

**Louisville Metro Air Pollution Control District**  
**850 Barret Ave., Louisville, Kentucky 40204**  
**18 November 2011**

**Title V Statement of Basis**

**Company:** Caldwell Tanks, Inc.

**Plant Location:** 4000 Tower Road, Louisville, Kentucky 40219

**Date Application Received:** 12 April 2005  
30 March 2006

**Date Admin Complete:** 29 May 2006

**Date of Draft Permit:** 06 Sept 2011

**Date of Proposed Permit:** 06 Sept 2011

**District Engineer:** Yiqiu Lin

**Permit No:** 134-97-TV (R2)

**Plant ID:** 0034

**SIC Code:** 3443

**NAICS:** 332313

**AFS:** 00034

**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.

Jefferson County is classified as an attainment area for lead (Pb), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), 1 hr and 8 hr ozone (O<sub>3</sub>), and particulate matter less than 10 microns (PM<sub>10</sub>); and is a non-attainment area for particulate matter less than 2.5 microns (PM<sub>2.5</sub>).

**Application Type/Permit Activity:**

Initial Issuance

Permit Revision

Administrative

Minor

Significant

Permit Renewal

**Compliance Summary:**

Compliance certification signed

Compliance schedule included

Source is out of compliance

Source is operating in compliance

**I. Source Information**

1. **Product Description:** Fabricated steel plate work
2. **Process Description:** Caldwell Tanks Inc. 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 and under common control.
4. **Emission Unit Summary:**

<b>Emission Unit</b>	<b>Equipment Description</b>
U1	Three (3) shot blast booths
U2	Two (2) paint booths
U3	Two (2) non-halogenated cold solvent parts washers
U4	Six (6) plant make-up air units

5. **Fugitive Sources:** There are fugitive emissions from the shot blast booths (U1) when the collectors for the shot blast booths are vented indoors.
6. **Permit Revisions:**

<b>Revision No.</b>	<b>Issue Date</b>	<b>Public Notice Date</b>	<b>Type</b>	<b>Attachment No./Page No.</b>	<b>Description</b>
Initial	9/28/2001	1/14/2001	Initial	Entire Permit	Initial Permit Issuance
R1	12/6/2002	N/A	Administrative	Emission Unit U1	Incorporate new performance indicator range for control device C5
R2	10/18/2011	9/6/2011	Renewal	Entire Permit	Permit renewal; Add MACT, 40 CFR 63, Subpart M; Incorporate CAM Plan

**7. Emission Summary:**

<b>Pollutant</b>	<b>Actual Emissions (tpy) 2010 Data</b>	<b>Pollutant that triggered Major Source Status (based on PTE)</b>
<b>CO</b>	1.17	No
<b>NO<sub>x</sub></b>	12.45	No
<b>SO<sub>2</sub></b>	0.08	No
<b>PM</b>	22.1	Yes
<b>VOC</b>	19.2	Yes
<b>Single HAP &gt; 1 tpy</b>	Xylene (1330-20-7) = 5.3 Ethyl Benzene (100-41-4) = 1.0 MIBK (108-10-1) = 1.39	Yes
<b>Total HAPs</b>	8.8	Yes

**8. Applicable Requirements:**

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

**9. Future MACT Requirements:** The source has no future MACT requirements.

**10. Referenced Federal Regulations in Permit:**

40 CFR Part 63 Subpart M      National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products

40 CFR Part 64      Compliance Assurance Monitoring for Major Stationary Sources

**II. Regulatory Analysis**

- 1. Acid Rain Requirements:** Caldwell Tanks Inc. 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 Inc. 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 Inc. 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:** Caldwell Tanks Inc. is subject to 40 CFR Part 64 - *Compliance Assurance Monitoring for Major Stationary Sources* since the source is major for PM and needs to apply control devices to ensure the compliance with the PM emission standards specified in the Title V permit.
5. **Basis of Regulation Applicability**

- a. **Plant-wide**

Caldwell Tanks Inc. is a major source for VOC, PM, single HAP, and total HAPs. Regulation 2.16 - *Title V Operating Permits* establishes requirements for major sources.

Regulations 5.01, 5.21, and 5.23 (STAR Program) establishes requirements for environmental acceptability of toxic air contaminants (TACs) and the requirement to comply with all applicable emission standards. Caldwell Tanks Inc. emits Category 1 TAC Chromium, Nickel, Benzene and various Category 2 TACs from the blast booths and paint coating operation. Caldwell Tanks Inc. submitted their Category 1 and Category 2 TAC Environmental Acceptability Demonstration to the District on June 5, 2007, March 31, 2008, and August 12, 2011 respectively. Caldwell Tanks demonstrated the TAC emissions from this unit are in compliance with the STAR EA Goals.

**b. Emission Unit U1 - Shot blast booths**

**i. Equipment:**

<b>P/PE</b>	<b>Capacity</b>	<b>Install Date</b>	<b>Applicable Regulation</b>	<b>Basis for Applicability</b>
E1: One Wheelabrator blast booth	198,000 lb/hr	1968	5.01 and 6.09	Regulation 5.01 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values.
E2: One Clemco shot blast booth	825 lb/hr	1988	5.01 and 7.08	Regulation 6.09 establishes the requirements for PM emission from existing processes that commenced construction before September 1, 1976.
E3: One Pipeabrator blast booth	132,000 lb/hr	1998	5.01 and 7.08	Regulation 7.08 establishes the requirements for PM emission from new processes that commences construction after September 1, 1976.

**ii. Standards/Operating Limits**

**1) PM**

- (a) Wheelabrator blast booth (E1) is subject to Regulation 6.09. The emission standard for PM is determined in accordance with Regulation 6.09, section 3.2 as follows:

$$\begin{aligned} \text{Process weight rate} &= 198,000 \text{ lb/hr} = 99.0 \text{ ton/hr} \\ \text{PM limit} &= 55.0 * (99.0)^{0.11} - 40 = 51.2 \text{ lb/hr} \end{aligned}$$

- (b) Clemco blast booth (E2) is subject to Regulation 7.08. The emission standard for PM is determined in accordance with Regulation 7.08, section 3.1.2 as follows:

$$\begin{aligned} \text{Process weight rate} &= 825 \text{ lb/hr} < 1,000 \text{ lb/hr} \\ \text{PM limit} &= 2.34 \text{ lb/hr} \end{aligned}$$

- (c) Pipeabrator booth (E3) is subject to Regulation 7.08. The emission standard for PM is determined in accordance with Regulation 7.08, section 3.1.2 as follows:

follows:

Process weight rate = 132,000 lb/hr = 66.0 ton/hr

PM limit =  $17.31 * (66.0)^{0.16} = 33.8$  lb/hr

- (d) The PM emissions from this facility need to be controlled at all time to meet the PM standards.
- (e) Caldwell Tanks is major for PM, VOC, and HAPs. Only PM control devices are needed to achieve compliance with PM/Opacity standards. In accordance with 40 CFR 64, Compliance Assurance Monitoring for Major Stationary Sources, Caldwell Tanks is required to propose a CAM Plan for PM, based on current process and control device operating requirements and practices. Caldwell Tanks submitted the CAM Plan on October 5, 2009.

2) **Opacity**

Regulation 6.09, section 3.1 and Regulation 7.08, section 3.1.1 limit the visible emissions to twenty percent (20%) opacity.

3) **TAC**

- (a) Regulation 5.01 requires Group I sources to demonstrate environmental acceptability for each Category 1 TAC per Regulation 5.20, 5.21, 5.22, and 5.23. Caldwell Tanks submitted a revised STAR EA Demonstration on 8/12/2011 and demonstrated compliance with STAR Program.
- (b) The TAC emissions from this facility need to be controlled at all time to be in compliance with the STAR EA Goals.
- (c) In according to the EA Demonstration, only the controlled TAC emission are in compliance with EA Goals, therefore the source is required to utilize controls at all time the process equipment is in operation.

iii. **Monitoring and Record Keeping**

1) **PM/Opacity**

Regulation 6.09 and Regulation 7.08 does not require any specific monitoring and record keeping requirements for PM and opacity, however, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 require sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit.

2) **TAC**

Regulation 2.16, section 4.1.9.1 establishes monitoring requirements to assure ongoing compliance with the terms and conditions of the permit.

iv. **Reporting**

1) **PM/Opacity**

Regulation 6.09 and Regulation 7.08 does not require any specific reporting requirements for PM and opacity, however, Regulation 2.16, section 4.1.9.3 requires sufficient reporting to assure ongoing compliance with the terms and conditions of the permit.

2) **TAC**

Regulation 2.16, section 4.1.9.3 requires reporting to assure compliance with the terms and conditions of the permit.

c. **Emission Unit U2 - Paint booths**

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E4: South Paint Booth #1, custom-made	N/A	1975; Modified 2000		Regulation 5.01 establishes the requirements for Environmental Acceptability for TACs. The source is a Group I company with Category 1TACs which could exceed the de minimis values.  Regulation 6.09 establishes the requirements for PM emission from existing processes that commenced construction before September 1, 1976.
E5: North Paint Booth #2, custom-made	N/A	1975; modified 2000	5.01, 6.09, 6.31, and 40 CFR 63 Subpart MMMM	Regulation 6.31 establishes the requirements for VOC emissions from existing paint spray booths for metal parts commenced before May 20, 1981.  Subpart MMMM applies to miscellaneous metal parts and products surface coating facilities which uses 250 gallon or more HAP containing coatings and is located at a major source of HAP emissions.

ii. **Standards/Operating Limits**

1) **VOC**

Regulation 6.31, section 3.1 defines the VOC content limits for the coatings used for miscellaneous metal parts and products surface coating operation.

2) **Opacity**

The paint booths are subject to an opacity standard of less than 20% in accordance with Regulation 6.09, section 3.1.

3) **PM**

- (a) In accordance with Regulation 6.09, section 3.2, Table 1, since the process rate for this equipment is less than 0.5 ton/hr, the emission standard for PM is 2.58 lb/hr.

- (b) Caldwell Tanks has performed a one-time compliance demonstration for PM in 2001 semi-annual compliance report and the controlled PM emissions from the paint booths cannot exceed the hourly PM emission limit. Therefore, the requirements of utilizing the filters at all time and monitoring 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 be introduced to the process, with higher solids content, then it will be necessary to resubmit the demonstration.

4) **HAP**

- (a) Per Regulation 5.02, section 3.74, the source is subject to 40 CFR Part 63, Subpart Mmmm.
- (b) All coatings used at this plant are classified as general use coatings. For existing general use coating affected sources, the organic HAP emission limit is 2.6 lb organic HAP per gallon coating solids used during each 12-month compliance period.

5) **TAC**

Regulation 5.01 requires Group I sources to demonstrate environmental acceptability for each Category 1 TAC per Regulation 5.20, 5.21, 5.22, and 5.23. The source submitted a revised STAR EA Demonstration on 8/12/2011 and demonstrated the TAC emissions from this unit are in compliance with the STAR EA Goals except Ethyl Benzene. The source accepted a emission limit for Ethyl Benzene in order to demonstrate compliance with STAR program.

iii. **Monitoring and Record Keeping**

1) **VOC**

- (a) Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establishes monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.
- (b) The source is also required to meet the record keeping requirements in accordance with Regulation

## 6.31, section 6.

2) **Opacity/PM**

Regulation 6.09 does not require any specific monitoring and record keeping requirements for opacity and PM, however, Regulation 2.16, section 4.1.9.1 and 4.1.9.2 require sufficient monitoring and record keeping to assure ongoing compliance with the terms and conditions of the permit.

3) **HAP**

(a) The source is required to comply with applicable monitoring and record keeping requirements of 40 CFR Part 63, Subpart Mmmm.

(b) 40 CFR Part 63, Subpart Mmmm - *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Parts and Products* establishes three options to demonstrate compliance with the organic HAP emission standards in accordance with 63.3891: Compliant Material Option, Emission Rate without Add-on Controls Option, and Emission Rate with Add-on Controls Option. Since the paint booths are not equipped with any add-on controls for HAP, Caldwell Tanks may choose to demonstrate compliance with either Compliant Material Option or Emission Rate without Add-on Controls Option.

4) **TAC**

Regulation 2.16, section 4.1.9.1 and 4.1.9.2 establishes monitoring and record keeping requirements to assure ongoing compliance with the terms and conditions of the permit.

iv. **Reporting**1) **VOC**

Regulation 6.31 does not establish any reporting requirements. Regulation 2.16, section 4.1.9.3 establishes reporting requirements to assure ongoing compliance with the terms and conditions of the permit. The source is

required to report any permit deviations or exceedances of the VOC standard in their semi-annual compliance reports.

2) **Opacity/PM**

Regulation 6.09 does not require any specific reporting requirements for opacity, however, Regulation 2.16, section 4.1.9.3 requires reporting to assure compliance with the terms and conditions of the permit. The source is required to report any permit deviations or exceedances of the opacity standard in their semi-annual compliance reports.

3) **HAP**

(a) The source is required to comply with applicable reporting requirements of 40 CFR Part 63, Subpart MMMM.

(b) In accordance with 40 CFR Part 63, Subpart MMMM, section 63.3920(a)(1) and 63.3920(a)(1)(iv), Caldwell Tanks may submit their Subpart MMMM semiannual compliance reports on the same schedule as the Title V operating permit reporting requirements.

(c) According to the requirements of §63.3910, Caldwell Tanks is required to submit an initial notification no later than January 2, 2005 and an notification of compliance status for the initial compliance period no later than March 2, 2008. Caldwell Tanks submitted the initial notification and the initial compliance demonstration prior to the required due days and therefore has fulfilled this requirement.

4) **TAC**

Regulation 2.16, section 4.1.9.3 establishes reporting requirements to assure ongoing compliance with the terms and conditions of the permit.

d. **Emission Unit U3 - Cold solvent parts washers**

i. **Equipment:**

P/PE	Capacity	Install Date	Applicable Regulation	Basis for Applicability
E6: One cold solvent metal parts washer	30 gallon	1998	6.18	Regulation 6.18 applies to each cold cleaner that use VOCs to remove soluble impurities from metal surfaces.
E7: One cold solvent metal parts washer	30 gallon	1998		

ii. **Standards/Operating Limits**

**VOC**

Regulation 6.18, section 4 establishes the requirements to install, maintain, and operate the parts washers.

iii. **Monitoring and Record Keeping**

**VOC**

The source is required to monitor and maintain records in accordance with Regulation 6.18, section 4.4.

iv. **Reporting**

**VOC**

Regulation 6.18 does not establish any reporting requirements. Regulation 2.16, section 4.1.9.3 establishes reporting requirements to assure ongoing compliance with the terms and conditions of the permit. The source is required to report any permit deviations or exceedances of the VOC standard in their semi-annual compliance reports.

e. **Emission Unit U4 - Plant make-up air units**

i. **Equipment**

<b>P/PE</b>	<b>Capacity</b>	<b>Install Date</b>	<b>Applicable Regulation</b>	<b>Basis for Applicability</b>
E8: One natural gas roof unit at North Paint Area	1.95 MMBtu/hr	1968	6.09, 6.10	Regulation 6.09 establishes the requirements for PM and NO <sub>x</sub> emissions from existing process that commenced construction before September 1, 1976.  Regulation 6.10 establishes requirements for existing process gas streams that commenced construction before April 19, 1972.
E9: One natural gas roof unit at Balcony Area	4.0 MMBtu/hr	1971	6.09, 6.10	Regulation 7.08 establishes the requirements for PM and NO <sub>x</sub> emissions from new processes that commences construction after September 1, 1976.
E10: Four natural gas ground unit	3.5 MMBtu/hr each	2002	7.08, 7.09	Regulation 7.09 establishes requirements for new process gas streams that commenced construction after April 19, 1972.

ii. **Standards/Operating Limits**1) **PM**

- (a) In accordance with Regulation 6.09, section 3.2, Table 1, since the process rate for E8 and E9 is less than 0.5 ton/hr the emission standard for PM is 2.58 lb/hr.
- (b) In accordance with Regulation 7.08, section 3.3, Table 1, since the process rate for E10 is less than 0.5 ton/hr the emission standard for PM is 2.34 lb/hr.

2) **Opacity**

The boilers are subject to the opacity standards (20%) in accordance with Regulation 6.07, section 3.2 and Regulation 7.06, section 4.2.

3) **NO<sub>x</sub>**

Boilers E8 and E9 are subject to the NO<sub>x</sub> standard in accordance with Regulation 6.09, section 4. Boilers E10 are subject to the NO<sub>x</sub> standard in accordance with Regulation 7.08, section 4.

4) **SO<sub>2</sub>**

Boilers E8 and E9 are subject to the SO<sub>2</sub> standard in accordance with Regulation 6.10, section 4. Boilers E10 are subject to the SO<sub>2</sub> standard in accordance with Regulation 7.09, section 4.

5) **CO**

Boilers E8 and E9 are subject to the CO standard in accordance with Regulation 6.10, section 5. Boilers E10 are subject to the CO standard in accordance with Regulation 7.09, section 5.

iii. **Monitoring and Record Keeping****PM /Opacity /NO<sub>x</sub> /SO<sub>2</sub> /CO**

- (a) A one-time PM, NO<sub>x</sub> and SO<sub>2</sub> compliance demonstration has been performed for the direct heat units, using AP-42 emission factors and combusting natural gas and propane, the emission standards cannot be exceeded. Therefore, there are no monitoring, record keeping, and reporting requirements for these direct heat units with respect to PM, NO<sub>x</sub> and SO<sub>2</sub> emission limits.
- (b) The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.
- (c) The CO emissions from the process are created by the combustion of natural gas to generate heat. The nominal flame temperature of greater than 2,000°F exceeds the 1,300°F temperature requirement of 7.09, section 5.1.

iv. **Reporting**

**PM /Opacity /NOx /SO<sub>2</sub> /CO**

There are no reporting requirements for this equipment since the emission standards cannot be exceeded.

**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:** N/A
4. **Alternative Operating Scenarios:** The source is allowed to operate emission U1 at an alternative operating scenario. Emission unit U1, consisting of emission point E1, E2, and E3, normally operates with the baghouses vented inside the building. Under the alternative operating scenario, the owner or operator is allowed to vent the baghouses to the outdoors and the emission points are designated as E1A, E2A, and E3A respectively.
5. **Compliance History:** There were no notices of violation issued to this facility.
6. **Calculation Methodology or Other Approved Method:**

Blast booths: The source shall calculate PM emissions using the emission factors from approved stack test within 10 years. The HAP and TAC emissions shall be determined based on the MSDS of the materials.

Paint booths: The source shall use mass balance method to determine the criteria pollutants and HAP emissions based on coating material usage and pollutant contents per MSDS of the coating materials.

Make-up air units: The source shall calculate the criteria pollutants and HAP emissions based on total heat input and emission factors from AP-42, 1.4 for natural gas combustion.

<b>Equipment</b>	<b>Product</b>	<b>Emission Factor</b>	<b>EF Source</b>
Blast booths (E1 and E3)	PM	0.179 lb PM/1000 lb abrasive, uncontrolled	Stack Test, March 2011
		0.0015 lb PM/1000 lb abrasive, controlled	

Equipment	Product	Emission Factor	EF Source
Blast booths (E2)	PM	2.7 lb PM/1000 lb abrasive, uncontrolled	AP-42 Section 13.2.6
Paint booths	VOC	VOC content in lb/gal paint	Mass Balance Method
	HAP	HAP content in lb/gal paint	
Make-up air unit, natural gas combustion	NOx	100 lb/mmcf	AP-42 Section 1.4-1
	CO	84 lb/mmcf	AP-42 Section 1.4-2
	PM	7.6 lb/mmcf	
	PM10	7.6 lb/mmcf	
	VOC	5.5 lb/mmcf	
	SO <sub>2</sub>	0.6 lb/mmcf	
	Hexane (HAP)	1.8 lb/mmcf	AP-42 Section 1.4-3

## 7. Insignificant Activities

Description	Quantity	Basis for Exemption
Used oil aboveground storage tank, 250 gal	1	Regulation 2.02, 2.3.9.2
Small space heaters and make-up air units, natural gas fired, capacity ranged 0.05-0.395 MMBtu/hr	117	Regulation 2.02, 2.1.1
Research and development activities with potential emissions less than 5 tpy	1	Regulation 2.02, 2.3.27
Closed system solvent distillation unit, make Finish Thompson, model LS-15D	1	Closed-loop system with "zero emission", capacity 1.9 gal/hr
VOC storage vessel, capacity 15 gal	1	Regulation 2.02, 2.3.24
Portable diesel and gasoline storage tanks, 250 gal for each	2	Regulation 2.02, 2.3.23
Internal combustion engines, fixed or mobile	5	Regulation 2.02, 2.2
Separate and mostly mobile stations for performing welding, cutting, and gouging	54	Regulation 2.02, 2.3.4
Wood-working operation	1	Regulation 2.02, 2.3.5
Nitrogen and Oxygen storage tanks	402	Regulation 2.02, 2.3.26
Paint and solvent storage containers	500	Regulation 2.02, 2.3.24
Portable cylinders of flammable gases	200	Regulation 2.02, 2.3.26
Waste storage containers	20	Not regulated

- 1) Insignificant activities identified in District Regulation 2.02 Section 2, 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 2.02 Section 2 shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.
- 3) 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.
- 4) The Insignificant Activities Table is correct as of the date the permit was proposed for review by U.S. EPA, Region 4.
- 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 elected to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions to be reported on the annual emission inventory.