



Louisville Metro Air Pollution Control District
 701 West Ormsby Avenue, Suite 303
 Louisville, Kentucky 40203-3137



June 21, 2022

**Title V
 Statement of Basis**

Source: Caldwell Tanks
 4000 Tower Rd
 Louisville, KY 40219

Owner: Caldwell Tanks
 4000 Tower Rd
 Louisville, KY 40219

Application Documents:	See Table I-8	Administratively Complete:	05/25/ 2021
Draft Permit:	05/05/2022	Proposed Permit:	05/05/2022
Permitting Engineer:	Yiqiu Lin	Permit Number:	O-0034-22-V
Plant ID: 0034	SIC: 3443	NAICS:	332313

Introduction:

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

This permit action is a standard operating permit renewal.

Jefferson County is classified as an attainment area for lead (Pb), nitrogen dioxide (NO₂), carbon monoxide (CO), particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), and sulfur dioxide (SO₂). Jefferson County is classified as a nonattainment area for ozone (O₃).

Permit Application Type:

- | | | |
|---|--|--|
| <input type="checkbox"/> Initial issuance | <input type="checkbox"/> Permit Revision | <input checked="" type="checkbox"/> Permit renewal |
| | <input type="checkbox"/> Administrative | |
| | <input type="checkbox"/> Minor | |
| | <input type="checkbox"/> Significant | |

Compliance Summary:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Compliance certification signed | <input type="checkbox"/> Compliance schedule included |
| <input type="checkbox"/> Source is out of compliance | <input checked="" type="checkbox"/> Source is operating in compliance |

I Source Information

1. Product Description:

Caldwell Tanks fabricates steel plate work and constructs customized storage tanks for water, oil, gas, chemical, and power.

2. Process Description:

Caldwell Tanks processes steel plates, pipes and other tank components through the shot blast systems to remove rust and scale, then cuts the plates to desired dimensions and forms and fabricates the plates into various parts. The parts are processed through the surface coating operation for application of primer coatings. The parts are then shipped to the consumer’s desired location where they are assembled on-site.

3. Site Determination:

There are no other facilities that are contiguous or adjacent to this facility.

4. Emission Unit Summary:

Emission Unit	Equipment Description
U1	Abrasive blast booths
U2	Paint spray booths
U3	Non-halogenated cold solvent parts washers
U5	Plasma cutters
U7	Emergency generators

5. Fugitive Sources:

- a. The bag houses that are integral to the shot blast booths vent indoors.
- b. There are no vents associated with the parts washers. Evaporative losses from this equipment occur indoors.
- c. The dust-collecting equipment used with the plasma cutters vents indoors.

6. Permit Revisions:

Permit No.	Public Notice	Issue Date	Change Type	Description/Scope
134-97-TV	1/14/2001	9/28/2001	Initial	Initial Permit Issuance
134-97-TV (R1)	N/A	12/6/2002	Admin.	Incorporate new performance indicator range for Unit U1, control device C5

Permit No.	Public Notice	Issue Date	Change Type	Description/Scope
134-97-TV (R2)	9/6/2011	10/18/2011	Revision and renewal	Permit renewal; R.O. addition; For U2, add MACT, 40 CFR 63, Subpart Mmmm; for U1, incorporate CAM Plan
O-0034-16-V	10/15/2016	11/18/2016	Renewal	Renew permit 134-97-TV (R2), incorporate construction permits 30506-11-C, 36880-13-C, and two emergency generators as an IA emission unit.
O-0034-16-V (R1)	N/A	4/11/2017	Admin.	Administrative changes on cover page, application document table, U5 requirements. Addition of Attachment D – CAM Plan.
O-0034-16-V (R2)	N/A	6/14/2017	Admin.	Calculation Methodology Table: correct U3 emission factor due to transcription error of the quoted value in previous versions. Provide equivalent alternate values for E1 – E3.
O-0034-22-V	5/5/2022	6/21/2022	Renewal	Standard permit renewal.

7. Construction Permit History:

Permit No.	Effective Date	Description
30506-11-C	3/31/2011	One burn table with two plasma cutting-heads and associated equipment.
36880-13-C	5/3/2013	One burn table with a single plasma cutting-head and associated equipment.

8. Application and Related Documents

Document Number	Date	Description
217177	5/5/2021	Email related to Title V renewal application
217557	5/6/2021	Email related to Title V renewal application
219023	5/10/2021	Questions regarding renewal application
221845	5/21/2021	Title V renewal application
222763	5/25/2021	Title V application completeness review sent to company
222821	5/25/2021	Hard copy Title V renewal application
261071	9/22/2021	Request for updated EA Demo
265451	10/8/2021	Updated EA Demo submitted by Caldwell Tanks
310138	2/11/2022	Caldwell Tanks' comments to pre-draft Title V permit

Document Number	Date	Description
336451	4/28/2022	Company response that there are no more comments on pre-draft Title V permit

9. Emission Summary

Pollutant	District Calculated Actual Emissions (tpy) 2020 Data	Pollutant that triggered Major Source Status (based on PTE)
CO	0.55	No
NO _x	1.94	No
SO ₂	0.02	No
PM ₁₀	2.47	Yes
PM _{2.5}	1.72	Yes
VOC	6.52	Yes
Total HAPs	3.61	Yes
Single HAP > 1 tpy		
Xylene	2.31	Yes

10. Applicable Requirements

- 40 CFR 60 SIP 40 CFR 63
- 40 CFR 61 District Origin Other

11. Referenced Federal Regulations:

- 40 CFR 60 Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
- 40 CFR 63 Subpart MMMM National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products
- 40 CFR 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

12. Non-Applicable Regulations:

Equipment ID	Regulation	Title	Reason for Non-applicability
Unit 1 – E1, E2, E3: Abrasive blast booths	40 CFR 64	Compliance Assurance Monitoring (CAM)	Using emission factors obtained from March 29, 2011 stack test, potential pre-control emissions for each equipment are less than major source threshold.

II Regulatory Analysis

1. Acid Rain Requirements:

Caldwell Tanks is not subject to the Acid Rain Program.

2. Stratospheric Ozone Protection Requirements:

Title VI of the CAAA regulates ozone depleting substances and requires a phase-out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. Caldwell Tanks does not manufacture, sell, or distribute any of the listed chemicals. The source’s use of listed chemicals is that in fire extinguishers, chillers, air conditioners and other HVAC equipment.

3. Prevention of Accidental Releases 112(r):

Caldwell Tanks does not manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68, Subpart F, and District Regulation 5.15, Chemical Accident Prevention Provisions, in a quantity in excess of the corresponding specified threshold amount.

4. 40 CFR Part 64 Applicability Determination:

The source does not have any emission units that have emissions greater than major source threshold and need control devices to achieve compliance with the standards. Therefore, the source is not subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM) for Major Stationary Source.

5. Basis of Regulation Applicability

a. Applicable Regulations

Regulation	Title	Basis
1.05	Compliance with Emission Standards and Maintenance Requirements	This regulation establishes the conditions for compliance with emissions standards.
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)	This regulation applies to new major sources and major modifications commenced after April 21, 1982 located in a non-attainment area
2.05	Prevention of Significant Deterioration of Air Quality	This regulation applies to new major sources and major modifications, provides for prevention of significant deterioration of air quality in an attainment area
5.00	Definitions	This regulation defines terms used in the Strategic Toxic Air Reduction Program.
5.01	General Provisions	This regulation contains a statement of general duty and a savings clause relating to federal and SIP emission standards.
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants	This regulation incorporates by reference certain national emission standards for hazardous air pollutants in 40 CFR Parts 61 and 63.
5.20	Methodology for Determining the Benchmark Ambient Concentration of a Toxic Air Contaminant	This regulation establishes the methodology for determining the benchmark ambient concentration of a toxic air contaminant.
5.21	Environmental Acceptability for Toxic Air Contaminants	This regulation establishes the criteria for determining the environmental acceptability of emissions of toxic air contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	This regulation establishes the procedures for determining the maximum concentration of a toxic air contaminant in the ambient air.
5.23	Categories of Toxic Air Contaminants	This regulation identifies the categories of toxic air contaminants to be addressed in these regulations.
6.09	Standards of Performance for Existing Process Operations	This regulation establishes the requirements for PM emission from new processes that commences construction prior to September 1, 1976.
6.18	Standards of Performance for Solvent Metal Cleaning Equipment	This regulation applies to each cold cleaner that use VOCs to remove soluble impurities from metal surfaces.

Regulation	Title	Basis
6.31	Standard of Performance for Existing Miscellaneous Metal Parts and Products Surface Coating Operations	Regulation 6.31 establishes the requirements for VOC emissions from new paint spray booths for metal parts commenced prior to May 20, 1981.
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards	This regulation incorporates by reference certain federal Standards of Performance for New Stationary Sources in 40 CFR Part 60.
7.08	Standards of Performance for New Process Operations	This regulation establishes the requirements for PM emission from new processes that commences construction after September 1, 1976.
40 CFR 60, Subpart III	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	This regulation applies to manufacturers, owner or operators of new stationary compression ignition internal combustion engines.
40 CFR 63, Subpart MMMM	National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products	This regulation establishes HAP major source standards for surface coating of miscellaneous metal parts and products.
40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	This regulation establishes national emission limitations and operating limitations for HAP emitted from stationary RICE located at major and area sources of HAP emissions.

b. Plantwide

- i.** Caldwell Tanks is a Title V major source for VOC, PM₁₀, Total HAP, and Single HAP. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources. Based on the plantwide PTE evaluation, Caldwell Tanks is a PSD major source for PM/PM₁₀/PM_{2.5}.
- ii.** Regulations 5.00 5.20, 5.21, and 5.23 (STAR Program) establish requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards.
- iii.** Caldwell Tanks submitted a TAC Environmental Acceptability Demonstration to the District on 2 February 2007, 31 March 2008, 9 August 2011, 19 March 2012, 23 June 2014, 3 June 2016, and 8 October 2021. Tier 3 SCREEN3 and Tier 4 AERMOD air modeling were performed for emission units that have non-*de minimis* TAC emissions. Compliance with the STAR EA Goals was demonstrated in the source's EA Demonstrations. The District reviewed the EA Demonstrations submitted by the source. The following table demonstrates that the plantwide risk values presented in the source's

EA Demonstration comply with the STAR EA goals required in Regulation 5.21.

Plantwide Sum	Existing & new		All new P/PE	
Industrial Total R _C	7.08	< 75		< 38
Non-Ind. Total R _C	1.07	< 7.5		< 3.8
Industrial Total R _{NC} (max)	1.21	< 3.0		
Non-Ind. Total R _{NC} (max)	0.23	< 1.0		

		R _{NC} Total		U1 - Blast Booths				U2 - paint Booths				U5 - Plasma Cutters			
		Indus.	Non-Ind	Industrial		Non-Indus		Industrial		Non-Indus		Industrial		Non-Indus	
TAC	CAS #	R _{NC}	R _{NC}	R _C	R _{NC}	R _C	R _{NC}	R _C	R _{NC}	R _C	R _{NC}	R _C	R _{NC}	R _C	R _{NC}
R_C Total / R_{NC} Max		1.21	0.23	2.21		0.33		0.00		0.00		4.88		0.74	
Chromium ⁺⁶	7440-47-3	0.03	0.004	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.62	0.03	0.40	0.004
Nickel	7440-02-0	1.21	0.18	2.21	0.60	0.33	0.09	0.00	0.00	0.00	0.00	2.26	0.61	0.34	0.09
Manganese	7439-96-5	1.01	0.15	0.00	1.01	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Xylene	1330-20-7	0.24	0.23	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.23	0.00	0.00	0.00	0.00

- iv. Regulation 2.16, section 4.1.9.1 and 4.1.9.2 require monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit. The owner or operator shall maintain all the required records for a minimum of 5 years and make the records readily available to the District upon request.
- v. Regulation 2.16, section 4.3.5, requires stationary sources for which a Title V is issued shall submit an annual compliance certification by April 15 of the following calendar year. In addition, as required by Regulation 2.16, section 4.1.9.3, the source shall submit compliance reports at least every six months to show compliance with the permit. Compliance reports and compliance certifications shall be signed by a responsible official and shall include a certification statement per Regulation 2.16, section 3.5.11.

c. Emission Unit U1 – Abrasive Blast Booths

EP	Description	Applicable Regulations	Control ID	Release ID
E1	Wheelabrator blast booth, make Wheelabrator, serial # A-122157, capacity 198,000 lb/hr internal circulation rate.	STAR, 6.09	C1	Vent Indoors or S5

E2	Shot blast booth, make Clemco, serial# 133231, capacity 825 lb/hr.	STAR, 7.08	C2	Vent Indoors or S6
E3	Pipeabrator blast booth, make US Filter/BCP, serial # A4-8279, capacity 132,000 lb/hr internal circulation rate, equipped with an air wash separator and a storage tank/hopper.	STAR, 7.08	C3	Vent Indoors or S7

Control ID	Description	Control Efficiency
C1	Cartridge-type baghouse, make Carbo-Tech, model 9-4-1800 CUPFL, installed 1968	99.2%
C2	Baghouse, make DCE, model DLM 2/7/15, installed 1988	98%
C3	Cartridge-type baghouse, make Farr, model 16D-T3 installed 1998	99.2%

i. Standards

(1) Opacity

- (a) Regulation 6.09, section 3.2 establishes opacity standards for existing equipment.
- (b) Regulation 7.08, section 3.1.1 establishes opacity standards for new equipment.

(2) PM

- (a) Emission standard for each affected piece of equipment is set by the equations set forth with Table 1 of Regulation 6.09.

- (i) For E1, the process rate is 198,000 lb/hr (99 tons per hour) and the allowable emission rate is given by the equation that establishes Table 1 of regulation 6.09:

$$E=55*(99)^{0.11}-40=51.2(lb/hr)$$

- (ii) For E2, the process rate is 825 lb/hr and the allowable emission rate is given by the rule in Table 1 of Regulation 7.08, which states that for process rates less than 1000 lb/hr the allowable emission rate is 2.34 lb/hr.
- (iii) For E3, the process rate is 132,000 lb/hr (66 tons per hour) and the allowable emission rate is given by the equation that establishes Table 1 of regulation 7.08:

$$E=17.31*(66)^{0.16}=33.8(lb/hr)$$

- (iv) Using emission factors obtained from March 29, 2011 stack test, the potential pre-control emissions for blast booths E1, E2, and E3 are less than the major source threshold. Therefore, these blast booths are not subject to 40 CFR Part 64 - Compliance Assurance Monitoring (CAM).

(3) TAC

- (a) The TAC emission limits for E1 and E3 are established based on controlled PTE calculated using PM emission factors from 2011 stack test and TAC concentrations submitted by Caldwell Tanks on September 27, 2016. It has been demonstrated that the uncontrolled emissions from the Wheelabrator and Pipeabrator cannot meet the EA goals specified in Regulation 5.21. Therefore, the owner or operator is required to operate the control devices to meet the TAC standards.

d. Emission Unit U2 – Paint Spray Booths

EP	Description	Applicable Regulations	Control ID	Release ID
E4	Custom-made paint booth, designated as South Paint Booth #1. 19,900 cfm exhaust per stack	1.05, STAR, 5.02, 6.09, 6.31, 40CFR63, MMMM	C4, C5	S1, S2
E5	Custom-made paint booth, designated as North Paint Booth #2. 19,900 cfm exhaust per stack		C6, C7	S3, S4

Control ID	Description	Control Efficiency
C4, C5	Custom-made dry filter consisted of primary pre-filters and secondary pleated filters, Koch102-701-022 and 541-055-90 OR PaintPocket 04CC99202152P, or equivalent	95%
C6, C7	Custom-made dry filter consisted of primary pre-filters and secondary pleated filters, Koch102-701-022 and 541-055-90 OR PaintPocket 04CC99202152P, or equivalent	95%

i. Standards

(1) HAP

- (a) 40 CFR 63, Subpart Mmmm sets forth HAP emission standards for a source that is part of a major source of HAP that uses more than 250 gallons per year of coating material.

(2) Opacity

- (a) Regulation 6.09, section 3.2 establishes opacity standards for existing equipment.

(3) PM

- (a) Emission standard for each emission point E4 and E5 is given by the rule in Table 1 of Regulation 6.09, which states that for process rates less than 1000 lb/hr the allowable emission rate is 2.58 lb/hr.
- (b) Caldwell Tanks performed a one-time compliance demonstration for PM in the second 2001 semi-annual compliance report and demonstrated that the controlled PM emissions from the paint booths cannot exceed the hourly PM emission limit. Therefore, the requirements to use filters at all time and monitor the pressure drop across the filters, as a surrogate of the requirement of monthly PM calculation, will ensure compliance with PM standard. Should a new coating with higher solids content be introduced to the process a new demonstration must be submitted.

(4) TAC

- (a) Caldwell Tanks has identified six category 2 TACs in the paints in use at the facility and there were no category 1 TACs: 1,6 Hexamethylene diisocyanate, polymeric diphenylmethane diisocyanate, ethylene glycol monopropyl ether, trimethyl benzene, and xylene. Xylene was the only category 2 TAC reported in the 2006 Toxics Release Inventory (TRI). Modeling submitted 20 June 2014 demonstrates that the uncontrolled potential emission of xylene was environmentally acceptable.

(5) VOC

- (a) Limits on the VOC content of coating materials are set forth in Regulation 6.31 for facilities constructed before May 1981.

ii. Monitoring and Recordkeeping

(1) HAP

- (a) Specific monitoring and recordkeeping requirements to assure compliance with the HAP emission standards are set forth in 40 CFR 63, Subpart Mmmm.

iii. Reporting

(1) HAP

- (a) Specific reporting requirements to demonstrate compliance with the HAP emission standards are set forth in 40 CFR 63, Subpart Mmmm.

e. Emission Unit U3 – Non-halogenated Cold Solvent Parts Washers

EP	Description	Applicable Regulations	Control ID
E6	Non-halogenated cold solvent metal parts washer with secondary reservoir, make Selig, rated capacity 30 gallon. (Insignificant activity)	STAR, 6.18	N/A
E7	Non-halogenated cold solvent metal parts washer with secondary reservoir, make Selig, rated capacity 30 gallon. (Insignificant activity)		N/A

i. Standards

(1) VOC

- (a) Standards for all solvent-based metal cleaning equipment are set by Regulation 6.18, section 4.
- (b) The PTE for this equipment is less than 5 tons. Under Regulation 2.16, section 1.23.1.2, this allows this equipment to be classified as an insignificant activity.

f. Emission Unit U5 – Plasma Cutters

EP	Description	Applicable Regulations	Control ID	Release ID
E11	“Big Messer”: Messer Cutting Systems, model 4514, incorporating: Two Hypertherm Hyperformance Plasma HPR400XD plasma cutters, cutting table, slagger table.	STAR, 2.04, 2.05, 7.08	C8	N/A

E14	“Little Messer”: Messer Cutting Systems, model 5815, incorporating: 1 Hypertherm Hyperformance Plasma HPR400XD plasma cutters, cutting table, slagger table.	STAR, 7.08	C9	N/A
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Control ID	Description	Control Efficiency
C8	Donaldson Torit DFT 4-32, 7000 cfm cartridge air filter unit.	98%
C9	Donaldson Torit DFT 3-24, 7000 cfm cartridge air filter unit.	98%

i. Standards

(1) NO_x

- (a) Regulation 7.08 establishes allowable exhaust concentrations for the emissions of NO_x, for equipment with a construction date after September 1976.
- (b) A one-time compliance demonstration was completed on February 27, 2013 and it has been determined that the NO_x emission standard cannot be exceeded uncontrolled.

(2) Opacity

- (a) Regulation 7.08, section 3.1.1 establishes opacity standards for equipment with a construction date after September 1976.

(3) PM/PM₁₀/PM_{2.5}

- (a) For each emission point E11 and E14 the process rate is less than 1000 lb/hr. The allowable emission rate is given by the rule in Table 1 of Regulation 7.08, which states that for process rates less than 1000 lb/hr the allowable emission rate is 2.34 lb/hr.
- (b) Annual emission limits for PM, PM₁₀, and PM_{2.5} at E11 are set so the source may avoid PSD/NSR regulation under 2.04 and 2.05.
- (c) Uncontrolled emissions from emission point E11 may exceed the lb/hr PM standard and the NSR/PSD significant emission rates. Therefore, the owner or operator is required to operate the control devices to meet the PM standards.

(4) TAC

- (a) TAC emission limits for E11 and E14 are established based on controlled PTE calculated using TAC concentrations in PM emissions.
- (b) It has been demonstrated that the uncontrolled emissions from the plasma cutters cannot meet the EA goals specified in Regulation 5.21. Therefore, the owner or operator is required to operate the control devices to meet the TAC standards.

g. Emission Unit U7 – Emergency Generators

EP	Description	Applicable Regulations	Control ID
I5A	Emergency generator, make Caterpillar, model 3360B-DI, equipped with a 250 kW diesel engine and a 200 gallons diesel storage tank. Manufactured 1999	STAR, 5.02, 40 CFR 63, subpart ZZZZ	N/A
I5B	Emergency generator, make Cummins, model DQDAA-6380778, equipped with a 250 kW diesel engine and a 500 gallons diesel storage tank. Error! Bookmark not defined. Manufactured 2011	STAR, 5.02, 7.02, 40 CFR 60, subpart III; 40 CFR 63, subpart ZZZZ	N/A

i. Standards

(1) HAP

- (a) Emergency generators I5A and I5B are subject to 40 CFR 63, Subpart ZZZZ because they involve stationary reciprocating internal combustion engines (RICE) located at major/area source of HAP.
- (b) Emergency generator I5B is also subject to 40 CFR 60, Subpart III. According to 40 CFR 63.6590(c), the new emergency generators must meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR, 60 Subpart III. No further requirements apply for the engine under 40 CFR 63 Subpart ZZZZ.

(2) Unit Operation

- (a) Emergency generator I5B is subject to 40 CFR 60, Subpart III because they involve new compression ignition (CI) ICEs as specified in 60 CFR 60.4200(a).
- (b) 40 CFR 60.4202, 4205, 4211 establish unit operation requirements for the nonroad engines.

- (c) 40 CFR 60.4207(b) and 40 CFR 80.510(b)(1)(i) have fuel requirement for diesel fuel.

ii. Monitoring and Recordkeeping

(1) HAP

- (a) 40 CFR 63, 6625, 6655 establishes HAP monitoring and recordkeeping requirements for I5A.

(2) Unit Operation

- (a) 40 CFR 60, 4209, 4214, establishes monitoring and recordkeeping requirements for I5B.

III Other Requirements

1. Temporary Sources:

The source did not request to operate any temporary facilities.

2. Short Term Activities:

The source did not report any short term activities.

3. Emissions Trading:

The source is not subject to emission trading.

4. Alternative Operating Scenarios:

There are no alternative operating scenarios.

5. Compliance History:

There were no compliance actions since the previous Title V permit renewal was issued in 2016.

6. Calculation Methodology or Other Approved Method:

In general, emissions are calculated by multiplying the process throughput or hours of operation by the emission factor and by the control efficiency of any control device. For example:

$$E_x = \left(\text{throughput, } \left[\frac{\text{lb}}{\text{hr}} \right] \right) \left(EF, \left[\frac{\text{lb emission}}{\text{lb throughput hr of operation}} \right] \right) (1 - \text{control efficiency})$$

Alternatively, the mass balance method considers the total throughput and the fraction of that throughput that is made up by the pollutant under consideration. For example:

$$E_x = \left(\text{throughput } \left[\frac{\text{gal}}{\text{yr}} \right] \right) \cdot (\text{pollutant percentage}) \cdot (1 - \text{control efficiency})$$

Other methods of determining emissions may be used if proposed by the Company and approved in writing by the District, or if required by permit conditions.

Emission Source		Description	Pollutant	Emission factor	Source	Control Efficiency		
Unit	Point					Value	Method	
U1	E1	Wheelabrator	PM	35.54 lb/hr	Stack test	99.2%	Note a-(1)	
				0.179 lb/10 ³ lb abrasive (Note b)				
			PM ₁₀	PM/2	AP42-13.2.6	---	---	
			PM _{2.5}	PM ₁₀ /10	AP42-13.2.6	---	---	
			Cr	0.1%*PM	Company data (Note d)	---	---	
			Mn	1.2%*PM				
	Ni	0.2%*PM						
	E2	Clemco Shot Blast Booth	PM	1.14 lb/hr	AP42-13.2.6, (Note e)	98%	Note a-(2)	
				PM ₁₀	PM/2	AP42-13.2.6		98%
				PM _{2.5}	PM ₁₀ /10	AP42-13.2.6		98%
			Cr	0.1%*PM	Company data, (Note d)	---	---	
			Mn	1.2%*PM				
			Ni	0.2%*PM				
	E3	Pipeabrator	PM	23.63 lb/hr	Stack test	99.2%	Note a-(4)	
				0.179 lb/10 ³ lb abrasive (Note c)				
			PM ₁₀	PM/2	AP42-13.2.6	---	---	
			PM _{2.5}	PM ₁₀ /10	AP42-13.2.6	---	---	
			Cr ⁺³	0.1%*PM	Company data, (Note d)	---	---	
Mn			1.2%*PM					
Ni	0.2%*PM							
U2	E4	South paint booth	VOC/HAP/TAC	Mass balance method	---	---		
			PM	Mass balance method	95%	Note a-(2)		
	E5	North paint booth	VOC/HAP/TAC	Mass balance method	---	---		
			PM HAP	Mass balance method	95%	Note a-(2)		
U3	E6	Non-halogenated cold-solvent parts washer	VOC	Mass balance method	---	---		
	E7				---	---		
U5	E11	Plasma cutter, Messer 4514	PM	4.38 lb/hr	Note f. uncontrolled	98%	Note a-(2)	
			PM ₁₀	PM/2				
			PM _{2.5}	PM ₁₀ /10				
			Cr ⁺³	0.1%*PM	Company data (Note d)	---	---	
			Cr ⁺⁶	0.02%*PM				
			Mn	1.2%*PM				
Ni	0.2%*PM							

Emission Source		Description	Pollutant	Emission factor	Source	Control Efficiency			
Unit	Point					Value	Method		
	E14	Plasma cutter, Messer 5815	PM	1.68 lb/hr	Note f. uncontrolled	98%	Note a-(2)		
			PM ₁₀	PM/2					
			PM _{2.5}	PM ₁₀ /10					
							Company data (Note d)		
				Cr ⁺³	19%*PM				
				Cr ⁺⁶	0.2%*PM				
	Mn	2.0%*PM							
	Ni	11%*PM							
U7	I5A	Caterpillar 3360B-DI emergency generator engine	NO _x	3.14 g/HP•hr	Manufacturer's spec				
			CO	0.68 g/HP•hr					
			Hydro carbon	0.17 g/HP•hr					
			PM	0.16 g/HP•hr					
	I5B	Cummins DQDAA emergency generator engine	NMHC +NO _x	2.98 g/HP•hr	EPA spec: 40 CFR 89.112				
			CO	2.6 g/HP•hr					
PM			0.15 g/HP•hr						
I.A.s		Fuel oil or VOC storage tanks	VOC	TANKS4.0 Program or use PTE in I.A. table					
		Natural gas-fired heaters and make-up air units		See Note g.					
		Welding machines		See Note h.					
		Wood working equipment	PM, PM ₁₀ , PM _{2.5}	Wood waste = 5% wood material usage PM = 31% wood waste PM ₁₀ = PM _{2.5} = 0.37% wood waste					

Notes:

- a. Control efficiency determination options:
 - (1) On-site stack test, 29 March 2011
 - (2) APCD default control efficiency
 - (3) Manufacturer's guaranteed performance – Donaldson Torit P199407 filter cartridge. Use this value when operating controlled and the given emission factor when operating uncontrolled.
 - (4) Based on this equipment (E3) being equivalent to E1, on which a stack test was performed.

- b. Based on the rated maximum abrasive throughput of 198,000 lb/hr, this rate is equivalent to the lb/hr rate.

$$\left(\frac{35.54 \text{ lb}_{PM}}{\text{hour}}\right) \left(\frac{1 \text{ hour}}{198000 \text{ lb}_{abrasive}}\right) = \frac{0.179 \text{ lb}_{PM}}{1000 \text{ lb}_{abrasive}}$$

- c. Based on the rated maximum abrasive throughput of 132,000 lb/hr, this rate is equivalent to the lb/hr rate.

$$\left(\frac{23.63 \text{ lb}_{PM}}{\text{hour}}\right) \left(\frac{1 \text{ hour}}{132000 \text{ lb}_{abrasive}}\right) = \frac{0.179 \text{ lb}_{PM}}{1000 \text{ lb}_{abrasive}}$$

- d. EF based on the base emission factor and the TAC content of the raw materials.
- e. AP42 emission factor for sand blast @ 5 mph is 27 lb/1000 lb abrasive, uncontrolled. Emissions using steel shot are 10% of sand emissions, from the same source. Therefore, emission factor for steel shot is 2.7 lb/1000 lb abrasive, uncontrolled.

- f. EF based on *Emission of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel* by Bromsen et. al. Emission factor is for each cutting torch.
- g. Emission factors for natural gas-fired heaters and make-up air units:

Pollutant	CAS No.	EF (lb/mmcf)	EF Source
NH3		0.49	FIRE
CO		84.00	AP-42, 1.4-1
NOx		100.00	AP-42, 1.4-1
PM (TSP)		0.52	2011 NEI
PM-Con		0.32	2011 NEI
PM10-Fil		0.20	2011 NEI
PM2.5-Fil		0.11	2011 NEI
SO2		0.60	AP-42, 1.4-2
VOC		5.50	AP-42, 1.4-2
1,4-Dichlorobenzene	106-46-7	1.20E-03	AP-42, 1.4-3
2-Methylnaphthalene	91-57-6	2.40E-05	AP-42, 1.4-3
3-Methylchloranthrene	56-49-5	1.80E-06	AP-42, 1.4-3
7,12-Dimethylbenz(a)Anthracene	57-97-6	1.60E-05	AP-42, 1.4-3
Acenaphthene	83-32-9	1.80E-06	AP-42, 1.4-3
Acenaphthylene	203-96-8	1.80E-06	AP-42, 1.4-3
Anthracene	120-12-7	2.40E-06	AP-42, 1.4-3
Arsenic	As	2.00E-04	AP-42, 1.4-4
Benz(a)anthracene	56-55-3	1.80E-06	AP-42, 1.4-3
Benzene	71-43-2	2.10E-03	AP-42, 1.4-3
Benzo(a)pyrene	50-32-8	1.20E-06	AP-42, 1.4-3
Benzo(b)fluoranthene	205-99-2	1.80E-06	AP-42, 1.4-3
Benzo(g,h,i)perylene	191-24-2	1.20E-06	AP-42, 1.4-3
Benzo(k)fluoranthene	205-82-3	1.80E-06	AP-42, 1.4-3
Beryllium	Be	1.20E-05	AP-42, 1.4-4
Cadmium	Cd	1.10E-03	AP-42, 1.4-4
Chromium VI	Cr	1.40E-03	AP-42, 1.4-4
Chrysene	218-01-9	1.80E-06	AP-42, 1.4-3
Cobalt	Co	8.40E-05	AP-42, 1.4-4
Dibenzo(a,h)anthracene	53-70-3	1.20E-06	AP-42, 1.4-3
Fluoranthene	206-44-0	3.00E-06	AP-42, 1.4-3
Fluorene	86-73-7	2.80E-06	AP-42, 1.4-3
Formaldehyde	50-00-0	7.50E-02	AP-42, 1.4-3
Hexane	110-54-3	1.80E+00	AP-42, 1.4-3
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E-06	AP-42, 1.4-3
Manganese	Mn	3.80E-04	AP-42, 1.4-4
Mercury	Hg	2.60E-04	AP-42, 1.4-4
Naphthalene	91-20-3	6.10E-04	AP-42, 1.4-3
Nickel	Ni	2.10E-03	AP-42, 1.4-4
Phenanthrene	85-01-8	1.70E-05	AP-42, 1.4-3
Pyrene	129-00-0	5.00E-06	AP-42, 1.4-3
Selenium	Se	2.40E-05	AP-42, 1.4-4

Pollutant	CAS No.	EF (lb/mmcf)	EF Source
Toluene	108-88-3	3.40E-03	AP-42, 1.4-3

h. Emission factors for welding machines:

Descriptions	EF for PM (lb/1000 lb)	EF for Cr (10 ⁻¹ /1000 lb)	EF for Co (10 ⁻¹ /1000 lb)	EF for Ni (10 ⁻¹ /1000 lb)	EF for Mn (10 ⁻¹ /1000 lb)	EF for Cu (10 ⁻¹ /1000 lb)
E6010	25.6	0.03	0	0.04	9.91	0.03
E7018	18.4	0.06	0.01	0.02	10.3	0.06
E7024	9.2	0.01	0	0	6.29	0.01
E70S	5.2	0.01	0.01	0.01	3.18	0.01
E70T	15.1	0.04	0	0.05	8.91	0.04
E71T	12.2	0.02	0.01	0.04	6.62	0.02
E309LT*	15.1	8.11	0	1.04	5.34	8.11
E316LT	10	5.22	0	0.55	5.44	5.22
308LSi SS Weld Wire**	5.24	5.24	0.01	1.84	3.46	5.24
E308	10.8	3.93	0.01	0.43	2.52	3.93

7. Insignificant Activities

Equipment	Qty	PTE (ton/yr)	Regulation Basis
Used oil aboveground storage tank, 250 gal	1	VOC: 0.01	Regulation 1.02, Appendix A
Small space heaters and make-up air units, natural gas fired, capacity ranged 0.05-0.395 MMBtu/hr (All are indirect-fired units)	117	NO _x : 0.11	Regulation 1.02, Appendix A
Research and development activities with potential emissions less than 5 tpy	2	0	Regulation 1.02, Appendix A
Closed system solvent distillation unit, make Finish Thompson, model LS-15D	1	0	Regulation 1.02, section 1.38.1.2
Pressurized VOC storage vessels	15	0	Regulation 1.02, Appendix A
Internal combustion engines, fixed or mobile	5	NO _x : 2.2 (max.)	Regulation 1.02, Appendix A
Separate and mostly mobile stations for performing welding, cutting, and gouging	54	PM ₁₀ : 1.7	Regulation 1.02, Appendix A
Wood-working operation	1	PM ₁₀ : 0.01	Regulation 1.02, Appendix A
Nitrogen and Oxygen storage tanks	402	0	Regulation 1.02, section 1.38.1.2
Paint and solvent storage containers, each less than 250 gallons	500	VOC: 1.3	Regulation 1.02, Appendix A

Equipment	Qty	PTE (ton/yr)	Regulation Basis
Portable cylinders of inflammable gases	200	VOC: 0.01	Regulation 1.02, Appendix A
Plate seamer using submerged arc welding	1	PM ₁₀ : 0.1	Regulation 1.02, section 1.38.1.2
Waste storage containers, 55-gallon drums	20	VOC: 0.01	Not regulated
Non-halogenated cold solvent parts washers with secondary reservoir (See Unit U3)	2	VOC: 0.32 each	Regulation 1.02, Appendix A
Direct-fired natural gas roof unit at North Paint Area, make Hartzell, model GR181, with a rated capacity of 1.95 MMBtu/hr. Installed 1968. Error! Bookmark not defined.	1	NO _x : 0.20	Regulation 1.02, section 1.38.1.2
Direct-fired natural gas roof unit at Balcony Area, make Hartzell, model GC402, with a rated capacity of 4.0 MMBtu/hr. Installed 1971. Error! Bookmark not defined.	1	NO _x : 0.41	Regulation 1.02, section 1.38.1.2
Direct-fired natural gas ground units, with a rated capacity of 3.5 MMBtu/hr for each. Installed 2002. Error! Bookmark not defined.	4	NO _x : 1.44	Regulation 1.02, section 1.38.1.2
Caterpillar 3360B-DI 250 kW diesel emergency generator. (See Unit U7)	1	NO _x : 2.21	Regulation 1.02, section 1.38.1.2
Cummins DQDAA-6380778 250 kW diesel emergency generator. (See Unit U7)	1	NO _x : 2.21	Regulation 1.02, section 1.38.1.2
Diesel fuel storage tank for Caterpillar engine, 200 gallons	1	VOC: 0.01	Regulation 1.02, Appendix A
Diesel fuel storage tank for Cummins engine, 500 gallons	1	VOC: 0.01	Regulation 1.02, Appendix A
Portable diesel or gasoline storage and refuel tank less than 500 gal	2	VOC: 0.1	Regulation 1.02, Appendix A
Containers, reservoirs, or tanks used exclusively for storage of lubricating oils or fuel oils with a vapor pressure of less than 10 mmHg at conditions of 20°C and 760 mmHg	30	VOC: 0.01	Regulation 1.02, Appendix A

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16, section 3.5.4.1.4.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements as required by Regulation 2.16, section 4.1.9.4.
3. The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.

4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.
5. The owner or operator shall submit an updated list of insignificant activities that occurred during the preceding year pursuant to Regulation 2.16, section 4.3.5.3.6.
6. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions, or use Potential to Emit (PTE) to be reported on the annual emission inventory.
7. The District has determined pursuant to Regulation 2.16, section 4.1.9.4 that no monitoring, record keeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) Basis of Regulation Applicability for IA units