR - MILLION BTU PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	WB710/71
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 044  
Description: QC LAB HOODS  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity:  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM:

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 045  
Description: WASTE WATER TREATMENT  
Status: OP - Operating  
Type: 390 - Other fugitive  
Design Capacity: 720  
Comments:

Status Date:  
Operation Start Date:  
Design Capacity UOM: A - 1000 GALLONS

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 046  
Description: Dust collector for packers DG611A  
Status: OP - Operating  
Type: 690 - Other process equipment  
Design Capacity: 5  
Comments:

Status Date: 4/30/2014 12:00:00 AM  
Operation Start Date: 4/30/2014 12:00:00 AM  
Design Capacity UOM: E3LB/HR - 1000 POUNDS PER HOUR

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Bumer Type - Make	
Bumer Type - Model	
Bumer Installation Date	
Emission Unit Actual Retirement Date	

## Emission Unit

Identifier: 047  
Description: Emergency generators & fire pumps  
Status: OP - Operating  
Type: 290 - Other combustion  
Design Capacity: 4200  
Comments:

Status Date: 8/27/2015 12:00:00 AM  
Operation Start Date: 1/1/1975 12:00:00 AM  
Design Capacity UOM: HP - HORSEPOWER

### Additional Information

Field	Value
Emission Unit Site Identifier/Name	
Burner Type - Make	
Burner Type - Model	
Burner Installation Date	
Emission Unit Actual Retirement Date	



# Unit Processes

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 002 - BOILER #1, PB 705  
Description: #1 & #2 FUEL OIL  
SCC: 10200501 - External Combustion Boilers-Industrial-Distillate Oil - Grades 1 and 2-Boiler

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
2	BOILER #1 PB705	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 0.83  
Throughput Type: I - Input Throughput UOM: E3GAL - 1000 GALLONS  
Throughput Material: 823 - Distillate Oil (No. 1 & 2)

Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%): 0.00150  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 0.0 Average Weeks/Year: 0.0

Average Hours/Day: 2.0

Actual Hours: 2.0

**Seasonal Operations**

March-May (%): 0.0

June-August (%): 100.0

September-November (%): 0.0

December-February (%): 0.0

Total Summer Season Days: 1

Total Ozone Season Days: 1

Total CO Season Days:

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.00002	E3GAL	28 - USEPA EF (pre-control)	0.0000000083		
Pyrene	0.00004	E3GAL	28 - USEPA EF (pre-control)	0.0000000166		
Benzo[g,h,i]Perylene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.00000000415		
Indeno[1,2,3-c,d]Pyrene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.00000000415		
Benzo[b]Fluoranthene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.00000000415		
Fluoranthene	0.00000276	E3GAL	28 - USEPA EF (pre-control)	0.000000001145399		
Benzo[k]Fluoranthene	0.00008	E3GAL	28 - USEPA EF (pre-control)	0.00000000332		
Acenaphthylene	0.00006	E3GAL	28 - USEPA EF (pre-control)	0.0000000024899999		
Chrysene	0.00000139	E3GAL	28 - USEPA EF (pre-control)	0.000000000057685		
Benzo[a]Pyrene	0.00000134	E3GAL	28 - USEPA EF (pre-control)	0.00000000005561		
Dibenzo[a,h]Anthracene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000000415		
Benz[a]Anthracene	0.000000944	E3GAL	28 - USEPA EF (pre-control)	0.0000000000391759		
Acenaphthene	0.00021	E3GAL	28 - USEPA EF (pre-control)	0.00000008715		

Phenanthrene	0.00037	E3GAL	28 - USEPA EF (pre-control)	0.00000015355		
Fluorene	0.00012	E3GAL	28 - USEPA EF (pre-control)	0.00000004979999 9		
Methane	0.619	E3GAL	28 - USEPA EF (pre-control)	0.000256885		
Nitrous Oxide	0.186	E3GAL	28 - USEPA EF (pre-control)	0.00007719		
PM-CON	1.3	E3GAL	28 - USEPA EF (pre-control)	0.00053949999999 9		
PM10-FIL	1	E3GAL	28 - USEPA EF (pre-control)	0.000415		
PM25-FIL	0.25	E3GAL	28 - USEPA EF (pre-control)	0.00010375		
PM25-PRI	1.55	E3GAL	28 - USEPA EF (pre-control)	0.00064325		
PM10-PRI	2.3	E3GAL	28 - USEPA EF (pre-control)	0.0009545		
SO2	143.6	E3GAL	28 - USEPA EF (pre-control)	0.000089391		
NOX	24	E3GAL	28 - USEPA EF (pre-control)	0.00995999999999 9		
VOC	0.2	E3GAL	28 - USEPA EF (pre-control)	0.000083		
CO	5	E3GAL	28 - USEPA EF (pre-control)	0.00207499999999 9		
Lead	0.00125	E3GAL	8 - USEPA EF (post-control)	0.00000051875		
NH3	0.8	E3GAL	28 - USEPA EF (pre-control)	0.000332		
Arsenic	0.00056	E3GAL	28 - USEPA EF (pre-control)	0.00000023239999 9		
Beryllium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.0000001743		

Cadmium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.0000001743		
Chromium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.0000001743		
Manganese	0.00084	E3GAL	28 - USEPA EF (pre-control)	0.0000003486		
Mercury	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.0000001743		
Naphthalene	0.00033	E3GAL	28 - USEPA EF (pre-control)	0.00000013695		
Nickel	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.0000001743		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benz[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	
Nitrous Oxide	

PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

## Unit Process

Unit Process Identifier: 2 Emission Unit Identifier: 002 - BOILER #1, PB 705  
 Description: NATURAL GAS  
 SCC: 10200602 - External Combustion Boilers-Industrial-Natural Gas-10-100 Million BTU/hr

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
 Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
2	BOILER #1 PB705	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	PB705
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 86 Throughput UOM: E6FT3 - MILLION CUBIC FEET  
 Throughput Type: I - Input  
 Throughput Material: 209 - Natural Gas  
 Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
 Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 43.0  
 Average Hours/Day: 24.0 Actual Hours: 7224.0

**Seasonal Operations**

March-May (%): 18.6  
 September-November (%): 18.6  
 Total Summer Season Days: 73  
 Total CO Season Days:

June-August (%): 26.7  
 December-February (%): 36.0  
 Total Ozone Season Days: 103

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.0000012	E6FT3	28 - USEPA EF (pre-control)	0.0000000516		
Pyrene	0.000005	E6FT3	28 - USEPA EF (pre-control)	0.000000215		
Benzo[g,h,i]Perylene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.0000000258		
Indeno[1,2,3-c,d]Pyrene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.00000003869999 9		
Benzo[b]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.00000003869999 9		
Fluoranthene	0.000003	E6FT3	28 - USEPA EF (pre-control)	0.000000129		
Benzo[k]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.00000003869999 9		
Acenaphthylene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.00000003869999 9		
Chrysene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.00000003869999 9		
Benzo[a]Pyrene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.0000000258		
Dibenzo[a,h]Anthracene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.0000000258		
Benz[a]Anthracene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.00000003869999 9		
Acenaphthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.00000003869999 9		

Phenanthrene	0.00002	E6FT3	28 - USEPA EF (pre-control)	0.00000086		
Fluorene	0.0000028	E6FT3	28 - USEPA EF (pre-control)	0.0000001204		
Methane	11	E6FT3	28 - USEPA EF (pre-control)	0.473		
Carbon Dioxide	121000	E6FT3	28 - USEPA EF (pre-control)	5203		
Nitrous Oxide	0.22	E6FT3	28 - USEPA EF (pre-control)	0.00946		
PM-CON	0.32	E6FT3	28 - USEPA EF (pre-control)	0.01376		
PM10-FIL	0.2	E6FT3	28 - USEPA EF (pre-control)	0.0086		
PM25-FIL	0.11	E6FT3	28 - USEPA EF (pre-control)	0.00473		
PM25-PRI	0.43	E6FT3	28 - USEPA EF (pre-control)	0.01849		
PM10-PRI	0.52	E6FT3	28 - USEPA EF (pre-control)	0.0223599999999999 9		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.0258		
NOX	100	E6FT3	28 - USEPA EF (pre-control)	4.3		
VOC	5.5	E6FT3	28 - USEPA EF (pre-control)	0.2365		
CO	84	E6FT3	28 - USEPA EF (pre-control)	3.612		
Lead	0.0005	E6FT3	28 - USEPA EF (pre-control)	0.0000215		
NH3	3.2	E6FT3	28 - USEPA EF (pre-control)	0.1376		
Arsenic	0.0002	E6FT3	28 - USEPA EF (pre-control)	0.0000086		



Beryllium	0.00001	E6FT3	28 - USEPA EF (pre-control)	0.00000043		
Cadmium	0.0011	E6FT3	28 - USEPA EF (pre-control)	0.0000473		
Chromium	0.0014	E6FT3	28 - USEPA EF (pre-control)	0.0000602		
Manganese	0.00038	E6FT3	28 - USEPA EF (pre-control)	0.00001634		
Mercury	0.00026	E6FT3	28 - USEPA EF (pre-control)	0.00001118		
Naphthalene	0.00061	E6FT3	28 - USEPA EF (pre-control)	0.00002623		
Nickel	0.0021	E6FT3	28 - USEPA EF (pre-control)	0.00009029999999 9		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benz[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	

Carbon Dioxide	
Nitrous Oxide	
PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 005 - BOILER #2 PB 706  
 Description: #1 & #2 FUEL OIL  
 SCC: 10200501 - External Combustion Boilers-Industrial-Distillate Oil - Grades 1 and 2-Boiler

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
 Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
5	BOILER #2 PB 706	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	PB706
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 0.313 Throughput UOM: E3GAL - 1000 GALLONS  
 Throughput Type: I - Input  
 Throughput Material: 823 - Distillate Oil (No. 1 & 2)

Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%): 0.00150  
 Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 1.0 Average Weeks/Year: 1.0  
 Average Hours/Day: 2.0 Actual Hours: 2.0

**Seasonal Operations**

March-May (%): 0.0  
 September-November (%): 100.0  
 Total Summer Season Days: 0  
 Total CO Season Days:

June-August (%): 0.0  
 December-February (%): 0.0  
 Total Ozone Season Days: 1

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.00002	E3GAL	28 - USEPA EF (pre-control)	0.00000000313		
Pyrene	0.00004	E3GAL	28 - USEPA EF (pre-control)	0.00000000626		
Benzo[g,h,i,]Perylene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Indeno[1,2,3-c,d]Pyrene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Benzo[b]Fluoranthene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Fluoranthene	0.0000276	E3GAL	28 - USEPA EF (pre-control)	0.0000000043194		
Benzo[k]Fluoranthene	0.00008	E3GAL	28 - USEPA EF (pre-control)	0.00000001252		
Acenaphthylene	0.00006	E3GAL	28 - USEPA EF (pre-control)	0.00000000939		
Chrysene	0.00000139	E3GAL	28 - USEPA EF (pre-control)	0.00000000217535		
Benzo[a]Pyrene	0.00000134	E3GAL	28 - USEPA EF (pre-control)	0.0000000020971		
Dibenzo[a,h]Anthracene	0.00001	E3GAL	28 - USEPA EF (pre-control)	0.000000001565		
Benz[a]Anthracene	0.000000944	E3GAL	28 - USEPA EF (pre-control)	0.000000000147736		
Acenaphthene	0.00021	E3GAL	28 - USEPA EF (pre-control)	0.000000032865		

Phenanthrene	0.00037	E3GAL	28 - USEPA EF (pre-control)	0.000000057905		
Fluorene	0.00012	E3GAL	28 - USEPA EF (pre-control)	0.00000001878		
Methane	0.619	E3GAL	28 - USEPA EF (pre-control)	0.0000968735		
Carbon Dioxide	22400	E3GAL	28 - USEPA EF (pre-control)	3.5056		
Nitrous Oxide	0.186	E3GAL	28 - USEPA EF (pre-control)	0.000029109		
PM-CON	1.3	E3GAL	28 - USEPA EF (pre-control)	0.00020345		
PM10-FIL	1	E3GAL	28 - USEPA EF (pre-control)	0.0001565		
PM25-FIL	0.25	E3GAL	28 - USEPA EF (pre-control)	0.000039125		
PM25-PRI	1.55	E3GAL	28 - USEPA EF (pre-control)	0.000242575		
PM10-PRI	2.3	E3GAL	28 - USEPA EF (pre-control)	0.00035995		
SO2	143.6	E3GAL	28 - USEPA EF (pre-control)	0.0000337101		
NOX	24	E3GAL	28 - USEPA EF (pre-control)	0.003756		
VOC	0.2	E3GAL	28 - USEPA EF (pre-control)	0.0000313		
CO	5	E3GAL	28 - USEPA EF (pre-control)	0.0007825		
Lead	0.00125	E3GAL	28 - USEPA EF (pre-control)	0.000000195625		
NH3	0.8	E3GAL	28 - USEPA EF (pre-control)	0.0001252		
Arsenic	0.00056	E3GAL	28 - USEPA EF (pre-control)	0.00000008764		

Beryllium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Cadmium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Chromium	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Manganese	0.00084	E3GAL	28 - USEPA EF (pre-control)	0.00000013146		
Mercury	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		
Naphthalene	0.00033	E3GAL	28 - USEPA EF (pre-control)	0.000000051645		
Nickel	0.00042	E3GAL	28 - USEPA EF (pre-control)	0.00000006573		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benz[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	

Carbon Dioxide	
Nitrous Oxide	
PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

## Unit Process

Unit Process Identifier: 2 Emission Unit Identifier: 005 - BOILER #2 PB 706  
Description: NATURAL GAS  
SCC: 10200602 - External Combustion Boilers-Industrial-Natural Gas-10-100 Million BTU/hr

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
5	BOILER #2 PB 706	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	PB706
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 143  
Throughput Type: I - Input Throughput UOM: E6FT3 - MILLION CUBIC FEET  
Throughput Material: 209 - Natural Gas  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 40.0  
Average Hours/Day: 24.0 Actual Hours: 6720.0



**Seasonal Operations**

March-May (%): 31.5  
 September-November (%): 21.0  
 Total Summer Season Days: 20  
 Total CO Season Days:

June-August (%): 4.9  
 December-February (%): 42.7  
 Total Ozone Season Days: 69

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Anthracene	0.0000012	E6FT3	28 - USEPA EF (pre-control)	0.0000000858		
Pyrene	0.000005	E6FT3	28 - USEPA EF (pre-control)	0.0000003575		
Benzo[g,h,i]Perylene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.0000000429		
Indeno[1,2,3-c,d]Pyrene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000064349999		
Benzo[b]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000064349999		
Fluoranthene	0.000003	E6FT3	28 - USEPA EF (pre-control)	0.0000002145		
Benzo[k]Fluoranthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000064349999		
Acenaphthylene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000064349999		
Chrysene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000064349999		
Benzo[a]Pyrene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.0000000429		
Dibenzo[a,h]Anthracene	0.0000006	E6FT3	28 - USEPA EF (pre-control)	0.0000000429		
Benz[a]Anthracene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000064349999		
Acenaphthene	0.0000009	E6FT3	28 - USEPA EF (pre-control)	0.000000064349999		

Phenanthrene	0.00002	E6FT3	28 - USEPA EF (pre-control)	0.00000143		
Fluorene	0.0000028	E6FT3	28 - USEPA EF (pre-control)	0.00000020019999 9		
Methane	11	E6FT3	28 - USEPA EF (pre-control)	0.7865		
Carbon Dioxide	121000	E6FT3	28 - USEPA EF (pre-control)	8651.5		
Nitrous Oxide	0.22	E6FT3	28 - USEPA EF (pre-control)	0.01573		
PM-CON	0.32	E6FT3	28 - USEPA EF (pre-control)	0.02287999999999 9		
PM10-FIL	0.2	E6FT3	28 - USEPA EF (pre-control)	0.0143		
PM25-FIL	0.11	E6FT3	28 - USEPA EF (pre-control)	0.007865		
PM25-PRI	0.43	E6FT3	28 - USEPA EF (pre-control)	0.030745		
PM10-PRI	0.52	E6FT3	28 - USEPA EF (pre-control)	0.03718		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.0429		
NOX	100	E6FT3	28 - USEPA EF (pre-control)	7.15		
VOC	5.5	E6FT3	28 - USEPA EF (pre-control)	0.39325		
CO	84	E6FT3	28 - USEPA EF (pre-control)	6.006		
Lead	0.0005	E6FT3	28 - USEPA EF (pre-control)	0.00003575		
NH3	3.2	E6FT3	28 - USEPA EF (pre-control)	0.2288		
Arsenic	0.0002	E6FT3	28 - USEPA EF (pre-control)	0.0000143		

Beryllium	0.00001	E6FT3	28 - USEPA EF (pre-control)	0.000000715		
Cadmium	0.0011	E6FT3	28 - USEPA EF (pre-control)	0.00007865		
Chromium	0.0014	E6FT3	28 - USEPA EF (pre-control)	0.0001001		
Manganese	0.00038	E6FT3	28 - USEPA EF (pre-control)	0.00002717		
Mercury	0.00026	E6FT3	28 - USEPA EF (pre-control)	0.00001859		
Naphthalene	0.00061	E6FT3	28 - USEPA EF (pre-control)	0.000043615		
Nickel	0.0021	E6FT3	28 - USEPA EF (pre-control)	0.00015015		

**Emissions Comments**

Pollutant	Comment
Anthracene	
Pyrene	
Benzo[g,h,i]Perylene	
Indeno[1,2,3-c,d]Pyrene	
Benzo[b]Fluoranthene	
Fluoranthene	
Benzo[k]Fluoranthene	
Acenaphthylene	
Chrysene	
Benzo[a]Pyrene	
Dibenzo[a,h]Anthracene	
Benz[a]Anthracene	
Acenaphthene	
Phenanthrene	
Fluorene	
Methane	

Carbon Dioxide	
Nitrous Oxide	
PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	
VOC	
CO	
Lead	
NH3	
Arsenic	
Beryllium	
Cadmium	
Chromium	
Manganese	
Mercury	
Naphthalene	
Nickel	

## Unit Process

Unit Process Identifier: 1  
Description: REACTORS/VESSELS/VENTS  
SCC: 30101818 - Industrial Processes-Chemical Manufacturing-Plastics Production-Reactor

Emission Unit Identifier: 011 - PVC EMULSION PLANT E-2LPV

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True  
Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
11	E-2 LPV	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 28130.56  
Throughput Type: O - Output  
Throughput Material: 253 - Product

Throughput UOM: TON - TONS

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):  
Heat Content (MMBTU/Unit):  
Sulfur Content (%):

### Operations

Average Days/Week: 7.0  
Average Hours/Day: 23.0  
Average Weeks/Year: 52.0  
Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 27.2  
 September-November (%): 24.7  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 23.8  
 December-February (%): 24.3  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			3 - Material Balance	3.07		
Vinyl Acetate			3 - Material Balance	0.3704		
Vinyl Chloride			3 - Material Balance	2.699		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Acetate	
Vinyl Chloride	

## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 012 - E-2 PVC DRYER

Description: POLYMER DRY - FUGITIVES

SCC: 30101820 - Industrial Processes-Chemical Manufacturing-Plastics Production-Polymer Drying

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
1	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
12	E-2 PVC DRYER	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 28130.56

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 51.0

Average Hours/Day: 24.0

Actual Hours: 8568.0

**Seasonal Operations**

March-May (%): 27.2  
 September-November (%): 24.7  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 23.8  
 December-February (%): 24.3  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			4 - Stack Test	2.936		
PM-CON			2 - Engineering Judgment	2.794		
PM10-FIL			2 - Engineering Judgment	2.202		
PM25-FIL			3 - Material Balance	1.174		
PM25-PRI			2 - Engineering Judgment	3.969		
PM10-PRI			3 - Material Balance	4.996		
VOC			3 - Material Balance	29.25		
NH3			3 - Material Balance	0.397		
Acetaldehyde			2 - Engineering Judgment	0.717		
Benzene			2 - Engineering Judgment	0.000006		
Bis(2-Ethylhexyl)Phthalate			3 - Material Balance	0.867		
Chlorobenzene			2 - Engineering Judgment	0.000034		
Chloroform			2 - Engineering Judgment	0.00157		
Ethyl Benzene			3 - Material Balance	0.0109		
Ethyl Chloride			2 - Engineering Judgment	0.4239		



Ethylene Dichloride			2 - Engineering Judgment	0.0116		
Ethylene Glycol			2 - Engineering Judgment	0.5358		
Ethylidene Dichloride			2 - Engineering Judgment	0.00355		
Formaldehyde			2 - Engineering Judgment	0.1067		
Hexane			2 - Engineering Judgment	0.00897		
Methyl Chloride			2 - Engineering Judgment	0.0241		
Methylene Chloride			2 - Engineering Judgment	0.0367		
Toluene			2 - Engineering Judgment	0.0056		
2,2,4-Trimethylpentane			3 - Material Balance	0.00165		
Vinyl Acetate			3 - Material Balance	13.53		
Vinyl Chloride			2 - Engineering Judgment	12.987		
Xylenes (Mixed Isomers)			3 - Material Balance	0.01406		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM-CON	
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
VOC	
NH3	

Acetaldehyde	
Benzene	
Bis(2-Ethylhexyl)Phthalate	
Chlorobenzene	
Chloroform	
Ethyl Benzene	
Ethyl Chloride	
Ethylene Dichloride	
Ethylene Glycol	
Ethylidene Dichloride	
Formaldehyde	
Hexane	
Methyl Chloride	
Methylene Chloride	
Toluene	
2,2,4-Trimethylpentane	
Vinyl Acetate	
Vinyl Chloride	
Xylenes (Mixed Isomers)	

## Unit Process

Unit Process Identifier: 2

Emission Unit Identifier:

012 - E-2 PVC DRYER

Description: NATURAL GAS

SCC: 30190003 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Process Heater: Natural Gas

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
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### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
12	E-2 PVC DRYER	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 169.67

Throughput Type: I - Input

Throughput UOM:

E6FT3 - MILLION CUBIC FEET

Throughput Material: 209 - Natural Gas

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 51.0

Average Hours/Day: 20.0

Actual Hours: 7140.0

**Seasonal Operations**

March-May (%): 24.8  
 September-November (%): 26.7  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 24.6  
 December-February (%): 24.0  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Carbon Dioxide	121000	E6FT3	29 - S/L/T EF (pre-control)	10265.035		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.05090099999999999		
NOX	140	E6FT3	28 - USEPA EF (pre-control)	11.8769		
VOC	2.8	E6FT3	28 - USEPA EF (pre-control)	0.23753799999999999		
CO	84	E6FT3	29 - S/L/T EF (pre-control)	7.12614		

**Emissions Comments**

Pollutant	Comment
Carbon Dioxide	
SO2	
NOX	
VOC	
CO	

## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 013 - E-2 PVC HANDLING/STORAGE

Description: HANDLING PVC

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
2	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
13	E-2 PVC HANDLING/STORAGE	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG660,661
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 9376.855

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 50.0

Average Hours/Day: 20.0

Actual Hours: 7000.0

**Seasonal Operations**

March-May (%): 27.2  
 September-November (%): 24.7  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 23.8  
 December-February (%): 24.3  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	1.2303		
PM25-PRI			2 - Engineering Judgment	1.2303		
PM10-PRI			2 - Engineering Judgment	1.2303		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 020 - PVC EMULSION PLANT #S2LPV  
Description: REACTOR S2 LPV  
SCC: 30101818 - Industrial Processes-Chemical Manufacturing-Plastics Production-Reactor

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
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## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
20	PVC EMULSION PLANT S#2	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 13190.74  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 23.0 Actual Hours: 8372.0

**Seasonal Operations**

March-May (%): 28.4  
 September-November (%): 24.2  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 22.5  
 December-February (%): 24.9  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	1.2092		
Vinyl Chloride			2 - Engineering Judgment	1.2092		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Chloride	



## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 021 - PVC PLANT S-2 POLY DRYER  
 Description: S-2 DRYER - FUGITIVES  
 SCC: 30101820 - Industrial Processes-Chemical Manufacturing-Plastics Production-Polymer Drying

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
 Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
8	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
21	PVC PLANT S-2/POLYMER DRY	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 13190.741  
 Throughput Type: O - Output Throughput UOM: TON - TONS  
 Throughput Material: 253 - Product  
 Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
 Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 51.0  
 Average Hours/Day: 20.0 Actual Hours: 7140.0

**Seasonal Operations**

March-May (%): 28.4  
 September-November (%): 24.2  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 22.5  
 December-February (%): 24.9  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Butyl Acrylate			2 - Engineering Judgment	1.144		
POLYVINYL CHLORIDE LATEX			4 - Stack Test	6.0625		
PM-CON			2 - Engineering Judgment	6.1838		
PM10-FIL			2 - Engineering Judgment	4.774		
PM25-FIL			2 - Engineering Judgment	2.5463		
PM25-PRI			2 - Engineering Judgment	8.73		
PM10-PRI			4 - Stack Test	10.958		
VOC			3 - Material Balance	8.62		
NH3			2 - Engineering Judgment	1.6953		
Acetaldehyde			2 - Engineering Judgment	0.3638		
Benzene			2 - Engineering Judgment	0.000003		
Bis(2-Ethylhexyl)Phthalate			2 - Engineering Judgment	0.44008		
Chlorobenzene			2 - Engineering Judgment	0.000017		

Chloroform		2 - Engineering Judgment	0.000758		
Ethyl Benzene		3 - Material Balance	0.00553		
Ethyl Chloride		2 - Engineering Judgment	0.2152		
Ethylene Dichloride		2 - Engineering Judgment	0.00588		
Ethylene Glycol		2 - Engineering Judgment	0.272		
Ethylidene Dichloride		2 - Engineering Judgment	0.0018		
Formaldehyde		2 - Engineering Judgment	0.0542		
Hexane		2 - Engineering Judgment	0.00456		
Methyl Chloride		2 - Engineering Judgment	0.0122		
Methylene Chloride		2 - Engineering Judgment	0.0186		
Toluene		3 - Material Balance	0.00283		
2,2,4-Trimethylpentane		2 - Engineering Judgment	0.00084		
Vinyl Acetate		2 - Engineering Judgment	0.00598		
Vinyl Chloride		3 - Material Balance	6.0899		
Xylenes (Mixed Isomers)		2 - Engineering Judgment	0.0072		

**Emissions Comments**

Pollutant	Comment
Butyl Acrylate	
POLYVINYL CHLORIDE LATEX	
PM-CON	
PM10-FIL	

PM25-FIL	
PM25-PRI	
PM10-PRI	
VOC	
NH3	
Acetaldehyde	
Benzene	
Bis(2-Ethylhexyl)Phthalate	
Chlorobenzene	
Chloroform	
Ethyl Benzene	
Ethyl Chloride	
Ethylene Dichloride	
Ethylene Glycol	
Ethylidene Dichloride	
Formaldehyde	
Hexane	
Methyl Chloride	
Methylene Chloride	
Toluene	
2,2,4-Trimethylpentane	
Vinyl Acetate	
Vinyl Chloride	
Xylenes (Mixed Isomers)	

# Unit Process

Unit Process Identifier: 2

Emission Unit Identifier: 021 - PVC PLANT S-2 POLY DRYER

Description: NATURAL GAS

SCC: 30190003 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Process Heater: Natural Gas

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
21	PVC PLANT S-2/POLYMER DRY	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 70.658

Throughput Type: I - Input

Throughput UOM: E6FT3 - MILLION CUBIC FEET

Throughput Material: 209 - Natural Gas

Comments:

## Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0

Average Weeks/Year: 51.0

Average Hours/Day: 20.0

Actual Hours: 7140.0

**Seasonal Operations**

March-May (%): 27.9  
 September-November (%): 24.0  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 23.6  
 December-February (%): 24.5  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
Carbon Dioxide	121000	E6FT3	29 - S/L/T EF (pre-control)	4274.809		
SO2	0.6	E6FT3	28 - USEPA EF (pre-control)	0.0211974		
NOX	140	E6FT3	28 - USEPA EF (pre-control)	4.94606		
VOC	2.8	E6FT3	28 - USEPA EF (pre-control)	0.0989212		
CO	84	E6FT3	29 - S/L/T EF (pre-control)	2.967636		

**Emissions Comments**

Pollutant	Comment
Carbon Dioxide	
SO2	
NOX	
VOC	
CO	

# Unit Process

Unit Process Identifier: 1

Description: PVC HANDLING

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: False

Emission Unit Identifier: 022 - PLANT S-2 PVC HANDLING

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

## Control Devices

Control Device Identifier	Description
9	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
22	PLANT S-2 PVC HANDLING	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	EG602A-D
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 13190.74

Throughput Type: O - Output

Throughput Material: 253 - Product

Comments:

Throughput UOM: TON - TONS

## Supplemental Calculation Parameters:

Ash Content (%):

Heat Content (MMBTU/Unit):

Sulfur Content (%):

## Operations

Average Days/Week: 7.0

Average Hours/Day: 20.0

Average Weeks/Year: 51.0

Actual Hours: 5857.5

**Seasonal Operations**

March-May (%): 28.4  
 September-November (%): 24.2  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 22.5  
 December-February (%): 24.9  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	2.36		
PM25-PRI			2 - Engineering Judgment	2.36		
PM10-PRI			2 - Engineering Judgment	2.36		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	



# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 030 - VINYL ACETATE STORAGE TNK  
Description: BREATHING LOSS  
SCC: 40704419 - Chemical Evaporation-Organic Chemical Storage-Fixed Roof Tanks - Esters-Vinyl Acetate: Breathing Loss

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
30	VINYL ACETATE STORAGE TNK	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 9164.717  
Throughput Type: E - Existing Throughput UOM: E3GAL - 1000 GALLONS  
Throughput Material: 938 - Vinyl Acetate  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 24.0 Actual Hours: 8760.0

**Seasonal Operations**

March-May (%): 31.7  
 September-November (%): 15.3  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 30.9  
 December-February (%): 22.2  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	0.323		
Vinyl Acetate			2 - Engineering Judgment	0.323		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Acetate	

# Unit Process

Unit Process Identifier: 2

Description: WORKING LOSS

SCC: 40704420 - Chemical Evaporation-Organic Chemical Storage-Fixed Roof Tanks - Esters-Vinyl Acetate: Working Loss

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True

Control Approach Description: No Process Controls

Emission Unit Identifier:

030 - VINYL ACETATE STORAGE TNK

Capture Efficiency (%): 0.0

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
30	VINYL ACETATE STORAGE TNK	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 9164.717

Throughput Type: I - Input

Throughput Material: 938 - Vinyl Acetate

Comments:

Throughput UOM: E3GAL - 1000 GALLONS

## Supplemental Calculation Parameters:

Ash Content (%):

Heat Content (MMBTU/Unit):

Sulfur Content (%):

## Operations

Average Days/Week: 7.0

Average Hours/Day: 24.0

Average Weeks/Year: 52.0

Actual Hours: 8736.0

**Seasonal Operations**

March-May (%): 31.7  
 September-November (%): 15.3  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 30.9  
 December-February (%): 22.2  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	3.0944		
Vinyl Acetate			2 - Engineering Judgment	3.0944		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Acetate	

## Unit Process

Unit Process Identifier: 1  
Description: WW STRIPPERS E2 & S2  
SCC: 30182002 - Industrial Processes-Chemical Manufacturing-Wastewater Treatment-General

Emission Unit Identifier: 031 - WASTE WATER STRIPPERS

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True  
Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
31	WASTE WATER STRIPPER S-2	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 1558.17  
Throughput Type: I - Input  
Throughput Material: 4 - Wastewater  
Comments:

Throughput UOM: E3GAL - 1000 GALLONS

### Supplemental Calculation Parameters:

Ash Content (%):  
Heat Content (MMBTU/Unit):  
Sulfur Content (%):

### Operations

Average Days/Week: 7.0  
Average Hours/Day: 24.0  
Average Weeks/Year: 51.0  
Actual Hours: 8568.0

**Seasonal Operations**

March-May (%): 30.9  
 September-November (%): 17.2  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 26.9  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			2 - Engineering Judgment	0.00303		
Vinyl Chloride			2 - Engineering Judgment	0.00303		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Chloride	

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 035 - ACCIDENTAL RELEASE  
Description: OPERATOR ERROR  
SCC: 30101817 - Industrial Processes-Chemical Manufacturing-Plastics Production-General

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
35	ACCIDENTAL RELEASE	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 0.001  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 1.0 Average Weeks/Year: 1.0  
Average Hours/Day: 1.0 Actual Hours: 1.0

**Seasonal Operations**

March-May (%): 0.0  
 September-November (%): 100.0  
 Total Summer Season Days: 0  
 Total CO Season Days:

June-August (%): 0.0  
 December-February (%): 0.0  
 Total Ozone Season Days: 0

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			3 - Material Balance	0.001475		
Vinyl Chloride			2 - Engineering Judgment	0.001475		

**Emissions Comments**

Pollutant	Comment
VOC	
Vinyl Chloride	



Total Summer Season Days:

Total CO Season Days:

Total Ozone Season Days:

### Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 037 - E2 DG670 GRINDER COLLECT

Description: PVC GRINDER

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
3	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
37	E2 BAGHOUSE GRINDER COLLE	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG670
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 4688.427

Throughput Type: I - Input

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

**Operations**

Average Days/Week: 7.0  
 Average Hours/Day: 20.0

Average Weeks/Year: 51.0  
 Actual Hours: 7140.0

**Seasonal Operations**

March-May (%): 27.2  
 September-November (%): 24.7  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 23.8  
 December-February (%): 24.3  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	1.053		
PM25-PRI			2 - Engineering Judgment	1.053		
PM10-PRI			2 - Engineering Judgment	1.053		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 038 - E2 DG671A GRINDER

Description: DG671A/B PVC GRINDER

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
4	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
38	E-2 DG-671 BAGHOUSE	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG671A/B
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 9376.854

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0

Average Weeks/Year: 51.0

Average Hours/Day: 20.0

Actual Hours: 7140.0

**Seasonal Operations**

March-May (%): 27.2  
 September-November (%): 24.7  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 23.8  
 December-February (%): 24.3  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.9895		
PM25-PRI			2 - Engineering Judgment	0.9895		
PM10-PRI			2 - Engineering Judgment	0.9895		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 039 - E2 SILOS (7)  
Description: PVC STORAGE  
SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
5	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
39	E2 SILOS (7)	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 41321.29  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 51.0  
Average Hours/Day: 20.0 Actual Hours: 7140.0

**Seasonal Operations**

March-May (%): 27.6

September-November (%): 24.6

Total Summer Season Days: 87

Total CO Season Days:

June-August (%): 23.4

December-February (%): 24.5

Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.4637		
PM25-PRI			2 - Engineering Judgment	0.4637		
PM10-PRI			2 - Engineering Judgment	0.4637		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 040 - E2 DG680 GRINDER  
Description: PVC BAGHOUSE  
SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
6	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
40	E2 DG680 GRINDER BAGHOU	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG680
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 4688.427  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 51.0  
Average Hours/Day: 20.0 Actual Hours: 7140.0

**Seasonal Operations**

March-May (%): 27.2  
 September-November (%): 24.7  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 23.8  
 December-February (%): 24.3  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.505323		
PM25-PRI			2 - Engineering Judgment	0.505323		
PM10-PRI			2 - Engineering Judgment	0.505323		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	



Total Summer Season Days:

Total Ozone Season Days:

Total CO Season Days:

### Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 042 - DG 691 RESIN RECOVERY

Description: DUST COLLECTION

SCC: 30101816 - Industrial Processes-Chemical Manufacturing-Plastics Production-Transferring/Handling/Loading/Packing

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False

Capture Efficiency (%): 100.0

Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
7	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
42	VACUUM CLEANING SYSTEM	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	DG691
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 46.8

Throughput Type: O - Output

Throughput UOM: TON - TONS

Throughput Material: 253 - Product

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

**Operations**

Average Days/Week: 7.0  
 Average Hours/Day: 12.0

Average Weeks/Year: 52.0  
 Actual Hours: 4368.0

**Seasonal Operations**

March-May (%): 25.0  
 September-November (%): 25.0  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 25.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.1151		
PM25-PRI			2 - Engineering Judgment	0.1151		
PM10-PRI			2 - Engineering Judgment	0.1151		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	
PM10-PRI	

## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 043 - INCINERATORS WB710/711  
Description: WASTE GAS INCINERATION  
SCC: 30190014 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Incinerator: Process Gas

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Unit Process Controls

### Control Devices

Control Device Identifier	Description
10	CAUSTIC SCRUBBER

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
43	WASTE GAS INCINERATORS	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 3.818  
Throughput Type: I - Input Throughput UOM: E6FT3 - MILLION CUBIC FEET  
Throughput Material: 251 - Process Gas  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 6.0 Average Weeks/Year: 52.0  
Average Hours/Day: 10.0 Actual Hours: 3980.0

**Seasonal Operations**

March-May (%): 24.4  
 September-November (%): 25.7  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 26.7  
 December-February (%): 23.1  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
VOC			4 - Stack Test	0.0023		
Dioxins/Furans as 2,3,7,8-TCDD TEQs - WHO2005			4 - Stack Test	0.000000000000063		
Hydrochloric Acid			4 - Stack Test	0.1787		
Vinyl Chloride			2 - Engineering Judgment	0.00232		

**Emissions Comments**

Pollutant	Comment
VOC	
Dioxins/Furans as 2,3,7,8-TCDD TEQs - WHO2005	
Hydrochloric Acid	
Vinyl Chloride	

## Unit Process

Unit Process Identifier: 2 Emission Unit Identifier: 043 - INCINERATORS WB710/711  
Description: NATURAL GAS  
SCC: 30190013 - Industrial Processes-Chemical Manufacturing-Fuel Fired Equipment-Incinerator: Natural Gas

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
43	WASTE GAS INCINERATORS	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 1.14  
Throughput Type: I - Input Throughput UOM: E6FT3 - MILLION CUBIC FEET  
Throughput Material: 209 - Natural Gas  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 15.0 Actual Hours: 5460.0

**Seasonal Operations**

March-May (%): 27.7  
 September-November (%): 22.8  
 Total Summer Season Days: 87  
 Total CO Season Days:

June-August (%): 24.3  
 December-February (%): 25.3  
 Total Ozone Season Days: 148

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
SO2	0.6	E6FT3	33 - Other EF (pre-control)	0.0003419999999999		
NOX	140	E6FT3	33 - Other EF (pre-control)	0.0798		
VOC	5.6	E6FT3	28 - USEPA EF (pre-control)	0.0031919999999999		
CO	84	E6FT3	33 - Other EF (pre-control)	0.0478799999999999		
Lead	0.005	E6FT3	33 - Other EF (pre-control)	0.00000285		

**Emissions Comments**

Pollutant	Comment
SO2	
NOX	
VOC	
CO	
Lead	

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 044 - QC LAB HOODS  
Description: SOLVENT VENTS  
SCC: 30199998 - Industrial Processes-Chemical Manufacturing-Other Not Classified-Other Not Classified

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
44	QC LAB HOODS	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 1.31  
Throughput Type: O - Output Throughput UOM: TON - TONS  
Throughput Material: 253 - Product  
Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 12.0 Actual Hours: 4368.0

**Seasonal Operations**

March-May (%): 25.0  
 September-November (%): 25.0  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 25.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
CYCLOHEXANONE			2 - Engineering Judgment	0.0084		
Acetone			2 - Engineering Judgment	0.0348		
VOC			2 - Engineering Judgment	0.0744		
Methanol			2 - Engineering Judgment	0.066		

**Emissions Comments**

Pollutant	Comment
CYCLOHEXANONE	
Acetone	
VOC	
Methanol	



## Unit Process

Unit Process Identifier: 1

Emission Unit Identifier: 045 - WASTE WATER TREATMENT

Description: WWTP FUGITIVES

SCC: 30182002 - Industrial Processes-Chemical Manufacturing-Wastewater Treatment-General

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True

Capture Efficiency (%): 0.0

Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
45	WASTE WATER TREATMENT	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput:

Throughput Type:

Throughput UOM:

Throughput Material:

Comments:

### Supplemental Calculation Parameters:

Ash Content (%):

Sulfur Content (%):

Heat Content (MMBTU/Unit):

### Operations

Average Days/Week:

Average Weeks/Year:

Average Hours/Day:

Actual Hours:

**Seasonal Operations**

March-May (%):

September-November (%):

Total Summer Season Days:

Total CO Season Days:

June-August (%):

December-February (%):

Total Ozone Season Days:

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
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**Emissions Comments**

Pollutant	Comment
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## Unit Process

Unit Process Identifier: 2 Emission Unit Identifier: 045 - WASTE WATER TREATMENT  
Description: FUGITVES  
SCC: 30182002 - Industrial Processes-Chemical Manufacturing-Wastewater Treatment-General

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0  
Control Approach Description: No Process Controls

### Control Devices

Control Device Identifier	Description
---------------------------	-------------

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
45	WASTE WATER TREATMENT	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	Y
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput:

Throughput Type: Throughput UOM:

Throughput Material:

Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: Average Weeks/Year:  
Average Hours/Day: Actual Hours:

**Seasonal Operations**

March-May (%):

September-November (%):

Total Summer Season Days:

Total CO Season Days:

June-August (%):

December-February (%):

Total Ozone Season Days:

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
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**Emissions Comments**

Pollutant	Comment
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## Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 046 - Dust collector for packers DG611A  
Description: Dust collector for packer enclosures  
SCC: 30101817 - Industrial Processes-Chemical Manufacturing-Plastics Production-General

Final Emissions Year:

Comments:

### Control Approach

Not Controlled?: False Capture Efficiency (%): 100.0  
Control Approach Description: Fabric filters

### Control Devices

Control Device Identifier	Description
1	FABRIC FILTER - LOW TEMPERATURE, I.E. T<

### Regulatory Programs

#### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
46	Packer dust collector	100

### Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	N
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 46.8  
Throughput Type: I - Input Throughput UOM: TON - TONS  
Throughput Material: 982 - Polyvinyl Chloride  
Comments:

### Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
Heat Content (MMBTU/Unit):

### Operations

Average Days/Week: 7.0 Average Weeks/Year: 52.0  
Average Hours/Day: 12.0 Actual Hours: 4368.0

**Seasonal Operations**

March-May (%): 25.0  
 September-November (%): 25.0  
 Total Summer Season Days: 92  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 25.0  
 Total Ozone Season Days: 153

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
POLYVINYL CHLORIDE LATEX			2 - Engineering Judgment	0.7491		
PM25-PRI			2 - Engineering Judgment	0.7491		
PM10-PRI			2 - Engineering Judgment	0.7491		

**Emissions Comments**

Pollutant	Comment
POLYVINYL CHLORIDE LATEX	
PM25-PRI	0.7491
PM10-PRI	

# Unit Process

Unit Process Identifier: 1 Emission Unit Identifier: 047 - Emergency generators & fire pumps  
 Description: Diesel Fuel  
 SCC: 20100102 - Internal Combustion Engines-Electric Generation-Distillate Oil (Diesel)-Reciprocating

Final Emissions Year:

Comments:

## Control Approach

Not Controlled?: True Capture Efficiency (%): 0.0

Control Approach Description:

## Control Devices

Control Device Identifier	Description
---------------------------	-------------

## Regulatory Programs

### Release Point Apportionment

Release Point Identifier	Description	Emissions (%)
47	emergency generator exhaust vents	100

## Additional Information

Field Name	Field Value
Site Process Identifier/Name	
Non-billable Emissions	N
Agency Approved Non-billable Emissions	N
Agency Non-billable Emissions Comments	

Annual Throughput: 2.874  
 Throughput Type: I - Input Throughput UOM: E3GAL - 1000 GALLONS  
 Throughput Material: 44 - Diesel  
 Comments:

## Supplemental Calculation Parameters:

Ash Content (%): Sulfur Content (%):  
 Heat Content (MMBTU/Unit):

## Operations

Average Days/Week: 1.0 Average Weeks/Year: 52.0  
 Average Hours/Day: 1.0 Actual Hours: 1.0

**Seasonal Operations**

March-May (%): 25.0  
 September-November (%): 25.0  
 Total Summer Season Days: 13  
 Total CO Season Days:

June-August (%): 25.0  
 December-February (%): 25.0  
 Total Ozone Season Days: 22

**Emissions**

Pollutant	Emission Factor (lbs/Unit)	EF UoM	Calc. Method Desc	Estimated Emissions (Tons)	Summer Day Emissions (Tons)	Ozone Season Emissions (Tons)
PM10-FIL	14	E3GAL	28 - USEPA EF (pre-control)	0.020118		
PM25-FIL	14	E3GAL	28 - USEPA EF (pre-control)	0.020118		
PM25-PRI	14	E3GAL	28 - USEPA EF (pre-control)	0.020118		
PM10-PRI	14	E3GAL	28 - USEPA EF (pre-control)	0.020118		
SO2	39.7	E3GAL	28 - USEPA EF (pre-control)	0.0570489		
NOX	604	E3GAL	28 - USEPA EF (pre-control)	0.867948		
VOC	32.1	E3GAL	28 - USEPA EF (pre-control)	0.0461277		
CO	130	E3GAL	28 - USEPA EF (pre-control)	0.18681		

**Emissions Comments**

Pollutant	Comment
PM10-FIL	
PM25-FIL	
PM25-PRI	
PM10-PRI	
SO2	
NOX	





STATE OF DELAWARE  
 DEPARTMENT OF NATURAL RESOURCES  
 & ENVIRONMENTAL CONTROL  
 DIVISION OF AIR QUALITY  
 STATE STREET COMMONS  
 100 W. Water Street, Suite 6A  
 DOVER, DELAWARE 19904

Telephone: (302) 739 - 9402  
 Fax No.: (302) 739 - 3106

May 24, 2019

Formosa Plastics Corporation Delaware  
 9 Peach Tree Hill Road  
 Livingston, NJ 07039

ATTENTION: Thomas S. Andersen  
 Corporate Environmental Manager

SUBJECT: Application for Emission Reduction Credits  
 Formosa Plastics Corporation Delaware

Dear Mr. Andersen:

The Division of Air Quality (DAQ) has reviewed the emission reduction credits (ERC) application submitted by Weijing Tao. After analysis, we are certifying ERCs as shown in the following table for the shutdown of Formosa Plastics Corporation Delaware. In accordance with 7 DE Admin. Code 1134 Section 8.5.2, the ERCs awarded to Formosa Plastics Corporation Delaware for emission reductions have been reduced by 50% of the total reduction.

Volatile Organic Compounds (VOCs)

Year	Total ERCs (tons)	Ozone Season ERCs (tons)	Non-Ozone Season ERCs (tons)
2016	47.2	25.4	21.8
2017	46.7	27.0	19.7
Average	47	26	21
<b>Company</b>	<b>24</b>	<b>13</b>	<b>11</b>

Nitrogen Oxides (NO<sub>x</sub>)

Year	Total ERCs (tons)	Ozone Season ERCs (tons)	Non-Ozone Season ERCs (tons)
2016	27.9	13.9	14.0
2017	29.2	14.7	14.5
Average	28	14	14
<b>Company</b>	<b>14</b>	<b>7</b>	<b>7</b>

Please provide the Department with documentation of the anticipated trade of these credits to the Veolia Red Lion Plant if and when the trade occurs as required by 7 DE Admin. Code 1134 Section 9.0.

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Formosa Plastics Corporation Delaware  
May 22, 2019  
Page 2

If you have any questions about this matter please contact me at (302) 323-4542.

Sincerely,



Angela D. Marconi, P.E., BCEE  
Program Manager  
Engineering & Compliance Branch

ADM:JLF:WMD  
F:\EngAndCompliance\WMD\wmd19025.doc

Pc: Mark Prettyman



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
& ENVIRONMENTAL CONTROL  
DIVISION OF AIR QUALITY  
State Street Commons  
100 W. Water Street, Suite 6A  
DOVER, DELAWARE 19904

Telephone: (302) 739 - 9402  
Fax No.: (302) 739 - 3106

June 3, 2019

Veolia Red Lion Plant  
766 Governor Lea Road  
New Castle, DE 19720

**Certified Mail # 7011 3500 0003 2400 4556**  
**Return Receipt Requested**

ATTENTION: Daniel Frattarelli  
Plant Manager

SUBJECT: **Permit: AQM-003/00673 Renewal 1**  
**Permit: APC-2003/0739-OPERATION (Amendment 3)(NSPS)(CAP)**  
**"Final" 7 DE Admin. Code 1130 Permit Renewal**

Dear Mr. Frattarelli:

The Department has completed processing Veolia Red Lion Plant's AQM-1001 series permit renewal application that was submitted on January 29, 2014, with additional information submitted on July 29, 2016, October 9, 2018, and October 11, 2018, to the Department pursuant to **7 DE Admin. Code 1130**. Attached is Veolia Red Lion Plant's "Final" **7 DE Admin. Code 1130** Operating Permit. Please note that this permit will expire on May 29, 2024. An application for renewal must be submitted no later than May 29, 2023.

As the designated responsible official for Veolia Red Lion Plant, it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission unit subject to any term or condition of the attached permit reviews, understands, and abides by the condition(s) of the attached permit that are applicable to that particular unit.

The attached permit specifies the terms and conditions, Conditions 2 through 6, under which Veolia Red Lion Plant is permitted to operate the emission units listed in Condition 1. In addition to the emission units listed in Condition 1, Veolia Red Lion Plant is permitted to operate all activities with air emissions that are not listed in Condition 1 and that are designated as insignificant activities under **7 DE Admin. Code 1130** or designated as trivial activities under Appendix "A" of the Department's summary of the July 10, 1995, EPA "White Paper for Streamlined Development of Part 70 Permit Applications," notwithstanding **7 DE Admin. Code 1102**.

The attached permit covers only the operating permit requirements of **7 DE Admin. Code 1102** and **1130**. The attached permit does not satisfy future construction permit obligations. Prior to initiating any construction or modification activity Veolia Red Lion Plant must evaluate the applicability of, and, if required, secure necessary construction permit(s) pursuant to **7 DE Admin. Code 1102** or **1125**, and/or initiate necessary permit revision procedures pursuant to **7 DE Admin. Code 1102** and **7 DE Admin. Code 1130**.

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**Permit: AQM-003/00673 Renewal 1**

**Permit: APC-2003/0739-OPERATION (Amendment 3)(NSPS)(CAP)**

Veolia Red Lion Plant

June 3, 2019

Page 2

Please contact Whitney M. Diehl at (302) 323-4542 if you have any questions or comments regarding the attached permit.

Sincerely,



Angela D. Marconi, P.E., BCEE  
Program Manager  
Engineering & Compliance Branch

ADM:JLF:WMD  
F:\EngAndCompliance\WMD\wmd19035.doc

pc: Dover File  
Joanna L. French, P.E.  
Whitney M. Diehl

**State of Delaware**  
**Department of Natural Resources and Environmental Control**  
**Division of Air and Waste Management**  
**Air Quality Management Section**

State Street Commons  
100 W. Water Street, Suite 6A  
Dover, DE 19904

**7 DE Admin. Code 1130 (Title V) Operating Permit**  
**Facility I.D. Number: 10-003-00673**  
**Permit Number: AQM-003/00673 RENEWAL 1**

Effective Date: June 3, 2019

Expiration Date: June 3, 2024

Renewal Application Due Date: June 3, 2023

Pursuant to 7 **Del. C.**, Ch 60, Section 6003, 7 **DE Admin. Code** 1102 Section 2.0, and 7 **DE Admin. Code** 1130 Section 7.2, approval by the Department of Natural Resources and Environmental Control ("Department") is hereby granted to operate the emission units listed in Condition 1 of this permit subject to the terms and conditions of this permit.

This approval is granted to:

<b>Permittee/Owner</b> (hereafter referred to as "Company/Owner")	<b>Operator</b> (hereafter referred to as "Operator")
Veolia North America 766 Governor Lea Road Responsible Official: Daniel Frattarelli Title: Plant Manager	Veolia North America 766 Governor Lea Road New Castle, DE 19720
<b>Plant Site Location</b> (hereafter referred to as "Facility")	<b>Facility Mailing Address</b>
766 Governor Lea Road New Castle, DE 19720 Latitude: 39.6° Longitude: -75.6°	766 Governor Lea Road New Castle, DE 19720

The nature of business of the Facility is Sulfuric Acid Manufacture. The Standard Industrial Classification code is 2819. The North American Industry Classification System code is 325188.

 6-3-19

Whitney M. Diehl / date  
Environmental Engineer  
Engineering & Compliance Branch  
(302) 323-4542

 6-3-19

Angela D. Marconi, P.E., BCEE / date  
Program Manager  
Engineering & Compliance Branch  
(302) 323-4542

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**Condition 1- Emission Unit Identification**

[Reference: 7 DE Admin. Code 1130 Section 3.3 dated 11/15/93]

**a. Emission Units Information.**

<b>Emission Units</b>	<b>Emission Unit Description</b>
Emission Unit 1	Sulfuric Acid Regeneration Plant – main plant stack
Emission Unit 2	Process Air Pre-Heater rated at 30 mmBtu/hr
Emission Unit 3	Sulfur Dioxide Scrubber and Vapor Combustion Unit
Emission Unit 4	Decomposition Furnace Startup Stack
Emission Unit 5	Tank 3 – Fresh Acid Storage
Emission Unit 6	Tank 4 – Fresh Acid Storage

**b. 7 DE Admin. Code 1100 Permit Identification.**

This table identifies the underlying permits whose provisions have been incorporated into this Title V permit and specifies the Reference number that will be used to identify the source of the underlying permit condition throughout this Title V permit.

<b>Reference: Number</b>	<b>Full 7 DE Admin. Code 1102 Permit Designation</b>
<b><u>APC-2003/0739</u></b>	<b>APC-2003/0739-OPERATION(Amendment 3)(NSPS)(CAP)</b> issued June 3, 2019 amends the original 7 DE Admin. Code 1102 permit for the Veolia’s sulfuric acid regeneration plant with a design capacity to process approved by the most recent Coastal Zone Permit with a Monsanto Brink mist eliminator to control sulfuric acid mist emissions, a vapor combustion unit, a sulfur dioxide scrubber, 2 process heaters, and four 400,000 gallon acid storage tanks and updates conditions to reflect changes made within <b>Permit: AQM-003/00673 Renewal 1.</b>

**Condition 2 - General Requirements**

**a. Certification.**

- Each document submitted to the Department/EPA as required by this permit shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the following language: “I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.” [Reference: 7 DE Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 12/11/00]
- Any report of deviations required under Conditions 3(c)(2)(ii) or 3(c)(2)(iii) that must be submitted to the Department within ten calendar days of discovery of the deviation, may be submitted in the first instance without a certification provided a certification meeting the requirements of Condition 2(a)(1) is submitted to the Department within ten calendar days thereafter, together with any

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corrected or supplemental information required concerning the deviation. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.3.4 dated 12/11/00]*

3. Each document submitted to the Department/EPA pursuant to this permit shall be sent to the following addresses:

State of Delaware – DNREC Division of Air Quality State Street Commons 100 W Water Street, Suite 6A Dover, DE 19904 ATTN: Division Director	U.S. Environmental Protection Agency Region III Enforcement and Compliance Assurance Division (3ED21) 1650 Arch Street Philadelphia, PA 19103
No. of Originals: <u>1</u> & No. of Copies: <u>1</u>	No. of Copies: <u>1</u>

**b. Compliance.**

1. The Owner and/or Operator shall comply with all terms and conditions of this permit. Any noncompliance with this permit constitutes a violation of the applicable requirements under the Clean Air Act, and/or 7 DE Admin. Code 1102 "Permits", and is grounds for an enforcement action; for permit termination, revocation, and reissuance or modification; or for denial of a permit renewal. *[Reference: 7 DE Admin. Code 1130 Section 6.1.7.1 dated 12/11/00]*
2.
  - i. For applicable requirements with which the source is in compliance, the Owner and/or Operator shall continue to comply with such requirements. *[Reference: 7 DE Admin. Code 1130 Sections 5.4.8.3.1 dated 11/15/93 and 6.3.3 dated 12/11/00]*
  - ii. For applicable requirements that will become effective during the term of this permit, the Owner and/or Operator shall meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement. *[Reference: 7 DE Admin. Code 1130 Sections 5.4.8.3.2 dated 11/15/93 and 6.3.3 dated 12/11/00]*
3. Nothing in Condition 2(b)(1) of this permit shall be construed to preclude the Owner and/or Operator from making changes consistent with Condition 2(m)(3) [Minor Permit Modifications] or Condition 4(a) [Operational Flexibility]. *[Reference: 7 DE Admin. Code 1130 Sections 6.8 dated 12/11/00 and 7.5.1.5 dated 12/11/00]*
4. The fact that it would have been necessary to halt or reduce an activity in order to maintain compliance with the terms and conditions of this permit shall not constitute a defense for the Owner and/or Operator in any enforcement action. Nothing in this permit shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. *[Reference: 7 DE Admin. Code 1130 Section 6.1.7.2 dated 12/11/00]*
5. The Owner and/or Operator may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency or malfunction if both the record keeping requirements in Condition 3(b)(2)(iii) and the reporting requirements in Condition 3(c)(2)(ii)(A) are satisfied. *[Reference: 7 DE Admin. Code 1130 Section 6.7.2 dated 12/11/00]*
6.
  - i. In any enforcement proceeding, the Owner and/or Operator seeking to establish the occurrence of an emergency or malfunction has the burden of proof. *[Reference: 7 DE Admin. Code 1130 Section 6.7.4 dated 12/11/00]*
  - ii. The provisions of 7 DE Admin. Code 1130 pertaining to Emergency/Malfunctions as defined in Conditions Nos. 2(b)(5); 2(b)(6); 3(b)(2)(iii); and 3(c)(2)(ii)(A) of this permit are in addition



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to any emergency or malfunction provision contained in any applicable requirement. *[Reference: 7 DE Admin. Code 1130 Section 6.7.5 dated 12/11/00]*

7. Reserved.
  8. If required, the schedule of compliance in Condition 5 of this permit is supplemental to and shall not sanction noncompliance with the applicable requirements upon which it is based. *[Reference: 7 DE Admin. Code 1130 Section 5.4.8.3.3 dated 11/15/93]*
  9. Nothing in this permit shall be interpreted to preclude the use of any credible evidence to demonstrate noncompliance with any term of this permit. *[Reference: 62 FR 8314 dated 2/24/97]*
  10. All terms and conditions of this permit are enforceable by the Department and by the U.S. Environmental Protection Agency ("EPA") unless specifically designated as "State Enforceable Only" *[Reference: 7 DE Admin. Code 1130 Section 6.2.1 dated 12/11/00]*
- c. Confidentiality.** The Owner and/or Operator may make a claim of confidentiality for any information or records submitted to the Department. However, by submitting a permit application, the Owner and/or Operator waives any right to confidentiality as to the contents of its permit, and the permit contents will not be entitled to protection under 7 Del. C., Ch 60, § 6014. *[Reference: 7 DE Admin. Code 1130 Sections 5.1.4 dated 11/15/93, 6.1.3.3.5 dated 12/11/00, and 6.1.7.5 dated 12/11/00]*
1. Confidential information shall meet the requirements of 7 Del. C., Ch 60, § 6014, and 29 Del. C., Ch 100. *[Reference: 7 DE Admin. Code 1130 Section 5.1.4 dated 11/15/93]*
  2. If the Owner and/or Operator submits information to the Department under a claim of confidentiality, the Owner and/or Operator shall also submit a copy of such information directly to the EPA, if the Department requests that the Owner and/or Operator do so. *[Reference: 7 DE Admin. Code 1130 Section 5.1.4 dated 11/15/93]*
- d. Construction, Installation, or Alteration.** The Owner and/or Operator shall not initiate construction, installation, or alteration of any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department under 7 DE Admin. Code 1102, and, when applicable, 7 DE Admin. Code No. 1125, and receiving approval of such application from the Department; except as exempted in the State of Delaware 7 DE Admin. Code 1102 Section 2.2. *[Reference: 7 DE Admin. Code 1102 Section 2.1 dated 6/1/97 and 7 DE Admin. Code 1130 Section 7.2.3 dated 12/11/00]*
- e. Definitions/Abbreviations.** Except as specifically provided for below, for the purposes of this permit, terms used herein shall have the same meaning accorded to them under the applicable requirements of the Clean Air Act and 7 DE Admin. Code 1100.
1. "Act" means the Clean Air Act, as amended by the Clean Air Act Amendments of November 15, 1990, 42 U.S.C. 7401 *et seq.* *[Reference: 7 DE Admin. Code 1130 Section 2 dated 11/15/93]*
  2. "AP-42" means the Compilation Of Air Pollutant Emission Factors, Fifth Edition, AP-42, dated January 15, 1995, as amended with Supplements "A" dated February 1996, "B" dated November 1996, "C" dated November 1997, "D" dated August 1998, "E" dated September 1999, and "F" dated September 2000 and the December 2001 update, the December 2002 update and the December 2003 update.
  3. "CFR" means Code of Federal Regulations.
  4. "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the sources, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by

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improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. *[Reference: 7 DE Admin. Code 1130 Section 6.7.1 dated 12/11/00]*

5. "Malfunction" means any sudden and unavoidable failure of air pollution control equipment or of a process to operate in a normal or usual manner, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the malfunction. A malfunction shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. *[Reference: 7 DE Admin. Code 1130 Section 6.7.1 dated 12/11/00]*
6. "Number 2 fuel oil" and "No. 2 fuel oil" means distillate oil.
7. "Reg." and "Regulation" mean the regulations covered under **7 DE Admin. Code 1100**.
8. "Regulations Governing the Control of Air Pollution" means the codification of those regulations enacted by the Delaware Department of Natural Resources and Environmental Control, in accordance with **7 Del. C., Ch 60, § 6010**.
9. Permit Specific Definitions - none

**f. Duty to Supplement.**

1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the Owner and/or Operator shall promptly submit to the Department such supplementary facts or corrected information. *[Reference: 7 DE Admin. Code 1130 Section 5.2 dated 11/15/93]*
2. The Owner and/or Operator shall promptly submit to the Department information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to the release of a corresponding draft permit. *[Reference: 7 DE Admin. Code 1130 Section 5.2 dated 11/15/93]*
3. The Owner and/or Operator shall furnish to the Department, upon receipt of a written request and within a reasonable time specified by the Department:
  - i. Any information that the Department determines is reasonably necessary to evaluate or take final action on any permit application submitted in accordance with Condition 2(l) or 2(m) of this permit. The Owner and/or Operator may request an extension to the deadline the Department may impose on the response for such information. *[Reference: 7 DE Admin. Code 1130 Section 5.1.2.3 dated 11/15/93]*
  - ii. Any information that the Department requests to determine whether cause exists to modify, terminate, or revoke this permit, or to determine compliance with the terms and conditions of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.1.7.5 dated 12/11/00]*
  - iii. Copies of any records required to be kept by this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.1.7.5.7 dated 12/11/00]*

**g. Emission Trading.** No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit. *[Reference: 7 DE Admin. Code 1130 Section 6.1.9 dated 12/11/00]*

**h. Fees.** The Owner and/or Operator shall pay fees to the Department consistent with the fee schedule established by the Delaware General Assembly. *[Reference: 7 DE Admin. Code 1130 Section 6.1.8 dated 12/11/00 and Section 9.0 dated 11/15/93]*

**i. Inspection and Entry Requirements.** Upon presentation of identification, the Owner and/or Operator shall allow authorized officials of the Department to perform the following:

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1. Enter upon the Owner and/or Operator's premises where a source is located or an emissions related activity is conducted, or where records that must be kept under the terms and conditions of this permit are located. *[Reference: 7 DE Admin. Code 1130 Section 6.3.2.1 dated 12/11/00]*
  2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.3.2.2 dated 12/11/00]*
  3. Inspect, at reasonable times and using reasonable safety practices, any facility, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.3.2.3 dated 12/11/00]*
  4. Sample or monitor, at reasonable times, any substance or parameter for the purpose of assuring compliance with this permit or any applicable requirement. *[Reference: 7 DE Admin. Code 1130 Section 6.3.2.4 dated 12/11/00]*
- j. Permit and Application Consultation.** The Owner and/or Operator is encouraged to consult with Department personnel before submitting an application or, at any other time, concerning the operation, construction, expansion, or modification of any installation, or concerning the required pollution control devices or system, the efficiency of such devices or system, or the pollution problem related to the installation. *[Reference: 7 DE Admin. Code 1130 Section 5.1.1.7 dated 11/15/93]*
- k. Permit Availability.** The Owner and/or Operator shall have available at the facility at all times a copy of this permit and shall provide a copy of this permit to the Department upon request. *[Reference: 7 DE Admin. Code 1102 Section 8.1 dated 6/1/97]*
- l. Permit Renewal.** This permit expires on **June 3, 2024** except as provided in Condition 2(l)(3) below. *[Reference: 7 DE Admin. Code 1130 Section 6.1.2 dated 12/11/00]*
1. Applications for permit renewal shall be subject to the same procedural requirements, including those for public participation, affected state comment, and EPA review, that apply to initial permit issuance under 7 DE Admin. Code 1130 Section 7.1, except that an application for permit renewal may address only those portions of the permit that the Department determines require revision, supplementing, or deletion, incorporating the remaining permit terms by Reference: from the previous permit. The Department may similarly, in issuing a draft renewal permit or proposed renewal permit, specify only those portions that will be revised, supplemented, or deleted, incorporating the remaining permit terms by Reference. *[Reference: 7 DE Admin. Code 1130 Section 7.3.1 dated 12/11/00]*
  2. The Owner and/or Operator's right to operate shall cease upon the expiration date unless a timely and complete renewal application has been submitted to the Department June 3, 2023. *[Reference: 7 DE Admin. Code 1130 Section 7.3.2 dated 12/11/00]*
  3. The Department shall review each application for completeness and shall inform the applicant within 60 days of receipt if the application is incomplete. Unless the Department requests additional information or otherwise notifies the applicant of incompleteness within 60 days of an application, an application will be deemed complete if it contains the information required by the application form and 7 DE Admin. Code 1130 Section 5.4. *[Reference: 7 DE Admin. Code 1130 Section 5.1.2.1 dated 11/15/93]*
  4. If a timely and complete application for a permit renewal is submitted to the Department pursuant to 7 DE Admin. Code 1130, Section 5.1.2.4 (dated 11/15/93) and Section 7.3.1 (dated 12/11/00) and the Department, through no fault of the Owner and/or Operator, fails to take final action to issue or deny the renewal permit before the end of the term of this permit, then this permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time. *[Reference: 7 DE Admin. Code 1130 Section 7.3.3 dated 12/11/00]*

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**m. Permit Revision and Termination.**

1.
  - i. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. *[Reference: 7 DE Admin. Code 1130 Section 6.1.7.3 dated 12/11/00]*
  - ii. Except as provided under Condition 2(m)(3) ["Minor Permit Modification"], the filing of a request by the Owner and/or Operator for a permit modification, revocation and reissuance, or termination, or of a modification of planned changes or anticipated noncompliance does not stay any term or condition of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.1.7.3 dated 12/11/00 and 7.5.1.5 dated 12/11/00]*
2. "Administrative Permit Amendment." When required, the Owner and/or Operator shall submit to the Department a request for an administrative permit amendment in accordance with 7 DE Admin. Code 1130 Section 7.4. *[Reference: 7 DE Admin. Code 1130 Section 7.4 dated 12/11/00]*
3. "Minor Permit Modification." When required, the Owner and/or Operator shall submit to the Department an application for a minor permit modification in accordance with 7 DE Admin. Code 1130 Section 7.5.1 and 7.5.2. *[Reference: 7 DE Admin. Code 1130 Section 7.5.1 dated 12/11/00 and 7.5.2 dated 12/11/00]*
  - i. For a minor permit modification, during the period of time between the time the Owner and/or Operator makes the change or changes proposed in the minor permit modification application and the time that the Department takes action on the application, the Owner and/or Operator shall comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this period the Owner and/or Operator, at its own risk, need not comply with the existing terms and conditions of this permit that it seeks to modify. *[Reference: 7 DE Admin. Code 1130 Section 7.5.1.5 dated 12/11/00 and 7.5.2.5 dated 12/11/00]*
  - ii. If the Owner and/or Operator fail to comply with its proposed permit terms and conditions during this time period, the existing terms and conditions of this permit may be enforced against the Owner and/or Operator. *[Reference: 7 DE Admin. Code 1130 Section 7.5.1.5 dated 12/11/00 and 7.5.2.5 dated 12/11/00]*
4. "Significant Permit Modification." When required, the Owner and/or Operator shall submit to the Department an application for a significant permit modification in accordance with 7 DE Admin. Code 1130 Section 7.5.3. *[Reference: 7 DE Admin. Code 1130 Section 7.5.3 dated 12/11/00]*
5.
  - i. When the Owner and/or Operator is required to meet the requirements under Section 112(g) of the Act or to obtain a preconstruction permit under 7 DE Admin. Code 1102 "Permits", the Owner and/or Operator shall file a complete application to revise this permit within 12 months of commencing operation of the construction or modification. *[Reference: 7 DE Admin. Code 1130 Section 5.1.1.4 dated 11/15/93]*
  - ii. When the Owner and/or Operator is required to obtain a preconstruction permit, the Owner and/or Operator may submit an application to revise this permit for concurrent processing. The revision request for this permit when submitted for concurrent processing shall be submitted to the Department with the Owner and/or Operator's preconstruction review application or at such later time as the Department may allow. Where this permit would prohibit such construction or change in operation, the Owner and/or Operator shall obtain a permit revision before commencing operation. *[Reference: 7 DE Admin. Code 1102 Sections 11.2.10, 11.5 and 12.4, dated 6/11/06, and 7 DE Admin. Code 1130 Section 5.1.1.4 dated 11/15/93]*
  - iii. Where an application is not submitted for concurrent processing, the Owner and/or Operator shall obtain an operating permit under the State of Delaware "**Regulations Governing the Control of Air Pollution**" prior to commencing operation of the construction or modification

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to cover the period between the date operation is commenced and until such time as operation is approved under **7 DE Admin. Code 1130**. [Reference: **7 DE Admin. Code 1102 Section 2.1** dated 6/11/06]

6. "Permit Termination." The Owner and/or Operator may at any time apply for termination of this permit in accordance with **7 DE Admin. Code 1130 Section 7.8.4** or **Section 7.8.5**. [Reference: **7 DE Admin. Code 1130 Sections 7.8.4** dated 12/11/00 and **7.8.5** dated 12/11/00]

**n. Permit Transfer.**

1. A change in ownership or operational control of this facility shall be treated as an administrative permit amendment where the Department has determined that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new owner has been submitted to the Department. [Reference: **7 DE Admin. Code 1130 Section 7.4.1.4** dated 12/11/00]
2. In addition to any written agreement submitted by the Owner and/or Operator in accordance with Condition 2(n)(1), the Owner and/or Operator shall have on file at the Department a statement meeting the requirements of **7 Del. C., Ch 79, Section 7902**. *This permit condition is state enforceable only.* [Reference: **7 Del. C., Ch 79 Section 7902** dated 8/28/2007]
3. The written agreement required in Condition 2(n)(1) of this permit shall be provided to the Department within a minimum of 30 calendar days prior to the specific date for transfer and shall indicate that the transfer is agreeable to both the current and new owner. [Reference: **7 DE Admin. Code 1102 Section 7.1** dated 6/1/97]

- o. Property Rights.** This permit does not convey any property rights of any sort, or any exclusive privilege. [Reference: **7 DE Admin. Code 1130 Section 6.1.7.4** dated 12/11/00]

**p. Risk Management Plan Submissions.**

1. In the event this stationary source, as defined in the State of Delaware **7 DE Admin. Code 1201 "Accidental Release Prevention Regulation" Section 4.0**, is subject to or becomes subject to **Section 5.0** of **7 DE Admin. Code 1201** (as amended March 11, 2006), the owner or operator shall submit a risk management plan (RMP) to the Environmental Protection Agency's RMP Reporting Center by the date specified in **Section 5.10** and required revisions as specified in **Section 5.190**. A certification statement shall also be submitted as mandated by **Section 5.185**. [Reference: **7 DE Admin. Code 1130 Section 6.1.4** dated 12/11/00, **7 DE Admin. Code 1201** as amended March 11, 2006 and Delaware; Approval of Accidental Release Prevention Program, Federal Register Vol. 6, No. 11 pages 30818-22 dated June 8, 2001]
2. If this stationary source, as defined in **7 DE Admin. Code 1201 Section 4.0**, is not subject to **Section 5.0** but is subject or becomes subject to **Section 6.0** (as amended March 11, 2006), the owner or operator shall submit a Delaware RMP to the State of Delaware's Accidental Release Prevention group by the date as specified in **Section 6.6.10** and required revisions as specified by **Section 6.6.1**. *Note: State enforceable only.* [Reference: **7 DE Admin. Code 1201** as amended March 11, 2006 ]

**q. Protection of Stratospheric Ozone.**

When applicable, this Facility shall comply with the following requirements: [Reference: **40 CFR Part 82 "Protection of Stratospheric Ozone"** revised as of 7/1/97 and **7 DE Admin. Code 1130 Section 2.0** dated 11/15/93]

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to **40 CFR Part 82, Subpart E**:
  - i. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a process that uses

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- a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
- ii. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  - iii. The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
  - iv. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
2. Any person servicing, maintaining, or repairing appliances, except for motor vehicles, shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B. In addition, Subpart F applies to refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment.
    - i. Persons owning appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to §82.154 and §82.156.
    - ii. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
    - iii. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
    - iv. Persons performing maintenance, service, repair, or disposal of appliances must certify with the Administrator pursuant to §82.158 and §82.162.
    - v. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152)
    - vi. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
  3. Owners/Operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR Part 82, Subpart F §82.166.
  4. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, "Production and Consumption Controls".
  5. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, "Servicing of Motor Vehicle Air Conditioners".
    - i. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant. These systems are regulated under 40 CFR Part 82, Subpart F.

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6. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed as acceptable in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program.
- r. **Severability.** The provisions of this permit are severable. If any part of this permit is held invalid, the application of such part to other persons or circumstances and the remainder of this permit shall not be affected thereby and shall remain valid and in effect. *[Reference: 7 DE Admin. Code 1130 Section 6.1.6 dated 12/11/00]*

### **Condition 3- Specific Requirements**

- a. **Emission Limitations Emission Standards, Operational Limitations, and Operational Standards.** The Owner and/or Operator shall comply with the limitations and standards detailed in Condition 3 – Table 1 of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.1.1 dated 12/11/00]*
- b. **Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping).** The Owner and/or Operator shall maintain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all original strip-chart recordings, where appropriate, for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, the permit may specify that records may be maintained in computerized form. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/00]*
  1.
    - i. **Specific Requirements.** The Owner and/or Operator shall comply with the operational limitations, monitoring, testing, and record keeping requirements detailed in Condition 3 – Table 1 which are in addition to those in Conditions 3(b)(1)(ii) and 3(b)(2) of this permit. *[Reference: 7 DE Admin. Code 1130 Sections 6.1.1 dated 12/11/00, 6.1.3.1 dated 12/11/00, and 6.1.10 dated 12/11/00]*
    - ii. **General Testing Requirements.** Upon written request of the Department, the Owner and/or Operator shall, at the Owner and/or Operator's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records, and submit reports to the Department on the results of such sampling. *[Reference: 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]*
  2. **General Record Keeping Requirements.** The Owner and/or Operator shall record, at a minimum, all of the following information:
    - i. If required, for each operating scenario identified in Condition 3 – Table 1 of this permit, a log that indicates the operating scenario under which each particular emission unit is operating. The Owner and/or Operator shall, contemporaneously with changing from one operating scenario to another, record in this log the time at which the operating scenario under which it is operating is changed. *[Reference: 7 DE Admin. Code 1130 Section 6.1.10 dated 12/11/00]*
    - ii. The following information to the extent specified in Condition 3 – Table 1 of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.1 dated 12/11/00]*
      - A. The date, place, and time of the sampling or measurements. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.1.1 dated 12/11/00]*
      - B. The dates analyses were performed. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.1.2 dated 12/11/00]*
      - C. The Owner and/or Operator or entity that performed the analyses. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.1.3 dated 12/11/00]*

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**Condition 3- Specific Requirements (Cont.)**

- D. The analytical techniques or methods used. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.1.4 dated 12/11/00]*
- E. The results of such analyses. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.1.5 dated 12/11/00]*
- F. The operating conditions as existing at the time of sampling or measurement. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.1.6 dated 12/11/00]*
- iii. If the Owner and/or Operator is claiming the affirmative defense of emergency or malfunction as provided in Condition 2(b)(5); a properly signed, contemporaneous operating logs, or other relevant evidence which indicates that: *[Reference: 7 DE Admin. Code 1130 Section 6.7.3 dated 12/11/00]*
  - A. An emergency or malfunction occurred and the causes of the emergency or malfunction. *[Reference: 7 DE Admin. Code 1130 Section 6.7.3.1 dated 12/11/00]*
  - B. The facility was at the time of the emergency or malfunction being operating in a prudent and professional manner and in compliance with the generally accepted industry operations and maintenance procedures. *[Reference: 7 DE Admin. Code 1130 Section 6.7.3.2 dated 12/11/00]*
  - C. During the period of the emergency or malfunction the Owner and/or Operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.7.3.3 dated 12/11/00]*
- iv. A copy of the written notice required by Condition 3(c)(2)(iii) for each change made under Condition 4(c) [Operational Flexibility] of this permit shall be maintained with a copy of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.8.1 dated 12/11/00]*

**c. Reporting and Compliance Certification Requirements.**

- 1. **Specific Reporting/Certification Requirements.** The Owner and/or Operator shall comply with the Reporting/Certification Requirements detailed in Condition 3– Table 1 of this permit, which are in addition to those of Conditions 3(c)(2) and 3(c)(3) of this permit. Each report that contains any deviations from the terms of Condition 3– Table 1 shall identify the probable cause of the deviations and any corrective actions or preventative measures taken. *[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.3.3 dated 12/11/00, 6.1.3.3.3.3 dated 12/11/00, and 6.1.3.3.3.4 dated 12/11/00]*
- 2. **General Reporting Requirements.**
  - i. The Owner and/or Operator shall submit to the Department a report of any required monitoring not later than the first day of August (covering the period from January 1 through June 30 of the current calendar year) and the first day of February (covering the period July 1 through December 31 of the previous calendar year) of each calendar year. Each report shall identify any deviations from the monitoring, record keeping, and reporting requirements under this permit; and the probable cause of the deviations; and any corrective actions or preventative measures taken. If no deviations have occurred, such shall be stated in the report. *[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.3.1 dated 12/11/00, 6.1.3.3.2 dated 12/11/00, and 6.1.3.3.3.4 dated 12/11/00]*
  - ii. In addition to the semiannual monitoring reports required under Condition 3(c)(2)(i), the - Owner and/or Operator shall submit to the Department supplemental written reports and/or notices identifying all deviations from permit conditions, probable cause of the deviations, and any corrective actions or preventative measures as follows: *[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.3.3.3 dated 12/11/00 and 6.1.3.3.3.4 dated 12/11/00]*
    - A. If the Owner and/or Operator is claiming the affirmative defense of emergency or malfunction as provided in Condition 2(b)(5) of this permit, a notice of any deviation resulting from emergency or malfunction conditions shall be reported to the Department within two



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**Condition 3- Specific Requirements (Cont.)**

working days of the time when the technology-based emission limitations were exceeded. Such notice shall contain a description of the emergency or malfunction, any steps taken to mitigate emissions, and any corrective actions taken. [Reference: 7 DE Admin. Code 1130 Sections 6.1.3.3.3.1 dated 12/11/00 and 6.7.3.4 dated 12/11/00]

- B. Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery and after activating the appropriate site emergency plan, in the following manner: [Reference: 7 DE Admin. Code 1130 Sections 6.1.3.3.3.3 dated 12/11/00 and 6.1.3.3.3.2 dated 12/11/00]
1. Emissions that pose an imminent and substantial danger to public health, safety or the environment must be reported by calling the Department's Environmental Emergency Notification and Complaint number (800) 662-8802. [Reference: 7 DE Admin. Code No 1130, Section 6.1.3.3.3.2 dated 12/11/2000]
  2. Emissions in excess of any permit condition or emissions which create a condition of air pollution but do not pose an imminent and substantial danger to public health, safety or the environment must either be called in to the Environmental Emergency Notification and Complaint number (800) 662-8802 or faxed to (302) 739-2466. The ability to fax notifications to the Department may be revoked by the Department upon written notice to the Company and at the Department's sole discretion. [Reference: 7 DE Admin. Code No 1130, Section 6.1.3.3.3.2 dated 12/11/2000]
- C. All emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department in a written report pursuant to Condition 3(c)(2)(i) and/or the specific reporting requirements listed in Condition 3 – Table 1 of this permit. [Reference: 7 DE Admin. Code 1130 Sections 6.1.3.3.3.3 dated 12/11/00 and 6.1.3.3.3.4 dated 12/11/00]
- D. Discharges to the atmosphere in excess of any quantity specified in the 7 DE Admin. Code 1203 ("**Reporting of a Discharge of a Pollutant or an Air Contaminant**") shall be reported, immediately upon discovery and after activating the appropriate site emergency plan, either in person or to the Department's 24-hour Environmental Emergency Notification and Complaint line (1-800-662-8802). Discharges in compliance with this permit and excess emissions previously reported under Condition 3(c)(2)(ii)(B) of this permit are exempt from this reporting requirement. [Reference: 7 DE Admin. Code 1130 Section 6.1.3.3.3.5 dated 12/11/00 and 7 DE Admin. Code 1203]
- iii. Prior to making a change as provided in Condition 4 [**Operational Flexibility**] of this permit the Owner and/or Operator shall give written notice to the Department and EPA at least seven calendar days before the change is to be made. [Reference: 7 DE Admin. Code 1130 Section 6.8.1 dated 12/11/00]
- A. The seven day period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. [Reference: 7 DE Admin. Code 1130 Section 6.8.1 dated 12/11/00]
  - B. If less than seven calendar days notice is provided because of a need to respond more quickly to such unanticipated conditions, the Owner and/or Operator shall provide notice to the Department and EPA as soon as possible after learning of the need to make the change, together with the reasons why advance notice could not be given. [Reference: 7 DE Admin. Code 1130 Section 6.8.1 dated 12/11/00]
  - C. The written notice shall include all of the following information: [Reference: 7 DE Admin. Code 1130 Section 6.8.1 dated 12/11/00]

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1. The identification of the affected emission units and a description of the change to be made.
          2. The date on which the change will occur.
          3. Any changes in emissions.
          4. Any permit terms and conditions that are affected, including any new applicable requirements.
  - iv. The Owner and/or Operator shall submit to the Department an annual emissions statement in accordance with **7 DE Admin. Code 1117 Section 7.0** not later than April 30 of each year, or other date as established by the Department, unless an extension by the Department is granted. Such emissions statement shall cover the preceding calendar year. *[Reference: 7 DE Admin. Code 1117 Section 7.0 dated 1/11/93]*
  - v. If required, the Owner and/or Operator shall submit to the Department a progress report for applicable requirements identified in Condition 5 – Table 1 of this permit. Such reports shall be submitted not later than the first day of August (covering the period from January 1 through June 30 of the current calendar year) and the first day of February (covering the period July 1 through December 31 of the previous calendar year) of each calendar year. Each progress report shall include the following: *[Reference: 7 DE Admin. Code 1130 Sections 5.4.8 dated 11/15/93 and 6.3.4 dated 12/11/00]*
    - A. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved. *[Reference: 7 DE Admin. Code 1130 Section 6.3.4.1 dated 12/11/00]*
    - B. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. *[Reference: 7 DE Admin. Code 1130 Section 6.3.4.2 dated 12/11/00]*
  - vi. Nothing herein shall relieve the Owner and/or Operator from any reporting requirements under federal, state, or local laws. *[Reference: 7 DE Admin. Code 1130 Section 6.1.3.3.3.5 dated 12/11/00]*
3. **General Compliance Certification Requirements.**
  - i. Compliance with terms and conditions of this permit shall be certified to the Department not later than the first day of February of each year unless the terms or conditions in Condition 3 Table 1 of this permit require compliance certifications to be submitted more frequently. Such certification shall cover the previous calendar year and shall be submitted on Form AQM-1001BB. The Compliance Certification shall include the following information: *[Reference: 7 DE Admin. Code 1130 Section 6.3.5.1 dated 12/11/00]*
    - A. The identification of each term or condition of the permit that is the basis of the certification. *[Reference: 7 DE Admin. Code 1130 Section 6.3.5.3.1 dated 12/11/00]*
    - B. The Owner and/or Operator's current compliance status, as shown by monitoring data and other information reasonably available to the Owner and/or Operator. *[Reference: 7 DE Admin. Code 1130 Section 6.3.5.3.2 dated 12/11/00]*
    - C. Such certification shall indicate whether compliance was continuous or intermittent during the covered period. *[Reference: 7 DE Admin. Code 1130 Section 6.3.5.3.3 dated 12/11/00]*
    - D. The methods used for determining the compliance status of the Owner and/or Operator, currently and over the reporting period as required by the monitoring, record keeping, and

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**Condition 3- Specific Requirements (Cont.)**

reporting required under Condition 3. *[Reference: 7 DE Admin. Code 1130 Section 6.3.5.3.4 dated 12/11/00]*

- E. Such other facts as the Department may require to determine the compliance status of the source. *[Reference: 7 DE Admin. Code 1130 Section 6.3.5.3.5 dated 12/11/00]*
- ii. Each compliance certification shall be submitted to the Department and EPA and shall be certified in accordance with Condition 2(a) of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.3.5.4 dated 12/11/00]*
- iii. Any additional information possessed by the Owner and/or Operator that demonstrates non-compliance with any applicable requirement must also be used as the basis for compliance certifications. *[Reference: 62 FR 8314 dated 2/24/97]*

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
<b>a. Sulfuric Acid Regeneration Plant – Main Plant Stack (Emission Point 1)</b>		
1. Sulfur Dioxide (SO <sub>2</sub> ) Emissions		
<p>i. Emission Standard: Sulfur Dioxide emissions from the Main Plant Stack shall not exceed 4 lbs per ton of acid produced, the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>. <i>[Reference 40 CFR Part 60.82, dated 7/1/15]</i></p> <p>ii. Emission Limitations: A. The Company shall not cause to be discharged in to the atmosphere any gas which contains SO<sub>2</sub> in excess of 1.35 pound per ton of acid produced on a 3-hour rolling average basis, the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub> except as specified in Emission Limitation C below. <i>[Reference APC-2003/0739 Cond. No. 2.1.3.1]</i> B. SO<sub>2</sub> emissions from the main plant stack shall not exceed 92.25 tons per rolling 12 month period. <i>[Reference APC-2003/0739 Cond. No. 2.1.3.2]</i> C. Startup Conditions: 1. During the first 12 hours after startup, the plant shall not have SO<sub>2</sub> emissions greater than 12 lbs per ton of acid produced. 2. Between 12 and 24 hours after startup, SO<sub>2</sub> emissions shall not</p>	<p>v. Compliance Method: Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i></p> <p>vi. Monitoring: A. Compliance with the Emission Standard and Limitations shall be based on continuous emissions monitoring system (CEMS) that has been certified in accordance with Performance Standard 2 in 40 CFR Part 60, Appendix "B". <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i> B. The CEMS shall comply with the monitoring requirements of <b>7 DE Admin. Code 1120 Section 1.3</b>. <i>[Reference 7 DE Admin. Code 1120.1.3 dated 12/7/1988]</i> C. The Company shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (lb/ton) to be used at times when either monitor is out of service. The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide</p>	<p>x. Reporting In addition to the requirements of Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the Company shall: <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i> A. Periods of excess SO<sub>2</sub> emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed Emission Limitation A. B. Quarterly excess emission reports as required by <b>7 DE Admin. Code 1120 Section 1.2.3</b>. <i>[Reference 7 DE Admin. Code 1120.1.2.3 dated 12/7/1988]</i></p> <p>xi. Certification: That required by Condition 3(c)(3) of this permit. <i>[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p>

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<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>exceed 4 lbs per ton of acid produced.</p> <p>3. The emission rate of 1.35 lb per ton given in Condition A above shall apply after 24 hours.</p> <p>4. Startup is defined as beginning with introduction of raw materials to the combustion chamber immediately subsequent to heat-up of the converter.  <i>[Reference APC-2003/0739 Cond. No. 2.1.3.4]</i></p> <p>iii. Operational Standard:                      The differential pressure across the Final Absorbing Tower shall be maintained within manufacturer specifications.  <i>[Reference APC-2003/0739 Cond. No. 3.1.5]</i></p> <p>iv. Operational Limitation:                      None.</p>	<p>entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:</p> $E = CF*s = k [(1.000 - 0.015r)/r - s] * s$ <p>Where:                      E = Emissions of SO<sub>2</sub> in pounds per ton                      CF = conversion factor (lb/ton per ppm).                      k = constant value of 0.1306                      r = percentage of sulfur dioxide by volume entering the gas converter.                      s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system.  <i>[Reference APC-2003/0739 Cond. No. 4.5]</i></p> <p>vii. Testing                      None.</p> <p>viii. Quality Assurance/Quality Control:                      The CEMS shall comply with the monitoring requirements of 7 DE Admin. Code 1120, Section 1.3. <i>[Reference APC-2003/0739 Cond. No. 4.3]</i></p> <p>ix. Recordkeeping:                      A. The daily amount of sulfuric acid produced and the amount of SO<sub>2</sub> emissions using</p>	

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
	<p>the information obtained by the CEMS and spreadsheets used to summarize this data. <i>[Reference 7 DE Admin. Code 1130 Section 6.2.1 dated 12/11/2000]</i></p> <p>B. All hourly averages of SO<sub>2</sub> emissions in lbs/ton of acid produced. <i>[Reference APC-2003/0739 Cond. No. 5.3.3]</i></p> <p>C. Results of daily calibrations, quarterly cylinder gas audits and annual RATAs of the CEMS. <i>[Reference APC-2003/0739 Cond. No. 5.3.4]</i></p> <p>D. The differential pressure across the each mist eliminator. <i>[Reference APC-2003/0739 Cond. No. 5.3.6]</i></p> <p>E. The rolling 12 month total emissions shall be calculated and recorded each month in a log for nitrogen oxides, sulfur dioxide, and sulfuric acid mist emissions. <i>[Reference APC-2003/0739 Cond. No. 5.4]</i></p> <p>F. The Company shall record all conversion factors and values from the equation in section (vi)(C) above from which they were computed (i.e., CF, r, and s). <i>[Reference APC-2003/0739 Cond. No. 5.5]</i></p> <p>G. Records of any periods during which the CEMS is inoperative. <i>[Reference 7 DE Admin. Code 1120 Section 1.2.2 dated 12/7/1988]</i></p>	
<b>2. Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) Mist Emissions</b>		
<p>i. Emission Standard Acid mist emissions from the Main Plant Stack, expressed as H<sub>2</sub>SO<sub>4</sub>, shall not exceed 0.15 lb per ton of acid produced,</p>	<p>v. Compliance Method: Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the</p>	<p>x. Reporting In addition to the requirements of Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the</p>

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<p><b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b></p>	<p><b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b></p>	<p><b>Reporting and Compliance Certification</b></p>
<p>the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>. [Reference 40 CFR Part 60.82, dated 7/1/15]</p> <p>ii. Emission Limitations:</p> <p>A. The owner or operator shall not cause to be discharged into the atmosphere any gases which contain H<sub>2</sub>SO<sub>4</sub> in excess of 0.12 pound per ton, the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>. [Reference APC-2003/0739 Cond. No. 2.1.4.1]</p> <p>B. H<sub>2</sub>SO<sub>4</sub> emissions from the main stack shall not exceed 8.5 tons per rolling 12 month period. [Reference APC-2003/0739 Cond. No. 2.1.4.2]</p> <p>iii. Operational Standard None.</p> <p>iv. Operational Limitation None.</p>	<p>appropriate monitoring, testing, QA/QC, and recordkeeping requirements. [Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</p> <p>vi. Monitoring: The differential pressure across the Final Absorbing Tower eliminator shall be continuously monitored. [Reference APC-2003/0739 Cond. No. 3.1.5]</p> <p>vii. Testing</p> <p>A. Within 2 years after the initial performance test, the Company shall retest for CO and H<sub>2</sub>SO<sub>4</sub> mist and every 2 years thereafter. All performance tests shall be conducted while the source is operating at or near the maximum acid production rate at which such source will be operated and under such other relevant conditions of an approved testing protocol as the Secretary shall specify based on representative performance of the applicable source. [Reference APC-2003/0739 Cond. No. 4.1]</p> <p>B. One original and one copy of the test protocol shall be submitted a minimum of 45 days in advance of the tentative test date to:</p> <p>Division of Air Quality State Street Commons 100 W Water Street, Suite 6A Dover, DE 19904</p>	<p>Company shall report: [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p> <p>A. Periods of excess H<sub>2</sub>SO<sub>4</sub> mist emissions during which the H<sub>2</sub>SO<sub>4</sub> emissions exceed Emission Limitation A.</p> <p>xi. Certification: That required by Condition 3(c)(3) of this permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.2 dated 12/11/2000]</p>

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	<p>ATTN: Division Director</p> <p>The tests shall be conducted in accordance with the State of Delaware and Federal requirements. <i>[Reference APC-2003/0739 Cond. No. 4.1.1]</i></p> <p>C. The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule a test date with the Air Surveillance and Engineering &amp; Compliance Branches. The Department must observe the test for the results to be considered for acceptance. <i>[Reference APC-2003/0739 Cond. No. 4.1.2]</i></p> <p>D. The final results of the testing shall be submitted to the Department within 60 days of the test completion. One original and one copy of the test report to shall be submitted to:</p> <p>Division of Air Quality State Street Commons 100 W Water Street, Suite 6A Dover, DE 19904</p> <p>One copy to: Air Surveillance Branch Attn: Assigned Engineer 715 Grantham Lane New Castle, DE 19720 <i>[Reference APC-2003/0739 Cond. No. 4.1.3]</i></p>	



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<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
	<p>E. The final report of the results must meet the following requirements to be considered valid:</p> <ol style="list-style-type: none"><li>1. The full report shall include the emission test report (including raw data from the test) as well as a summary of the results and statement of compliance or non-compliance with permit conditions.</li><li>2. <u>Summary of results and Statement of Compliance or Non-Compliance</u> - The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information:<ol style="list-style-type: none"><li>a. A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings.</li><li>b. Permit number and condition(s) which are the basis for the compliance evaluation.</li><li>c. Summary of results with respect to each permit condition.</li><li>d. Statement of compliance or non-compliance with each permit condition.</li><li>e. The Test Report shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall</li></ol></li></ol>	

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
	<p>contain the following language:</p> <p>“I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.”</p> <p><i>[Reference APC-2003/0739 Cond. No. 4.1.4.3 and 7 DE Admin Code 1130 Section 6.3 dated 12/11/2000]</i></p> <p>F. The results must demonstrate to the Department’s satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action. <i>[Reference APC-2003/0739 Cond. No. 4.1.5]</i></p> <p>viii. Quality Assurance/Quality Control None.</p> <p>ix. Recordkeeping: A. The rolling 12 month total emissions shall be calculated and recorded each month in a log for nitrogen oxides, sulfur dioxide, and sulfuric acid mist emissions. <i>[Reference APC-2003/0739 Cond. No. 5.3]</i></p>	

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	B. All hourly averages of SO <sub>2</sub> H <sub>2</sub> SO <sub>4</sub> emissions in lbs/ton of acid produced. <i>[Reference APC-2003/0739 Cond. No. 5.3.3]</i>	
<b>3. Nitrogen Oxides (NO<sub>x</sub>) Emissions</b>		
i. Emission Standard None.  ii. Emission Limitation NO <sub>x</sub> emissions from the Main Plant Stack shall not exceed 6.3 pounds per hour on a 3-hour rolling average basis. <i>[Reference APC-2003/0739 Cond. No. 2.1.2.2]</i>  iii. Operational Standard The Company shall conduct annual process heater tune-ups. <i>[Reference APC-2003/0739 Cond. No. 4.12]</i>  iv. Operational Limitation None.	v. Compliance Method Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i>  vi. Monitoring Compliance with the Emission Limitation shall be based on continuous emissions monitoring system (CEMS) that has been certified in accordance with Performance Standard 2 in 40 CFR Part 60, Appendix "B". <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i>  vii. Testing None.  viii. Quality Assurance/Quality Control The CEMS shall conform to the Quality Assurance Procedures in 40 CFR Part 60 Appendix F. <i>[Reference APC-2003/0739 Cond. No. 10.3.1]</i>  ix. Recordkeeping A. Results of daily calibrations, quarterly cylinder gas audits and annual RATAs of	x. Reporting In addition to the requirements of Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit the Company shall report: <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i> A. Periods of excess NO <sub>x</sub> emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average nitrogen oxide emissions exceed Emission Limitation B. B. Quarterly excess emission reports as required by 7 <b>DE Admin. Code 1120</b> Section 1.2.3. <i>[Reference 7 DE Admin. Code 1120 Section 1.2.3 dated 12/7/1988]</i>  xi. Certification: That required by Condition 3(c)(3) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i>

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
	<p>the CEMS. <i>[Reference APC-2003/0739 Cond. No. 5.3.4]</i></p> <p>B. The rolling 12 month total emissions shall be calculated and recorded each month in a log for nitrogen oxides, sulfur dioxide, and sulfuric acid mist emissions. <i>[Reference APC-2003/0739 Cond. No. 5.4]</i></p> <p>C. Records of maintenance performed. <i>[Reference 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/2000]</i></p> <p>D. Records of any periods during which the CEMS is inoperative. <i>[Reference 7 DE Admin. Code 1120 Section 1.2.2 dated 12/7/1988]</i></p>	
<b>4. Carbon Monoxide (CO) Emissions</b>		
<p>i. Emission Standard None.</p> <p>ii. Emission Limitation The Company shall not cause or allow the emission of CO to exceed 1.26 pounds per hour from the Main Plant Stack. <i>[Reference APC-2003/0739 Cond. No. 2.1.6.1]</i></p> <p>iii. Operational Standard None.</p> <p>iv. Operational Limitation None.</p>	<p>v. Compliance Method: Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i></p> <p>vi. Monitoring: None.</p> <p>vii. Testing Testing shall be conducted in accordance with the testing requirements of Condition 3 – Table 1(a)(2)(vii).</p> <p>viii. Quality Assurance/Quality Control None.</p>	<p>x. Reporting That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p> <p>xi. Certification: That required by Condition 3(c)(3) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.2 dated 12/11/2000]</i></p>

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	<p>ix. Recordkeeping: Records of emission totals for each 12 month period shall be kept. [Reference: 7 DE Admin. Code 1130 Section 6.1.2.3 dated 12/11/2000]</p>	
<p>5. Visible Emissions</p>		
<p>i. Emission Standard The Company shall not cause or allow the emission of visible air contaminants from the Main Plant Stack which exhibit 10% opacity or greater. [Reference APC-2003/0739 Cond. No. 2.2.1 and 40 CFR Part 60.83(a)(2), dated 7/1/15]</p> <p>ii. Emission Limitation Except for the Emission Point #1 (main stack), no person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty percent (20%) opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. [Reference 7 DE Admin. Code 1114 Section 2.1 dated 7/17/84]</p> <p>iii. Operational Standard None.</p> <p>iv. Operational Limitation None.</p>	<p>v. Compliance Method Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. [Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</p> <p>vi. Monitoring A. The Company shall conduct monthly qualitative stack observations to determine the presence of any visible emissions when the unit is in operation. [Reference APC-2003/0739 Cond. No. 4.7.1] B. If visible emissions are observed, the Company shall determine if they are below the emission standard. If they are below the source's respective standard, no further action is required. [Reference APC-2003/0739 Cond. No. 4.7.2] C. If observed visible emissions are greater than the standard, the Company shall take corrective actions and conduct a visible emission evaluation. [Reference APC-2003/0739 Cond. No. 4.7.3] D. Plant personnel conducting the qualitative stack observations must be trained and</p>	<p>x. Reporting That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p> <p>xi. Certification: That required by Condition 3(c)(3) of this permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.2 dated 12/11/2000]</p>

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
	<p>               knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water vapor (condensing water vapor). This training can be obtained from the lecture portion of the EPA Reference Method 9 certification course. <i>[Reference APC-2003/0739 Cond. No. 4.7.4]</i> </p> <p>               E. The opacity of the main plant stack shall be determined semiannually in accordance with 7 <b>DE Admin. Code</b> 1120 Section 1.5.3, conduct visual observations at fifteen-second intervals for a period of not less than one hour except that the observations may be discontinued whenever a violation of the standard is recorded. The additional procedures, qualification and testing to be used for visually determining the opacity shall be those specified in Section 2 &amp; 3 (except for Section 2.5 and the second sentence of Section 2.4) of Reference Method 9 set forth in Appendix A, 40 CFR, Part 60, July 2005 edition. <i>Reference APC-2003/0739 Cond. No. 4.7.5]</i> </p> <p>               vii. Testing                None.             </p> <p>               viii. Quality Assurance/Quality Control             </p>	

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	None.  ix. Recordkeeping The Company shall keep records of the results of the qualitative opacity monitoring indicating the presence or absence of visible emissions, whether any opacity observed exceeded the standard, and corrective action taken (if necessary). <i>[Reference APC-2003/0739 Cond. No. 5.3.5]</i>	
<b>b. Process Air Pre-Heater (Emission Point 2)</b>		
1. Nitrogen Oxide (NO <sub>x</sub> ) Emissions:		
i. Emission Standard None.  ii. Emission Limitation NO <sub>x</sub> emissions from the Process Air Pre-heater shall not exceed an average of 0.04 pound per million BTU heat input. <i>[Reference APC-2003/0739 Cond. No. 2.1.2.1]</i>  iii. Operational Standard A. The Company shall conduct annual process heater tune-ups. <i>[Reference APC-2003/0739 Cond. No. 4.12]</i> B. The Company shall not combust any fuel gas in the preheater that contains hydrogen sulfide (H <sub>2</sub> S) in excess of 160 ppmvd (0.10 gr/dscf). <i>[Reference APC-2003/0739 Cond. No. 3.1.6]</i>  iv. Operational Limitation	v. Compliance Method Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i>  vi. Monitoring None.  vii. Testing None.  viii. Quality Assurance/Quality Control None.  ix. Recordkeeping A. Maintain records of Process Air Pre-Heater maintenance and tune-ups. <i>[Reference 7 DE</i>	x. Reporting That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i>  xi. Certification: That required by Condition 3(c)(3) of this permit. <i>[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i>

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
None.	<p><i>Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/2000]</i></p> <p>B. Maintain the daily amount of fuel used and the hydrogen sulfide (H<sub>2</sub>S) content. <i>[Reference 7 DE Admin. Code 1130 Section 6.1.2.3 dated 12/11/2000]</i></p>	
<b>c. SO<sub>2</sub> Scrubber and Vapor Combustion Unit (Emission Point 3)</b>		
<b>1. Proper Operation</b>		
<p>i. Emission Standard None.</p> <p>ii. Emission Limitation None.</p> <p>iii. Operational Standard</p> <p>A. The SO<sub>2</sub> scrubber and vapor combustion unit (VCU) are secondary pollution control equipment used to control emissions vented from the spent acid storage tanks.</p> <p>B. The SO<sub>2</sub> scrubber is the primary pollution control equipment used to control emissions vented from the sulfur pit.</p> <p>C. The SO<sub>2</sub> scrubber and vapor combustion chamber (VCU) are secondary pollution control equipment</p>	<p>v. Compliance Method: Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i></p> <p>vi. Monitoring:</p> <p>A. The SO<sub>2</sub> Scrubber operating parameters (i.e., the scrubbing liquid flow rate, pH of the scrubbing liquid, and pressure differential) shall be monitored once per shift while the unit is operating. <i>[Reference APC-2003/0739 Cond No. 4.10]</i></p> <p>B. The temperature of the VCU shall be continuously monitored while the unit is in</p>	<p>x. Reporting: That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p> <p>xi. Certification: That required by Condition 3(c)(3) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p>



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<p>used to control emissions vented from other areas of the plant.</p> <p>iv. Operational Limitation                      The Vapor Combustion Unit shall operate with a minimum temperature of 1500°F at all times when emissions are directed to the unit. <i>[Reference APC-2003/0739 Cond No. 3.1.3]</i></p>	<p>operation. <i>[Reference APC-2003/0739 Cond No. 4.9]</i></p> <p>vii. Testing                      None.</p> <p>viii. Quality Assurance/Quality Control                      None.</p> <p>ix. Recordkeeping                      The temperature of the VCU shall be continuously recorded while the unit is in operation. <i>[Reference APC-2003/0739 Cond No. 4.9]</i></p>	
<p><b>2. Acid Tanks #1 and #2 – Spent Acid Tank and Swing Tank</b></p>		
<p>Tank #1 holds only spent acid. Tank #2 may hold either spent acid or fresh acid.</p> <p>i. Emission Standard                      None.</p> <p>ii. Emission Limitation                      None.</p> <p>iii. Operational Standard                      Emissions from the spent acid tanks and spent acid containers shall not be vented directly to the atmosphere. Emissions shall either vent directly to the Decomposition Furnace, primarily, or the SO<sub>2</sub> Scrubber and Vapor Combustion Unit. <i>[Reference APC-2003/0739 Cond. No. 3.1.2]</i></p>	<p>v. Compliance Method                      Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i></p> <p>vi. Monitoring                      The Company shall continuously monitor the pressure of the tank's vapor space. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.1.2 dated 12/11/2000]</i></p> <p>vii. Testing                      None.</p> <p>viii. Quality Assurance/Quality Control                      None.</p>	<p>x. Reporting                      That required by Condition 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p> <p>xi. Certification                      That required by Condition 3(c)(3) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.2 dated 12/11/2000]</i></p>

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<p>iv. Operational Limitations:</p> <p>A. Tank #1 shall contain only spent acid.</p> <p>B. Tank #2 may contain either spent acid or fresh acid.</p> <p>C. Emission from the spent acid tanks and spent acid containers shall not be vented directly to the atmosphere.</p> <p>1. Emissions shall vent primarily to the Decomposition Furnace</p> <p>2. The SO<sub>2</sub> Scrubber and Vapor Combustion Unit shall be used as secondary backups.</p> <p><i>[Reference APC-2003/0739 Cond No. 3.1.2]</i></p>	<p>ix. Recordkeeping</p> <p>Records shall be kept of periods when the tanks vent to the atmosphere when holding spent acid. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.2.3 dated 12/11/2000]</i></p>	
<p><b>d. Decomposition Furnace Bypass Stack (Emission Point 4)</b></p>		
<p>1. Proper Operation</p>		
<p>i. Emission Standard None.</p> <p>ii. Emission Limitation None.</p> <p>iii. Operational Standard The Decomposition Furnace's startup stack shall not be a source of emissions except during periods of plant startup. <i>[Reference APC-2003/0739 Cond No. 3.1.4]</i></p> <p>iv. Operational Limitation None.</p>	<p>v. Compliance Method Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i></p> <p>vi. Monitoring Plant personnel shall continuously monitor the Decomposition Furnace startup stack closure to ensure it remains under vacuum. <i>[Reference APC-2003/0739 Cond No. 4.8]</i></p> <p>vii. Testing</p>	<p>x. Reporting: That required by Condition 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p> <p>xi. Certification: That required by Condition 3(c)(3) of this permit. <i>[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p>

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	<p>None.</p> <p>viii Quality Assurance/Quality Control None.</p> <p>ix Record keeping The Company shall maintain records of periods when emissions are vented through the startup stack. <i>[Reference 7 DE Admin. Code 1130 Section 6.1.2.3 dated 12/11/2000]</i></p>	
<p><b>e. Fresh Acid Storage Tanks (Emission Point 5 – Tank 3; Emission Point 6 – Tank 4)</b></p>		
<p>There are no applicable requirement for Tanks 3 and 4.</p>		
<p><b>f. Plantwide Emissions CAP – Issued August 16, 2011</b></p>		
<p>1. CAP</p>		
<p>i. Emission Standard None.</p> <p>ii. Emission Limitations A. Nitrogen Oxides NO<sub>x</sub> emission levels from all emission units at the facility, in total, shall not exceed 22.0 TPY on twelve-month rolling basis. <i>[Reference APC-2003/0739 Condition 10.1.1]</i> B. For the purpose of this CAP and its provisions, a source is defined as all operations at the facility emitting NO<sub>x</sub>. <i>[Reference 40 CFR Part 52.21(aa) dated 7/1/2013, 7 DE Admin. Code 1112 Section 2.0 Definition "Stationary Source" dated 11/24/93]</i></p>	<p>v. Compliance Method Compliance shall be demonstrated by maintenance records, compliance with permit conditions and adherence to operating instructions/manuals. <i>[Reference 7 DE Admin Code 1130 Section 6.1.3 dated 12/11/00]</i></p> <p>vi. Monitoring None.</p> <p>vii. Testing A. The owner or operator shall employ the following calculation methods to demonstrate compliance with the CAP limits: 1. The Department shall determine the need for unit specific emission factors</p>	<p>x. Reporting In addition to that required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference: 7 DE Admin Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/00]</i> A. The owner and/or operator shall immediately notify the Department of discovery of any exceedance of the CAP and shall submit to the Department within thirty days of discovery a report that identifies the following: 1. The cause of the exceedance; 2. The actions that the owner and/or operator shall take to correct the violation; and</p>

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<p><i>and 7 DE Admin. Code 1130 Section 6.1.1 dated 12/11/00]</i></p> <p>C. The CAP emission limitation in Condition 3 – Table 1(f)(1)(ii)(A) shall be evaluated at the end of each month during the first eleven months after the effective date of this CAP permit. Emissions shall be totaled from the effective date of the CAP until the end of the current month and compared to the twelve month rolling limit in Condition 3 – Table 1(f)(1)(ii)(A). If the CAP limits are exceeded during these initial eleven months, the CAP has been violated. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.1 dated 12/11/00]</i></p> <p>iii. Operational Standard None.</p> <p>iv. Operational Limitation A. If the CAP identified in this permit is exceeded, the facility is in violation of 7 DE Admin. Code 1125. <i>[Reference 7 DE Admin. Code 1125 Section 1.8 dated 12/11/2010]</i> B. The CAP provisions of this permit may be reopened to: 1. Reduce a CAP for any pollutant to create emission reductions for offset purposes;</p>	<p>for any new emission unit constructed after issuance of this permit or for any modification to an existing emission unit that will be covered under the CAP. Unit specific emission factor requirements for any new emitting unit or for any modification to an existing emission unit will be covered in the new unit's construction permit and will be incorporated into <b>Permit: AQM-003/00673</b> or any renewal or revision thereof.</p> <p>2. Mass Balance Calculations a. For emission units with available stack test data, emissions shall be calculated based upon fuel consumption and emission rates derived from the most recent stack test; b. For emission units without available stack test data, emissions factors from AP-42 may be used.</p> <p>3. Continuous Emissions Monitors (CEMs) a. CEMs shall comply with applicable Performance Specifications found in 40 CFR Part 60, Appendix B (July 5, 2005, herein adopted by reference). b. CEMs shall sample, analyze, and record data every fifteen minutes while the emission unit is operating. At a minimum, the CEMs shall</p>	<p>3. An enforcement schedule to correct the violation. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.3.3.4 dated 12/11/00]</i></p> <p>B. The owner and/or operator shall submit semi-annual monitoring reports and prompt deviation reports to the Department in accordance with the requirements of <b>7 DE Admin. Code 1130</b>. The reports shall include, but not be limited to, semi-annual reports, deviation reports, and revalidation results of any revalidation test or method conducted during this period. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.3.1 dated 12/11/00, Section 6.1.3.3.2 dated 12/11/00, and Section 6.1.3.2 dated 12/11/00]</i></p> <p>C. The owner and/or operator shall submit the following information within thirty days of receiving such a request from the Department: 1. Plantwide emissions in tons for the previous rolling twelve month period; and/or 2. Any pre-approved changes made pursuant to Condition 3 – Table 1(f)(1)(iv)(E). <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.7.5 dated 12/11/00]</i></p> <p>D. The owner and/or operator shall submit the following information with each Semi-Annual Report submitted pursuant to Condition 3(c)(2)(i) of <b>Permit:</b></p>

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<p>2. Reduce a CAP for any pollutant to reflect newly applicable Federal and State requirements with compliance dates after the CAP effective date; or</p> <p>3. Reduce a CAP for any pollutant consistent with any other requirement that may be imposed under the State Implementation Plan (SIP).</p> <p>4. Any downward adjustment that is required under Condition 3 – Table 1(f)(1)(iv)(B)(2) or (3) will be based upon the contribution of the affected source(s) to actual emissions at the time the rule goes into effect. <i>[Reference 7 DE Admin. Code 1130 Section 7.6 dated 12/11/2000]</i></p> <p>C. The owner and/or operator shall not construct new stationary sources, modify existing stationary sources, or operate existing stationary sources such that the CAP is exceeded. The owner and/or operator shall comply with 7 DE Admin. Code 1125, "Preconstruction Review", for any proposed activity that necessitates and increase in any CAP in accordance with the following provision:</p> <p>1. The owner and/or operator shall demonstrate that significant and</p>	<p>capture 90% of the operating data each quarter.</p> <p>4. Emissions calculations to demonstrate compliance with the CAP shall include emissions from startups, shutdowns, and malfunctions.</p> <p><i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.3 dated 12/11/00, 7 DE Admin. Code 1102 Section 11.9 dated 6/11/06, 7 DE Admin. Code 1117 Section 4.1 dated 7/17/84, and 40 CFR 52.21(aa)(7) dated 6/3/2010]</i></p> <p>B. The owner or operator shall conduct performance test(s) and furnish the Department with a written report of the results of such performance test(s) in accordance with the following general provisions:</p> <p>1. One (1) original and two (2) copies of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the address below. The tests shall be conducted in accordance with the State of Delaware and Federal Requirements. <i>[Reference: 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]</i></p> <p>2. The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Department will notify the owner or operator and the Company shall schedule a test date with the Engineering &amp; Compliance Branch.</p>	<p><b>AQM-003/00673</b> and any Renewals or Revisions of the permit:</p> <p>1. Rolling twelve month total Plantwide CAP emissions in tons for each month covered by the report including fugitive emissions, to the extent quantifiable, from all emission units; and/or</p> <p>a. The owner and/or operator shall record and report maximum potential emissions without considering enforceable emission limitations or operational restrictions for each emission unit during any period of time where there is no monitoring data unless another method for determining emissions during such period is specified in the permit.</p> <p>2. A list of any emissions units modified or added to the major stationary source during the preceding six month period including any pre-approved changes made pursuant to Condition 3 – Table 1(f)(1)(iv)(E) of this permit;</p> <p>3. The number, duration, and cause of any deviation or monitoring malfunction; and</p> <p>4. The number, duration, and cause of any shutdown of any monitoring</p>

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>major emission units at the facility meet Best Available Control Technology (BACT), equivalent BACT, or an equivalent level of control for each pollutant that an increase is being requested for:</p> <ol style="list-style-type: none"> <li>a. The demonstrations shall be in the form of a BACT analysis unless the emissions unit is currently subject to a current (i.e., within the past ten years) BACT or Lowest Achievable Control Technology (LAER) requirement;</li> <li>b. The owner and/or operator shall demonstrate to the Department's satisfaction that is not economically feasible to reduce emissions of CAP pollutants by further controlling emission units at the facility.</li> </ol> <ol style="list-style-type: none"> <li>2. A new emissions unit that necessitates an increase in any CAP shall be treated as a new major source and shall comply with <b>7 DE Admin. Code 1125</b>.</li> <li>3. The air quality impacts analysis as shown in 40 CFR 51.166(m) (July 1, 2005 edition) shall demonstrate that the increase will not cause or contribute to a National Ambient Air Quality Standard (NAAQS) or</li> </ol>	<p>The Department must observe the test for the results to be considered for acceptance. <i>[Reference: 7 DE Admin. Code 1102 Section 11.7 dated 6/1/97]</i></p> <ol style="list-style-type: none"> <li>3. The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original and one (1) copy of the test report shall be submitted to the addresses below: <i>[Reference: 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]</i>  <u>One (1) Original to:</u>            Division of Air Quality            Engineering &amp; Compliance Branch            Attn: Permitting Engineer            State Street Commons            100 W. Water Street, Suite 6A            Dover, DE 19904   <u>One (1) Copy to:</u>            Engineering &amp; Compliance Branch            Attn: Surveillance Engineer            715 Grantham Lane            New Castle, DE 19720</li> <li>4. The final report of the results must meet the following requirements to be considered valid:             <ol style="list-style-type: none"> <li>a. The full report shall include the emissions test report (including raw data from the test) as well as a summary of the results and statement of compliance or non-</li> </ol> </li> </ol>	<p>system and calculation of emissions during the shutdown.  <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.7.5 dated 12/11/00]</i></p> <ol style="list-style-type: none"> <li>E. The owner and/or operator shall submit the list of pre-approved changes made pursuant to Condition 3 – Table 1(f)(1)(iv)(E) of this permit with each annual compliance certification.  <i>[Reference: 7 DE Admin. Code 1130 Section 6.3.5.6 dated 12/11/00]</i></li> </ol> <p>xi. Certification      That required by Condition 3(c)(3) of this permit. <i>[Reference: 7 DE Admin Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/00]</i></p>

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>Prevention of Significant Deterioration (PSD) increment exceedance.</p> <p>4. Revisions to the CAP shall be incorporated into the facility's Title V Permit in accordance with the provisions of <b>7 DE Admin. Code 1102 Section 12.4</b> and <b>7 DE Admin. Code 1130 Section 7.4</b>.</p> <p>5. The increased CAP levels shall be effective upon the date of incorporation into the facility's Title V Permit.</p> <p><i>[Reference 7 DE Admin. Code 1102 Section 12.4 dated 6/11/2006 and 7 DE Admin. Code 1130 Section 7.4 dated 12/11/2000]</i></p> <p>D. Provisions of <b>7 DE Admin. Code 1125 Section 1 through 3</b> shall not apply to emission units that are proposed modifications with increases in associated CAP limited emissions or to proposed new emission units so long as the CAP in Condition (ii) above are not exceeded. Except for the pre-approved changes described in Condition E below, <b>7 DE Admin. Code 1125 Section 4</b>, "Minor New Source Reviews", shall continue to apply to emission units that are proposed modifications with increases in associated CAP emissions or to proposed new emission units. A</p>	<p>compliance with permit conditions; <i>[Reference: 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]</i></p> <p>b. <u>Summary of Results and Statement of Compliance or Non-Compliance</u>          The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information:</p> <p>i. A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings. <i>[Reference: 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]</i></p> <p>ii. Permit number(s) and condition(s) which are the basis for the compliance evaluation. <i>[Reference: 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]</i></p> <p>iii. Summary of results with respect to each permit condition. <i>[Reference: 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]</i></p> <p>iv. Statement of compliance or non-compliance with each permit condition. <i>[Reference: 7 DE Admin. Code 1117 Section 2.6 dated 7/17/84]</i></p> <p>c. The Test Report shall be certified by a Responsible Official as to truth, accuracy, and completeness as required by Condition 3(c)(3) of this permit. <i>[Reference: 7 DE Admin. Code</i></p>	

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>complete application meeting all of the requirements of 7 DE Admin. Code 1125 Section 4 and 7 DE Admin. Code 1102 shall be submitted with sufficient information for public notice. The owner and/or operator shall specifically follow the requirements of 7 DE Admin. Code 1102 Section 12.4 and 7 DE Admin. Code 1125 Section 4 in order for the terms and conditions of the construction permit to be transferred into the 7 DE Admin. Code 1130 permit via the administrative amendment process specified in 7 DE Admin. Code 1130 Section 7.4. <i>[Reference 7 DE Admin. Code 1125 Section 4.0 dated 8/11/2005, 7 DE Admin. Code 1102 Section 11.0 dated 6/11/2006, and Section 12.4 dated 6/11/2006, and 7 DE Admin. Code 1130 Section 7.4 dated 12/11/2000]</i></p> <p>E. The following Pre-Approved Changes shall be treated as alternate operating scenarios. The owner and/or operator is approved to make the changes listed under Conditions 3 – Table 1(f)(1)(iv)(E)(1) and (2) of this permit so long as the CAP is not exceeded and the activity will not result in a newly constructed or reconstructed major source of hazardous air pollutants as defined in and subject to 40 CFR Part 63.2 and Part 63.5(b)(3), National Emission Standards for</p>	<p><i>1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 12/11/00]</i></p> <p>5. The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action. <i>[Reference: 7 DE Admin. Code 1102 Section 11.3 dated 6/11/06]</i></p> <p>C. Upon written request of the Department, the owner or operator shall, at the Company's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records and submit reports to the Department on the result of such sampling. <i>[Reference: 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]</i></p> <p>ix. Record Keeping</p> <p>A. The Company shall maintain, at a minimum, all of the information required by this permit for a minimum of five (5) years from such information's date of record. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/00]</i></p> <p>B. Records of all test data shall be maintained. This data includes, but may not be limited to:</p>	



<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>Hazardous Air Pollutants. The owner and/or operator shall comply with all certification, monitoring, testing, recordkeeping, and reporting requirements listed in this permit for the following pre-approved changes. any change that is subject to a new applicable requirement that is not listed in this permit shall prior to implementation comply with the permit revision procedures of this permit so long as to incorporate the new requirement into the permit.</p> <p>1. Conventional Pre-Approved Changes:</p> <p>a. The emission unit is replaced in kind or replaced with a unit with inherently lower emissions;</p> <p>b. Operational changes which will not increase any short term emission limit established in <b>Permit: <u>AQM-003/00673</u></b> or any renewals or revisions thereof; and</p> <p>c. Any of the exemptions listed in <b>7 DE Admin. Code 1102 Appendix A.</b></p> <p>2. CAP Pre-Approved Changes: In-kind replacement of an emission unit or replacement with an inherently lower emitting unit.</p>	<ol style="list-style-type: none"> <li>1. The date, place and time of sampling measurements;</li> <li>2. The date(s) analyses were performed;</li> <li>3. The Company or entity that performed the analyses;</li> <li>4. The analytical techniques or methods used;</li> <li>5. The results of such analyses; and</li> <li>6. The operating conditions existing at the time of sampling or measurement. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2 dated 12/11/00]</i></li> </ol> <p>C. Compliance with the CAP shall be calculated and recorded within thirty calendar days of the end of each month based upon the previous twelve month rolling period. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2 dated 12/11/00]</i></p> <p>D. The owner and/or operator shall maintain adequate records of all changes made at the facility under Conditions 3 – Table 1(f)(1)(iv)(C) through (G) to ensure the proper record keeping and reporting of emissions. Calculations based upon material balances, emissions factors, and test data used to ensure and demonstrate that the CAP is not exceeded shall reflect such changes. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/00]</i></p> <p>E. The owner and/or operator shall maintain each annual certification of compliance required by <b>Permit: <u>AQM-003/00673</u></b> and any renewal or revision thereof and</p>	

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<p><b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b></p>	<p><b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b></p>	<p><b>Reporting and Compliance Certification</b></p>
<p><i>[Reference 7 DE Admin. Code 1130 Section 6.8 dated 12/11/2000]</i></p> <p>F. Any activity that will result in a newly constructed or reconstructed major source of hazardous air pollutants (HAPs) as defined in and subject to 40 CFR Part 63.2 and 63.5(b)(3), National Emission Standards for Hazardous Air Pollutants, shall submit a registration in accordance with Section 9 of 7 <b>DE Admin. Code 1102</b> or a permit application in accordance with Section 11 of 7 <b>DE Admin. Code 1102</b> and receive approval from the Department prior to initiating the change. <i>[Reference 7 DE Admin. Code 1102 Section 9.0 dated 6/1/1997 and Section 11.0 dated 6/11/2006]</i></p> <p>G. Any activity initiated under Condition 3 – Table 1(f)(1)(iv)(E) that involves the installation of new emission units as part of the source defined in Condition 3 – Table 1(f)(1)(ii)(A) shall submit:</p> <ol style="list-style-type: none"> <li>1. A registration in accordance with Section 9 of 7 <b>DE Admin. Code 1102</b>; or</li> <li>2. A permit application in accordance with Section 11 of 7 DE Admin. Code 1102 and the following provisions:             <ol style="list-style-type: none"> <li>a. The new emission units, as applicable, shall comply with 7 <b>DE Admin. Code 1125</b> Section 4;</li> </ol> </li> </ol>	<p>Condition 3(c)(3) as well as the data relied upon in certifying the compliance. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/00 and 40 C FR 52, Section 52.21(aa)(13)(b) dated 7/1/10]</i></p> <p>F. The owner and/or operator shall maintain a copy of the most current Coastal Zone Permit on-site for applicable processes for the duration of operation. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.3 dated 12/11/00]</i></p>	

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<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>b. Any air pollution control technology requirements that result from the application of 7 <b>DE Admin. Code</b> 1125 Section 4 shall be reflected in the operating permit;</p> <p>c. No additional unit specific CAP pollutants emission rate requirements will be added to the CAP permit so long as the CAP limits are not exceeded; and</p> <p>d. Forty-five days following the public notice, unless the Department objects or issues supplemental conditions, the project will be automatically approved. Should a public hearing be requested, the automatic approval process will cease.</p> <p><i>[Reference 7 DE Admin. Code 1102 Section 9.0 dated 6/1/1997 and Section 11.0 dated 6/1/2006 and 7 DE Admin. Code 1125 Section 4.0 dated 8/11/2005]</i></p> <p>H. The owner and/or operator shall comply with all certification, recordkeeping, and reporting requirements listed in this permit for pre-approved changes. <i>[Reference 7 DE Admin. Code 1130 Section 6.1 dated 12/11/2000]</i></p> <p>I. The CAP shall continuously remain in effect.</p>		

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<ol style="list-style-type: none"> <li>1. Compliance with the CAP limitation in this permit shall constitute compliance with Sections 2 and 3 of 7 <b>DE Admin. Code</b> 1125 with respect to these pollutants;</li> <li>2. If the potential to emit a CAP limited pollutant from all stationary sources at the facility subject to the CAP is less than the limitations set in the CAP, the Department shall adjust the limitations in the CAP, as applicable, to a level no greater than the potential to emit.</li> <li>3. The Department shall not approve a renewed CAP limitation at a limit higher than that given in Condition 3 – Table 1(f)(1)(ii)(A) unless the owner and/or operator has complied with the requirements given in Condition 3 – Table 1(f)(1)(iv)(C) of this permit.</li> <li>4. If the Department has not already lowered the CAP limitations as necessary based upon the requirements of Condition 3 – Table 1(f)(1)(iv)(B), the CAP limitations shall be lowered at the time of permit renewal.</li> </ol> <p><i>[Reference 7 DE Admin. Code 1130 Section 6.1.2.1 dated 12/11/2000 and Section 7.3.1 dated 12/11/2000 and 40 CFR 52.21(aa)(7) dated 6/3/2010]</i></p>		

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
<b>g. Facility Wide Requirements</b>		
1. Facility Wide Emission Standards, Emission Limitations, and Operational Standards		
<p>i. Emission Standard            The Company shall not cause or allow the emission of particulate matter in excess of 0.3 pound per million Btu heat input, maximum 2-hour average, from any fuel burning equipment. [Reference APC-2003/0739 Cond No. 2.1.5.1]</p> <p>ii. Emission Limitations</p> <p>A. SO<sub>2</sub> emissions from the plant, excluding Emission Point #1 (main stack) shall not exceed 3.3 tons per rolling 12 month period. [Reference APC-2003/0739 Cond. No. 2.1.3.3]</p> <p>B. Fugitive acid mist emissions shall not exceed 1.5 tons per rolling 12 month period. [Reference APC-2003/0739 Cond No. 2.1.4.3]</p> <p>C. NO<sub>x</sub> emissions from the facility shall not exceed 22.0 tons per rolling 12 month period. [Reference APC-2003/0739 Cond No. 10.1.1]</p> <p>D. CO emissions from the facility shall not exceed 12 tons per rolling 12 month period. [Reference APC-2003/0739 Cond No. 2.1.6.2]</p> <p>E. PM<sub>10</sub> emissions, excluding H<sub>2</sub>SO<sub>4</sub>, shall not exceed 4.3 tons per rolling 12 month period. [Reference APC-2003/0739 Cond. No. 2.1.5.2]</p>	<p>v. Compliance Method            Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. [Reference: 7 DE Admin. Code 1130 Section 6.1.7.3 dated 12/11/00]</p> <p>vi. Monitoring            None.</p> <p>vii. Testing            None.</p> <p>viii. Quality Assurance/Quality Control            None.</p> <p>ix. Record keeping</p> <p>A. The Company shall maintain, at a minimum, all of the information required by this permit for a minimum of five (5) years from such information's date of record. [Reference APC-2003/0739 Cond. No. 5.1 and 7 DE Admin. Code 1130 Section 6.1.3.2.2 dated 12/11/2000]</p> <p>B. Records of all test data shall be maintained. This data includes, but is not limited to:</p> <p>1. The date, place, and time of sampling measurements;</p>	<p>x. Reporting            That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p> <p>xi. Certification:            That required by Condition 3(c)(3) of this permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p>

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>F. VOC emissions shall not exceed 5.5 pounds per million standard cubic feet of gas combusted and 2.0 tons per rolling 12 month period. <i>[Reference APC-2003/0739 Cond. No. 2.1.1]</i></p> <p>iii. Operational Standard None.</p> <p>iv. Operational Limitation None.</p>	<ol style="list-style-type: none"> <li>2. The date(s) analyses were performed;</li> <li>3. The Company or entity that performed the analyses;</li> <li>4. The analytical techniques or methods used;</li> <li>5. The results of such analyses; and</li> <li>6. The operating conditions existing at the time of sampling or measurement. <i>[Reference 7 DE Admin. Code 1130 Section 6.1.3.2 dated 12/11/2000]</i></li> </ol> <p>C. The following information shall be recorded and maintained in a log (hard copy or electronic) each day:</p> <ol style="list-style-type: none"> <li>1. The daily amount of sulfuric acid produced and the amount of SO<sub>2</sub> emissions using the equation in Condition 3 – Table 1(a)(1)(iv) or the conversion factor in Condition 3 – Table 1(a)(1)(vi)(C).</li> <li>2. All hourly average of SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions in lbs/ton of acid produced.</li> <li>3. Results of daily calibrations, quarterly cylinder has audits and annual RATAs of the CEMs.</li> <li>4. Results of the monthly qualitative opacity monitoring indicating the presence or absence of visible emissions, whether any opacity observed exceeded the standard, and corrective action taken (if necessary).</li> <li>5. The differential pressure across each mist eliminator.</li> </ol>	

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
	<p>6. The SO<sub>2</sub> scrubber's monitored operating parameters.</p> <p>D. The rolling 12 month total emissions shall be calculated and recorded each month in a log for nitrogen oxides, sulfur dioxide, and sulfur mist emissions. <i>[Reference APC-2003/0739 Cond. No. 5.4]</i></p> <p>E. The Company shall record all conversion factors and values under Condition 3 – Table 1(a)(1)(vi)(C) from which they were computed (i.e., CF, r, and s). <i>[Reference APC-2003/0739 Cond. No. 5.5]</i></p> <p>F. The Company shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the plant, and any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. <i>[Reference APC-2003/0739 Cond. No. 5.6]</i></p> <p>G. The Company shall maintain records indicating the source of the molten sulfur. If the source of the molten sulfur is other than the Delaware City Refinery, the Company shall maintain records indicating this as well as its elevation of H<sub>2</sub>S content. <i>[Reference APC-2003/0739 Cond. No. 5.7]</i></p> <p>H. Records of emission totals for each 12 month period shall be kept. <i>[Reference: 7 DE Admin. Code 1130 Section 6.1.2.3 dated 12/11/2000]</i></p>	
<p>2. Visible Emissions</p> <p>i. Emission Standard</p>	<p>v. Compliance Method</p>	<p>x. Reporting</p>

<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>Except for the Emission Point #1 (main stack), no person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty percent (20%) opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. <i>[Reference 7 DE Admin. Code 1114 Section 2.1 dated 7/17/84]</i></p> <p>ii. Emission Limitation None.</p> <p>iii. Operational Standard: None</p> <p>iv. Operational Limitations: None.</p>	<p>Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i></p> <p>vi. Monitoring</p> <p>A. The Company shall conduct monthly qualitative stack observations to determine the presence of any visible emissions when the unit is in operation. <i>[Reference APC-2003/0739 Cond. No. 4.7.1]</i></p> <p>B. If visible emissions are observed, the Company shall determine if they are below the emission standard in Condition 3 – Table 1(g)(2)(i). If they are below the source’s respective standard, no further action is required. <i>[Reference APC-2003/0739 Cond. No. 4.7.2]</i></p> <p>C. If observed visible emissions are greater than the standard, the Company shall take corrective actions and conduct a visible emission evaluation. <i>[Reference APC-2003/0739 Cond. No. 4.7.3]</i></p> <p>D. Plant personnel conducting the qualitative stack observations must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water</p>	<p>That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p> <p>xi. Certification: That required by Condition 3(c)(3) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p>



<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
	<p>vapor (condensing water vapor). This training can be obtained from the lecture portion of the EPA Reference Method 9 certification course. <i>[Reference APC-2003/0739 Cond. No. 4.7.4]</i></p> <p>E. The opacity of the main plant stack shall be determined semiannually in accordance with subsection 1.5(c) of Regulation No. 1120, conduct visual observations at fifteen-second intervals for a period of not less than one hour except that the observations may be discontinued whenever a violation of the standard is recorded. The additional procedures, qualification and testing to be used for visually determining the opacity shall be those specified in Section 2 &amp; 3 (except for Section 2.5 and the second sentence of Section 2.4) of Reference Method 9 set forth in Appendix A, 40 CFR, Part 60, July 2005 edition. <i>[Reference APC-2003/0739 Cond. No. 4.7.5]</i></p> <p>vii. Testing None.</p> <p>viii. Quality Assurance/Quality Control None.</p> <p>ix. Record keeping: The Company shall keep records of the results of the daily qualitative opacity</p>	

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Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	monitoring indicating the presence or absence of visible emissions, whether any opacity observed exceeded the standard, and corrective action taken (if necessary). <i>[Reference APC-2003/0739 Cond. No. 5.3.5]</i>	
<b>3. Process Safety Management</b>		
<p>i. Emissions Standard None.</p> <p>ii. Emissions Limitation None.</p> <p>iii. Operational Standards                      A. The Red Lion facility is subject to all applicable process safety regulations and standards. This includes the Accidental Release Prevention regulations, the Above Ground Storage Tank regulations, and the Occupational Health and Safety Administration's (OSHA) Process Safety Management (PSM) standards administered by the Federal Department of Labor. <i>[Reference APC-2003/0739 Cond. No. 8.1]</i>                      B. In addition, as required by a special condition of Coastal Zone Permit No. 406, the owner or operator shall prepare a detailed PSM program following final design of the project which outlines the procedures to be followed to mitigate any impacts of</p>	<p>v. Compliance Method                      Compliance with this emission standard and these operation limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. <i>[Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</i></p> <p>vi. Monitoring None.</p> <p>vii. Testing None.</p> <p>viii. Quality Assurance/Quality Control None.</p> <p>ix. Record Keeping                      The Company shall maintain a copy of the PSM program on site. <i>[Reference 7 DE Admin. Code 1130 Section 6.1.3.2.3 dated 12/11/2000]</i></p>	<p>x. Reporting                      That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. <i>[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p> <p>xi. Certification                      That required by Condition 3(c)(3) of this permit. <i>[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p>

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
<p>mechanical malfunction or human error. [Reference APC-2003/0739 Cond. No. 8.2]</p> <p>C. The Department may inspect and enforce the requirements of Section 5 Subpart D Program Prevention Program of the Accidental Release Prevention (ARP) Regulations for the sulfuric acid regeneration plant process not covered by the ARP Regulations or the Above Ground Storage Regulations. This includes, but is not limited to sulfuric acid regeneration, gas cooling and drying, heat exchangers, adsorption towers, all connected piping, fresh and spent acid storage tanks, and adjunct equipment.            [Reference APC-2003/0739 Cond. No. 8.3]</p> <p>iv. Operational Limitation            None.</p>		
<p>4. Operations/Maintenance</p> <p>i. Emission Standard            None.</p> <p>ii. Emission Limitation            None.</p> <p>iii. Operational Standards            A. At all times, including periods of startup, shutdown, and malfunction,</p>	<p>v. Compliance Method            Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [Reference APC-2003/0739 Cond. No. 3.2]</p>	<p>x. Reporting            That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p> <p>xi. Certification</p>

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**Veolia North America**

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<b>Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards</b>	<b>Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)</b>	<b>Reporting and Compliance Certification</b>
<p>the owner or operator shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. <i>[Reference 7 DE Admin. Code 1101 Section 3 dated 11/11/2013 and 7 DE Admin. Code 1102 Section 11.6 dated 6/1/2006]</i></p> <p>B. All structural and mechanical components of the equipment or process covered by this Permit shall be maintained in proper operating condition. <i>[Reference APC-2003/0739 Cond. No. 3.3]</i></p> <p>iv. Operational Limitation None.</p>	<p>vi. Monitoring None.</p> <p>vii. Testing None.</p> <p>viii. Quality Assurance/Quality Control None.</p> <p>ix. Recordkeeping Records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the plant, and any malfunction of the air pollution equipment. <i>[Reference 7 DE Admin. Code 1120 Section 1.2.2 dated 12/7/1988]</i></p>	<p>That required by Condition 3(c)(3) of this permit. <i>[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</i></p>
<p>5. Odors – State Enforceable Only</p>	<p>v. Compliance Method Compliance with this emission standard and these operation limitations will be</p>	<p>x. Reporting That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this</p>
<p>i. Emission Standard Odors from this source shall not be detectable beyond the plant property</p>		

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
<p>line in sufficient quantities such as to cause a condition of air pollution. [Reference APC-2003/0739 Cond. No. 2.3 and 7 DE Admin. Code 1119 Section 2.1 dated 2/1/1981]</p> <p>ii. Emission Limitation None.</p> <p>iii. Operational Standard None.</p> <p>iv. Operational Limitation None.</p>	<p>demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. [Reference 7 DE Admin. Code 1130 Section 6.3.1 dated 12/11/2000]</p> <p>vi. Monitoring/Testing Methods for determining a condition of air pollution due to an odorous air contaminant may include, but are not limited to, scentometer tests, air quality monitoring, and affidavits from affected citizens and investigators. [Reference 7 DE Admin. Code 1119 Section 2.1 dated 2/1/1981]</p> <p>vii. Testing None.</p> <p>viii. Quality Assurance/Quality Control None.</p> <p>ix. Recordkeeping That required by Conditions 3(b)(1)(ii) and 3(b)(2) of this permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p>	<p>permit. [Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p> <p>xi. Certification That required by Condition 3(c)(3) of this permit. [Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 12/11/2000]</p>

**Condition 4- Operational Flexibility**

- a. In addition to the operational flexibility specifically provided in the terms and conditions detailed in Condition 3 – Table 1 of this permit, the Owner and/or Operator is authorized to make any changes within the facility which contravenes the terms and conditions of this permit without a permit revision if the change:
  - 1. Is not a modification or otherwise prohibited under any provision of Title I of the Act or the State Implementation Plan (SIP); and *[Reference: 7 DE Admin. Code 1130 Section 6.8 dated 12/11/00]*
  - 2. Does not involve a change in any compliance schedule date; and *[Reference: 7 DE Admin. Code 1130 Section 6.8 dated 12/11/00]*
  - 3. Does not result in a level of emissions exceeding the emissions allowable under this permit, whether expressed herein as a rate of emissions or in terms of total emissions. *[Reference: 7 DE Admin. Code 1130 Section 6.8 dated 12/11/00]*
- b. Before making a change under the provisions of Condition 4(a) of this permit, the Owner and/or Operator shall provide advance written notice to the Department and to the EPA in accordance with Condition 3(c)(2)(iii) of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.8.1 dated 12/11/00]*
- c. The Owner and/or Operator shall keep records of any changes made under Condition 4 of this permit in accordance with Condition 3(b)(2)(iv) of this permit. *[Reference: 7 DE Admin. Code 1130 Section 6.8.1 dated 12/11/00]*

**Condition 5- Compliance Schedule**

This permit does not contain a compliance schedule. *[Reference: 7 DE Admin. Code 1130 Section 6.3.3 dated 12/11/00]*

**Condition 6. Permit Shield.**

This permit does not provide a permit shield and shall not be presumed to provide such a shield. *[Reference: 7 DE Admin. Code 1130 Section 6.6.3 dated 12/11/00]*

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pc: Dover Title V File

**Attachment "A"- Revision History**

<b>Date</b>	<b>Number</b>	<b>Revision Type</b>	<b>Description</b>	<b>Pages Revised</b>
08/14/2009	---	---	Initial Title V operating permit	--
03/31/2010	Revision 1	Administrative Amendment	Change responsible official from Judith DelTosto to Kelly Kober	1
07/22/2010	Revision 2	Administrative Amendment	Change AQM Dover mail address to BHCC	
02/28/2011	Revision 3	Administrative Amendment	Change responsible official from Kelly Kober to Dina Calvillo	1
06/17/2013	Revision 4	Administrative Amendment	Change Responsible Official from Dina Calvillo to W. James Harman	1
06/3/2019	Renewal 1	Permit Renewal	Permit Renewal	All

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pc: Dover (Title V) File



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
& ENVIRONMENTAL CONTROL  
DIVISION OF AIR QUALITY  
State Street Commons  
100 W. Water Street, Suite 6A  
DOVER, DELAWARE 19904

Telephone: (302) 739 - 9402  
Fax No.: (302) 739 - 3106

June 3, 2019

**Permit: APC-2003/0739-OPERATION (Amendment 3)(NSPS)(CAP)**

Veolia Red Lion Plant  
766 Governor Lea Road  
New Castle, DE 19706

ATTENTION: Daniel Frattarelli  
Plant Manager

Dear Mr. Frattarelli:

Pursuant to 7 **DE Admin. Code** 1102 Section 2 and Section 11, approval by the Department of Natural Resources and Environmental Control is hereby granted for the operation of one (1) sulfuric acid regeneration plant, one (1) process pre-heater rated at 30 MMTU/hr, one (1) sulfur dioxide scrubber and vapor combustion unit, one (1) decomposition furnace startup stack, and two (2) fresh acid storage tanks located at 766 Governor Lea Road in New Castle, Delaware, in accordance with the applications submitted on Form Nos. AQM-2 and AQM-4 dated January 3, 2002 signed by Tyrone G. Chichester, SHE Resource, email from Tyrone G. Chichester on May 19, 2003 with a revised AQM-4 application form and detailed calculations for fugitive emissions, additional information submitted by Tyrone G. Chichester received on June 30, July 17, and July 28, 2003, letter from Tyrone G. Chichester dated October 10, 2003 with information on the fourth sulfuric acid (93%) storage tank, a letter from Maureen Miller dated December 15, 2005, amendment application forms AQM-3.1 and AQM-5 dated October 24, 2007 from John M. Jefferies, application submitted on Form Nos. AQM-1, AQM-2, AQM-3.1, AQM-4.4, AQM-5, and AQM-6 dated December 18, 2010 signed by Dina Calvillo, Plant Manager and a Title V Renewal Permit Application submitted on January 24, 2014.

This permit is issued subject to the following conditions, all of which are federally enforceable except Condition 6.1.2 and 2.3:

**1. General Provisions**

- 1.1. Upon presentation of identification the owner and/or operator shall authorize officials of the Department to perform the following:
  - 1.1.1. Enter upon the owner and/or operator's premises where a source is located or an emissions-related activity is conducted, or where records that must be kept under the terms and conditions of this permit are located.

*Delaware's good nature depends on you!*



**Permit: APC-2003/0739-OPERATION (Amendment 3)(NSPS)(CAP)**

**Veolia Red Lion Plant**

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- 1.1.2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit.
- 1.1.3. Inspect, at reasonable times and using reasonable safety practices, any facility, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit.
- 1.1.4. Sample or monitor, at reasonable times, any substance or parameter for the purpose of assuring compliance with this permit or any applicable requirement.
- 1.2. This permit may not be transferred to another location or to another piece of equipment or process.
- 1.3. This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. A request for a permit transfer shall be received by the Department at least thirty (30) days before the date of the requested permit transfer. This request shall include:
  - 1.3.1. Signed letters for each person stating the permit transfer is agreeable to each person; and
  - 1.3.2. An Applicant Background Information Questionnaire pursuant to 7 Del C, Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.

Approval (or disapproval) of the permit transfer will be provided by the Department in writing.
- 1.4. The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to **7 DE Admin. Code 1102**, and, when applicable, **7 DE Admin. Code 1125**, and receiving approval of such application from the Department; except as exempted in **7 DE Admin. Code 1102**, Section 2.2.

**2. Emission Limitations**

- 2.1. Air contaminant emission levels shall not exceed those specified in **7 DE Admin. Code 1100** and the following:
  - 2.1.1. Volatile Organic Compound (VOC) Emissions  
VOC emissions shall not exceed 5.5 pounds per million standard cubic feet of gas combusted and 2.0 tons per rolling 12 month period;
  - 2.1.2. Nitrogen Oxide (NO<sub>x</sub>) Emissions
    - 2.1.2.1. NO<sub>x</sub> emissions from the Process Air Pre-heater shall not exceed an average of 0.04 pound per million BTU heat input;
    - 2.1.2.2. NO<sub>x</sub> emissions from the Main Plant Stack shall not exceed 6.3 pounds per hour on a 3-hour rolling average basis; and

2.1.2.3. NO<sub>x</sub> emissions from the facility shall not exceed 22.0 tons per twelve (12) month rolling basis.

2.1.3. Sulfur Dioxide (SO<sub>2</sub>) Emissions

2.1.3.1. The Company shall not cause to be discharged into the atmosphere any gas which contains SO<sub>2</sub> in excess of 1.35 pound per ton of acid produced on a 3-hour rolling average basis, the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub> except as specified in 2.1.3.4;

2.1.3.2. SO<sub>2</sub> emissions from the main plant stack shall not exceed 92.25 tons per rolling 12 month period;

2.1.3.3. SO<sub>2</sub> emissions from the plant, excluding Emission Point #1 (main stack) shall not exceed 3.3 tons per rolling 12 month period.

2.1.3.4. During the first 12 hours after startup, the plant shall not have SO<sub>2</sub> emissions greater than 12 lbs per ton. Between 12 and 24 hours after startup, SO<sub>2</sub> emissions shall not exceed 4 lbs per ton. The emission rate of 1.35 lb per ton will apply after 24 hours.

2.1.4. Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) Mist Emissions

2.1.4.1. Veolia shall not cause to be discharged into the atmosphere any gases which contain H<sub>2</sub>SO<sub>4</sub> in excess of 0.12 pound per ton, the production being expressed as 100 percent H<sub>2</sub>SO<sub>4</sub>;

2.1.4.2. H<sub>2</sub>SO<sub>4</sub> emissions from the main stack shall not exceed 8.5 tons per rolling 12 month period;

2.1.4.3. Fugitive acid mist emissions shall not exceed 1.5 tons per rolling 12 month period.

2.1.5. Particulate Matter (PM) Emissions

2.1.5.1. The Company shall not cause or allow the emission of particulate matter in excess of 0.3 pound per million BTU heat input, maximum 2-hour average, from any fuel burning equipment;

2.1.5.2. PM<sub>10</sub> emissions, excluding H<sub>2</sub>SO<sub>4</sub>, shall not exceed 4.3 tons per rolling 12 month period.

2.1.6. Carbon Monoxide (CO) Emissions

2.1.6.1. The Company shall not cause or allow the emission of CO to exceed 1.26 pounds per hour from the main plant stack;

2.1.6.2. CO emissions from the facility shall not exceed 12 tons per rolling 12 month period.

2.2. Visible Emissions

2.2.1. The Company shall not cause or allow the emission of visible air contaminants from the main plant stack, which exhibit ten percent (10%) opacity or greater.

- 2.2.2. Except for the Emission Point #1 (main stack), no person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty percent (20%) for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period.
- 2.3. Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution.

**3. Operational Limitations**

- 3.1. The owner or operator shall comply with the following operational limits:
  - 3.1.1. Emissions from the spent acid tanks and spent acid containers shall not be vented directly to the atmosphere. Emissions shall either vent directly to the Decomposition Furnace, primarily, or the SO<sub>2</sub> Scrubber and Vapor Combustion Unit.
  - 3.1.2. The Vapor Combustion Unit shall operate with a minimum temperature of 1500°F at all times when emissions are directed to the unit.
  - 3.1.3. The Decomposition Furnace's bypass stack shall not be a source of emissions except during periods of plant startup.
  - 3.1.4. The differential pressure across the mist eliminators shall be maintained within manufacturer's specifications.
  - 3.1.5. The Company shall not combust any fuel gas in the preheater that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 160 ppmvd (0.10 gr/dscf).
  - 3.1.6. The SO<sub>2</sub> scrubber and vapor combustion unit (VCU) are secondary pollution control equipment used to control emissions vented from the spent acid storage tanks.
  - 3.1.7. The SO<sub>2</sub> scrubber is the primary pollution control equipment used to control emissions vented from the sulfur pit.
  - 3.1.8. The SO<sub>2</sub> scrubber and vapor combustion chamber (VCU) are secondary pollution control equipment used to control emissions vented from other areas of the plant.
  - 3.1.9. The SO<sub>2</sub> Scrubber shall operate within manufacturer's specifications whenever vapors from the Sulfur Pit, spent acid tanks and/or spent acid containers are directed to it.
- 3.2. At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity

observations, review of operating and maintenance procedures, and inspection of the source.

- 3.3. All structural and mechanical components of the equipment covered by this permit shall be maintained in proper operating condition.

**4. Testing and Monitoring Requirements**

- 4.1. The Company shall conduct a performance test for CO and H<sub>2</sub>SO<sub>4</sub> mist by December 31, 2011 and every 2 years thereafter. All performance tests shall be conducted while the source is operating at or above the maximum acid production rate at which such source will be operated and under such other relevant conditions as the Secretary shall specify based on representative performance of the applicable source.

4.1.1. One (1) original and one (1) copies of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the address in Condition 6.6. The tests shall be conducted in accordance with the State of Delaware and Federal Requirements.

4.1.2. The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule a test date with the Air Surveillance and Engineering & Compliance Branches. The Department must observe the test for the results to be considered acceptable.

4.1.3. The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original and one (1) copies of the test report shall be submitted to the addresses below:

One (1) Original to:  
State of Delaware – DNREC  
Division of Air Quality  
Engineering & Compliance Branch  
Attn: Assigned Engineer  
State Street Commons  
100 W Water Street  
Dover, DE 19901

One (1) Copy to:  
State of Delaware – DNREC  
Division of Air Quality  
Air Surveillance Branch  
Attn: Assigned Engineer  
715 Grantham Lane  
New Castle, DE 19720

4.1.4. The final report of the results must meet the following requirements to be considered valid:

4.1.4.1. The full report shall include the emissions test report (including raw data from the test) as well as a summary of the results and statement of compliance or non-compliance with permit conditions;

4.1.4.2: Summary of Results and Statement of Compliance or Non-Compliance  
The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information:

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- 4.1.4.2.1. A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings.
  - 4.1.4.2.2. Permit number and condition(s) which are the basis for the compliance evaluation.
  - 4.1.4.2.3. Summary of results with respect to each permit condition.
  - 4.1.4.2.4. Statement of compliance or non-compliance with each permit condition.
- 4.1.4.3. The Test Report shall be certified by a Responsible Official as to the truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the following language:
- "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."
- 4.1.5. The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action.
- 4.2. Upon written request of the Department, the Owner and/or Operator shall, at the Owner and/or Operator's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records and submit reports to the Department on the results of such sampling.
- 4.3. The CEMS shall comply with the monitoring requirements of 7 **DE Admin. Code** 1120, Section 1.3.
- 4.4. A continuous monitoring system (CEMS) for the measurement of sulfur dioxide shall be maintained and operated by the Company. The pollutant has used to prepare calibration gas mixtures under Performance Specification 2 in Appendix B of 40 CFR Part 60 and for calibration checks under §60.13(d) shall be SO<sub>2</sub>. Method 8 or Method 6C shall be used for conducting monitoring system performance evaluations under §60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used if this method is selected. The CEMS shall conform to the Quality Assurance Procedures in 40 CFR Part 60 Appendix F.
- 4.5. The Company shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (lb/ton) to be used at times when either monitor is out of service. The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:

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$$E = CF * s = k[(1.000 - 0.015r) / (r - s)] * s$$

Where:

- E = Emissions of SO<sub>2</sub> in pounds per ton
- CF = conversion factor (lb/ton per ppm)
- k = constant value of 0.1306
- r = percentage of sulfur dioxide by volume entering the gas converter
- s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system

- 4.6. The differential pressure across each mist eliminator shall be continuously monitored.
- 4.7. Visible Emission Standards:
  - 4.7.1. Compliance with the visible emission standards in Condition No. 2.2 shall be demonstrated by conducting monthly qualitative stack observations to determine the presence of any visible emissions when the unit is in operation.
  - 4.7.2. If visible emissions are observed, the Company shall determine if they are below the source's respective standard in Condition 2.2. If they are below the source's respective standard, no further action is required.
  - 4.7.3. If observed visible emissions are greater than the source's respective standard, the Company shall take corrective actions and conduct a visible emission evaluation.
  - 4.7.4. Plant personnel conducting the qualitative stack observations must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water vapor (condensing water vapor). This training can be obtained from the lecture portion of the EPA Reference Method 9 certification course.
  - 4.7.5. The opacity of the main plant stack shall be determined semiannually in accordance with 7 **DE Admin. Code** 1120 Section 1.5.3, conduct visual observations at fifteen-second intervals for a period of not less than one hour except that the observations may be discontinued whenever a violation of the standard is recorded. The additional procedures, qualification and testing to be used for visually determining the opacity shall be those specified in Section 2 & 3 (except for Section 2.5 and the second sentence of Section 2.4) of Reference Method 9 set forth in Appendix A, 40 CFR, Part 60, July 2005 edition.
- 4.8. Plant personnel shall continuously monitor the Decomposition Furnace startup stack closure to ensure it remains under vacuum.
- 4.9. The temperature of the VCU shall be continuously monitored and recorded while the unit is in operation.

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- 4.10. The SO<sub>2</sub> Scrubber operating parameters (i.e., the scrubbing liquid flow rate, pH of the scrubbing liquid, and pressure differential) shall be monitored once per shift while the unit is operating.
- 4.11. The Company shall continuously monitor the amount and type of fuel combusted.
- 4.12. The Company shall conduct annual process heater tune-ups.

**5. Recordkeeping Requirements**

- 5.1. The Company shall maintain, at a minimum, all of the information required by this permit for a minimum of five (5) years from such information's date of record.
- 5.2. Records of all test data shall be maintained. This data includes, but may not be limited to:
  - 5.2.1. The date, place and time of sampling measurements;
  - 5.2.2. The date(s) analyses were performed;
  - 5.2.3. The Company or entity that performed the analyses;
  - 5.2.4. The analytical techniques or methods used;
  - 5.2.5. The results of such analyses; and
  - 5.2.6. The operating conditions existing at the time of sampling or measurement.
- 5.3. The following information shall be recorded and maintained in a log (or hard copy of electronic) each day:
  - 5.3.1. The daily amount of sulfuric acid produced and the amount of SO<sub>2</sub> emissions using the conversion factor in Condition No. 4.5.
  - 5.3.2. The daily amount of fuel used and the hydrogen sulfide (H<sub>2</sub>S) content.
  - 5.3.3. All hourly averages of SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions in lbs/ton of acid produced.
  - 5.3.4. Results of daily calibrations, quarterly cylinder gas audits and annual RATAs of the CEMS.
  - 5.3.5. Results of the monthly qualitative opacity monitoring indicating the presence or absence of visible emissions, whether any opacity observed exceeded the standard, and corrective action taken (if necessary).
  - 5.3.6. The differential pressure across the each mist eliminator.
  - 5.3.7. The SO<sub>2</sub> Scrubber's monitored operating parameters.
- 5.4. The rolling 12 month total emissions shall be calculated and recorded each month in a log for nitrogen oxides, sulfur dioxide, and sulfuric acid mist emissions.

- 5.5. The Company shall record all conversion factors and values under Condition No. 4.5 from which they were computed (i.e., CF, r, and s).
- 5.6. The Company shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the plant, and any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
- 5.7. The Company shall maintain records indicating the source of the molten sulfur. If the source of the molten sulfur is other than the Delaware City Refinery, the Company shall maintain records indicating this as well as its evaluation of H<sub>2</sub>S content.

## **6. Reporting Requirements**

- 6.1. Emission in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department:
  - 6.1.1. Immediately upon discovery and after activating the appropriate site emergency plan to the Department's 24-hour complaint line (1-800-662-8802) any deviation that poses an imminent and substantial danger to public health, safety, or the environment.
  - 6.1.2. Immediately upon discovery by calling the Environmental Emergency Notification and Complaint number (1-800-662-8802). (State Enforceable Only)
- 6.2. Discharges to the atmosphere in excess of any quantity specified in 7 **DE Admin. Code** 1203 "**Reporting of a Discharge of a Pollutant or an Air Contaminant**" shall be reported immediately upon discovery and after activating the appropriate site emergency plan, either in person or to the Department's 24-hour complaint line (1-800-662-8802). Discharges in compliance with this permit and excess emissions previously reported under Condition 6.1 of this permit are exempt from this reporting requirement.
- 6.3. Periods of SO<sub>2</sub> emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the emission limit in Condition No. 2.1.3.1.
- 6.4. In addition to complying with Condition 6.1, 6.2, and 6.3 of this permit, any reporting required by 7 **DE Admin. Code** 1203 "**Reporting of a Discharge of a Pollutant or an Air Contaminant**" and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:
  - 6.4.1. The name and location of the facility;
  - 6.4.2. The subject source(s) that caused the excess emissions;
  - 6.4.3. The time and date of first observation of the excess emissions;
  - 6.4.4. The cause and expected duration of the excess emissions;



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- 6.4.5. For sources subjected to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
- 6.4.6. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
- 6.5. Each document submitted to the Department/EPA pursuant to this permit shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."
- 6.6. Each document submitted to the Department/EPA pursuant to this permit shall be sent to the following addresses:

State of Delaware – DNREC Division of Air Quality State Street Commons 100 W Water Street, Suite 6A Dover, DE 19901 ATTN: Division Director	U.S. Environmental Protection Agency Region III Enforcement and Compliance Assurance Division (3ED21) 1650 Arch Street Philadelphia, PA 19103
No. of Originals: <u>1</u> & No. of Copies: <u>1</u>	No. of Copies: <u>1</u>

**7. Compliance Certification**

- 7.1. Compliance with the terms and conditions of this permit shall be certified to the Department not later than the first day of February of each year unless the terms and conditions require Compliance Certifications to be submitted on Form AQM-1001BB. The Compliance Certification shall include the following information:
  - 7.1.1. The identification of each term or condition of the permit that is the basis of the certification.
  - 7.1.2. The Company's current compliance status, as shown by monitoring data and other information reasonably available to the Company.
  - 7.1.3. Such certification shall indicate whether compliance was continuous or intermittent during the covered period.
  - 7.1.4. The method(s) used for determining the compliance status of the Company, currently and over the reporting period as required by the monitoring, recordkeeping, and reporting required under Conditions 4, 5, and 6.
  - 7.1.5. Such other facts that the Department may require to determine the compliance status of the source.
- 7.2. Each compliance certification shall be submitted to the Department and EPA and shall be certified in accordance with Condition 6.5 of this permit.

**Permit: APC-2003/0739-OPERATION (Amendment 3)(NSPS)(CAP)**

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- 7.3. Any additional information possessed by the Company that demonstrates noncompliance with any applicable requirement must also be used as the basis for Compliance Certifications.

**8. Process Safety Management**

- 8.1. The Veolia facility is subject to all applicable process safety regulations and standards. This includes the Accidental Release Prevention regulations, the Above Ground Storage Tank regulations, and the Occupational Health and Safety Administration's (OSHA) Process Safety Management (PSM) standards administered by the Federal Department of Labor.
- 8.2. In addition, as required by a special condition of Coastal Zone Permit No. 406, the owner or operator shall prepare a detailed PSM program following final design of the project which outlines the procedures to be followed to mitigate any impacts of mechanical malfunction of human error.
- 8.3. The Department may inspect and enforce the requirements of Section 5 Subpart D Program Prevention Program of the Accidental Release Prevention (ARP) Regulations for the sulfuric acid regeneration plant process not covered by the ARP Regulations of the Above Ground Storage Regulations. This includes, but is not limited to sulfuric acid regeneration, gas cooling and drying, heat exchangers, adsorption towers, all connected piping, fresh and spent acid storage tanks, and adjunct equipment.

**9. Administrative Conditions**

- 9.1. This permit supersedes **Permit: APC-2003/0739-OPERATION (Amendment 3) (NSPS) (CAP)**.
- 9.2. The owner and/or operator shall have available at the facility at all times a copy of this permit and shall provide a copy of this permit to the Department upon request.
- 9.3. Failure to comply with the provisions of this permit may be grounds for suspension or revocation.

**10. Plantwide Emissions CAP**

10.1. CAP NO<sub>x</sub> Emission Limitation

- 10.1.1. NO<sub>x</sub> emissions from the facility starting with the effective date of this permit shall not exceed 22.0 tons during any rolling 12 month period.

10.2. PAL Operational Limitations

- 10.2.1. The CAP provisions of this permit may be reopened to:

- 10.2.1.1. Reduce a CAP for any pollutant to create emission reductions for offset purposes;

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- 10.2.1.2. Reduce a CAP for any pollutant to reflect newly applicable Federal and State requirements with compliance dates after the CAP effective date; or
  - 10.2.1.3. Reduce a CAP for any pollutant consistent with any other requirement that may be imposed under the State Implementation Plan (SIP).
  - 10.2.1.4. Any downward adjustment that is required under Condition 10.2.2.2 or 10.2.2.3 will be based upon the contribution of the affected source(s) to actual emissions at the time the rule goes into effect.
- 10.2.2. The owner and/or operator shall not construct new stationary sources, modify existing stationary sources, or operating existing stationary sources such that the CAP is exceeded. The owner and/or operator shall comply with 7 **DE Admin. Code** 1125, "Preconstruction Review", for any proposed activity that necessitates an increase in any CAP in accordance with the following provisions:
- 10.2.2.1. The owner and/or operator shall demonstrate that significant and major emission units at the facility meet Best Available Control Technology (BACT), equivalent BACT, or an equivalent level of control for each pollutant that an increase is being requested for:
    - 10.2.2.1.1. The demonstrations shall be in the form of a BACT analysis unless the emissions unit is currently subject to a current (i.e., within the past ten years) BACT or Lowest Achievable Control Technology (LAER) requirement.
    - 10.2.2.1.2. The owner and/or operator shall demonstrate to the Department's satisfaction that is not economically feasible to reduce emissions of CAP pollutants by further controlling emission units at the facility.
  - 10.2.2.2. A new emissions unit that necessitates an increase in any CAP shall be treated as new major source and shall comply with 7 **DE Admin. Code** 1125.
  - 10.2.2.3. The air quality impacts analysis as shown in 40 CFR 51.166(m) (July 1, 2005 edition) shall demonstrate that the increase will not cause or contribute to a National Ambient Air Quality Standard (NAAQS) or Prevention of Significant Deterioration (PSD) increment exceedance.
  - 10.2.2.4. Revisions to a CAP shall be incorporated into the facility's Title V Permit in accordance with provisions of 7 **DE Admin. Code** 1102 Section 12.4 and 7 **DE Admin. Code** 1130 Section 7.4.

10.3. CAP Testing and Monitoring Requirements

10.3.1. A continuous monitoring system (CEMS) for the measurement of NO<sub>x</sub> emissions shall be maintained and operated by the Company. The pollutant has used to prepare calibration gas mixtures under Performance Specification 2 in Appendix B of 40 CFR Part 60 and for calibration checks under §60.13(d) shall be NO. Method 7E of a Departmentally approved alternative shall be used for conducting monitoring system performance evaluations under §60.13(c). The CEMS shall conform to the Quality Assurance Procedures in 40 CFR Part 60 Appendix F.

10.4. CAP Recordkeeping Requirements

10.4.1. Calculations demonstrating compliance with the NO<sub>x</sub> CAP as described in Conditions 10.1.1 and 10.1.2 shall be performed and recorded within thirty calendar days of the end of each month. Data used to support these calculations and any QA/QC information for this data shall be maintained for five (5) years.

10.4.2. The owner and/or operator shall maintain a copy of the most current Coastal Zone Permit on-site for applicable processes for the duration of operation.

10.5. CAP Reporting Requirements

10.5.1. The owner and/or operator shall immediately notify the Department of discovery of any exceedance of a CAP and shall submit to the Department within thirty days of discovery a report that identifies the following:

10.5.1.1. The cause of the exceedance;

10.5.1.2. The actions that the owner and/or operator shall take to correct the violation; and

10.5.1.3. An enforceable schedule to correct the violation.

10.5.2. **Semi-Annual CAP Reports:** The owner and/or operator shall submit a report no later than the first day of August (covering the period of January 1 through June 30 of the current calendar year) and the first day of February (covering the period July 1 through December 30 of the previous calendar year) each calendar year. Each report shall include the following:

10.5.2.1. Plantwide NO<sub>x</sub> emissions in tons for the previous rolling twelve month period including fugitive emissions, to the extent quantifiable, from all emission units; and/or

10.5.2.1.1. The owner and/or operator shall record and report maximum potential emissions without considering enforceable emissions limitations or operational restrictions for each emission unit during any period of time where there is no monitoring data unless another method for determining emissions during such periods is specified in the permit.

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- 10.5.2.2. The number, duration and cause of any deviation or monitoring malfunction.
- 10.5.2.3. The number, duration and cause of any shutdown of any monitoring system and calculation of emissions of the PAL pollutant during the shutdown.
- 10.5.3. Each document submitted to the Department/EPA pursuant to the CAP requirements shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."
- 10.6. CAP Administrative Conditions
  - 10.6.1. The CAP shall continuously remain in effect.
  - 10.6.2. Compliance with the NO<sub>x</sub> CAP limitation in this permit shall constitute compliance with Sections 2 and 3 of 7 **DE Admin. Code** 1125 with respect to this pollutant.
  - 10.6.3. If the potential to emit NO<sub>x</sub> of all stationary sources at the facility subject to the CAP is less than the limitations set in the CAP, the Department shall adjust the limitations in the CAP, as applicable, to a level no greater than the potential to emit.
  - 10.6.4. The Department shall not approve a renewed CAP limitation at a higher level than those given in Condition 10.1 unless the owner and/or operator has complied with the requirements given in Condition 10.2.2 of this permit.

Sincerely,



Angela D. Marconi, P.E., BCEE  
Program Manager  
Engineering & Compliance Branch

ADM:JLF:WMD  
F:\EngAndCompliance\WMD\wmd19016.doc

Pc: Dover Title V File  
Whitney M. Diehl

**VEOLIA NORTH AMERICA REGENERATION SERVICES, LLC**

**Red Lion Facility  
Coastal Zone Permit Application**

**Public Hearing  
July 16, 2019**

DNREC Office Building  
391 Lukens Drive  
New Castle, DE 19720

# Overview

- Introductions
- The Red Lion Plant regenerates sulfuric acid
- Initially permitted - 2003
- Veolia has operated the Plant since August 2016
  - *24/7 continuous operation*
  - *Transportation of raw material and finished product via truck, rail, and pipeline*

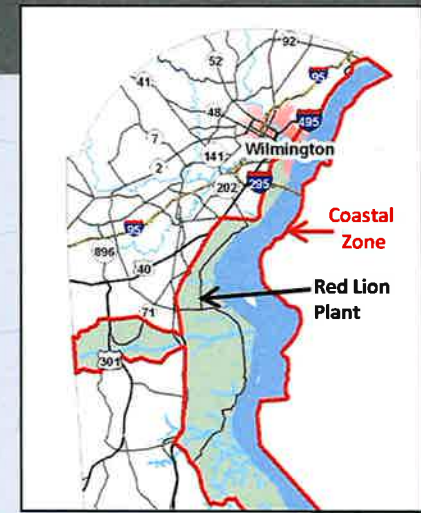
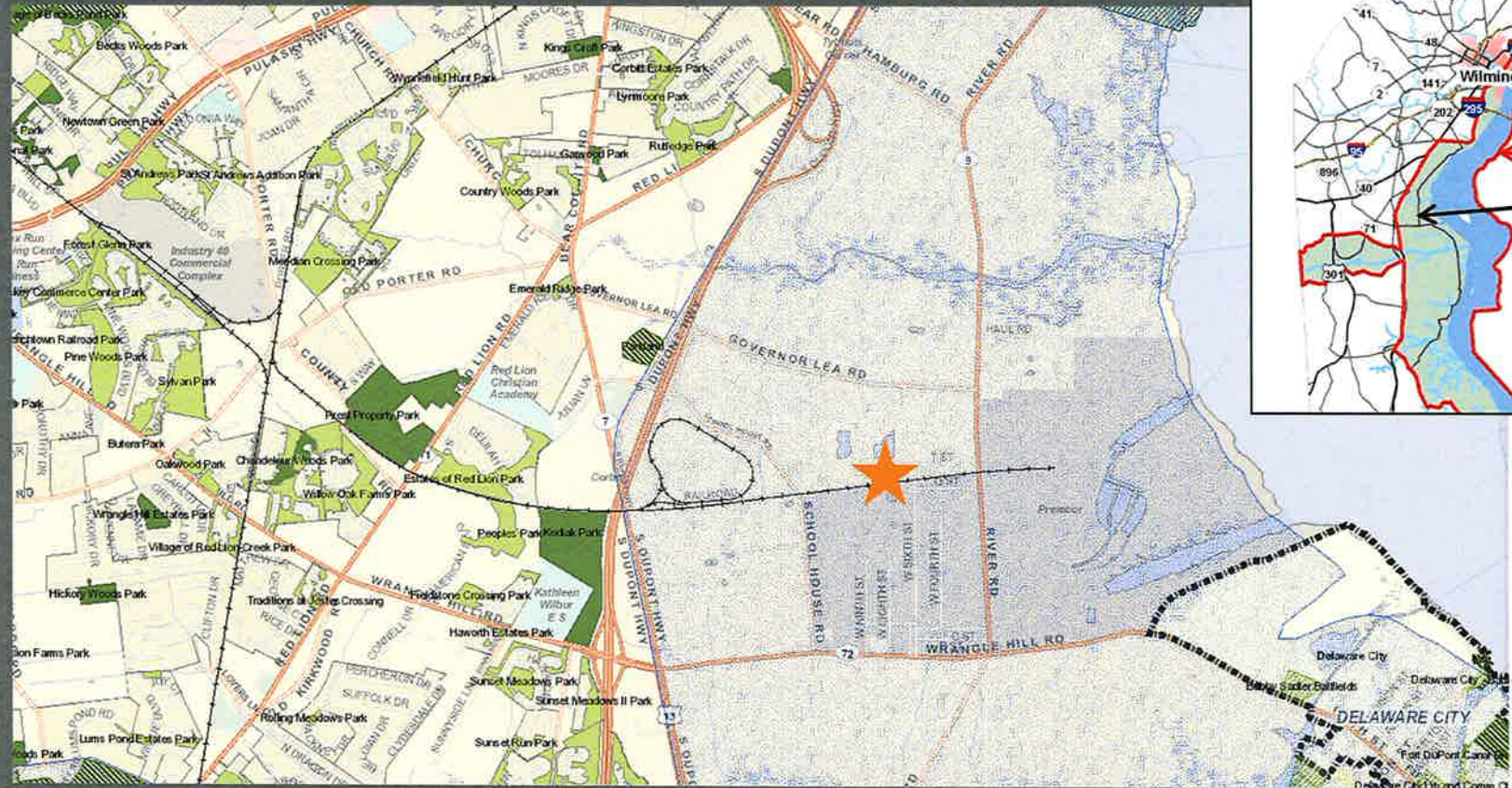
# CZA Permit Application

- Current Red Lion CZA permit - issued in 2003
- New Application necessary under Regulations because of increase in production
- Proposing more efficient use of Red Lion's recycling capability
- Seeks to increase maximum throughput from 550 tons to 750 tons per day
  - *No new construction*
  - *No new equipment*
  - *No new uses or processes*
  - *Plant was designed and built to accommodate proposed daily production limit increase*



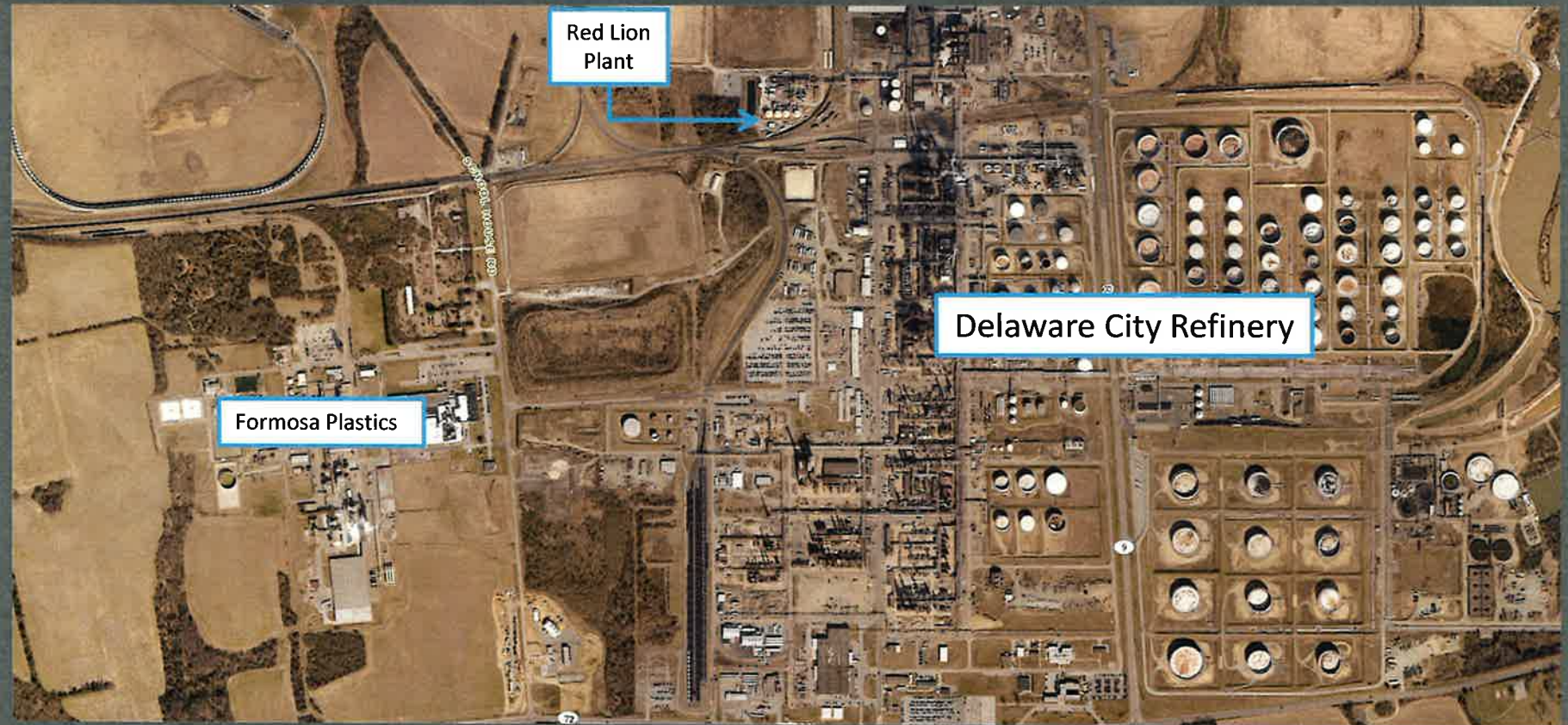
# Site Location

1 mile



# Site Location

0.25 mile



# Outreach Efforts

- Delaware Audubon Society
- League of Women Voters of New Castle County
- Representative Longhurst (15<sup>th</sup> District)
- County Councilman Bell (District 12)
- New Castle County Department of Land Use
- Delaware City Government

# CZA Application Factors

1. Environmental Impacts
  - *Air quality*
  - *Water quality*
  - *Solid and hazardous waste*
  - *Habitat protection*
  - *Other environmental effects*
2. Economic Effects
3. Supporting Facilities Requirements
4. Aesthetic Effects
5. Effect on Neighboring Land Uses
6. Compatibility with Local Comprehensive Plans

# Air Quality

*Comparisons of Annual Air Quality Permit Limits,  
Past Actuals and Forecasted Future Emissions in  
Tons Per Year*

Constituent	2017 Actual Emissions	*Forecasted Future Emissions with CZA Approval	Title V Air Quality Permit Limits
VOC	0.73	1.07	2
NO <sub>x</sub>	18.91	22.0	22
SO <sub>2</sub>	55.9	81.74	95.55
H <sub>2</sub> SO <sub>4</sub> mist	5.02	7.2	10
CO	0.62	0.89	12
PM <sub>10</sub>	0.043	0.067	4.3
PM <sub>2.5</sub>	0.036	0.055	N/A

**\*High estimate based on 750 tons per day production 365 days per year.**

# Air Emissions Offsets

CZA guidelines - air emissions increases offset at a ratio of 1.3 to 1

Proposed offset - 42 tons per year, more than offsets emissions increases

Constituent	Forecasted Emissions Increases	Offset (1.3:1)
VOC	0.34	0.44
NO <sub>x</sub>	3.1	4.03
SO <sub>2</sub>	25.8	33.54
H <sub>2</sub> SO <sub>4</sub> mist	2.1	2.73
CO	0.28	0.36
*PM <sub>10</sub>	0.023	0.03
NH <sub>3</sub>	0	0
Total	31.643	41.13

\*PM<sub>2.5</sub> is included within PM<sub>10</sub>



THANK YOU