



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



Title V Operating Permit

Permit No.: O-0002-17-V (R1)

Plant ID: 0002

Effective Date: June 13, 2017

Expiration Date: June 30, 2022

Issue Date: April 19, 2019

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

Source:	Industrial Container Services – KY	Owner:	Industrial Container Services – KY
	405 Industry Road		405 Industry Road
	Louisville, Kentucky 40208-1692		Louisville, Kentucky 40208-1692

The applicable procedures of District Regulation 2.16 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than eighteen months and no later than six months prior to the expiration date.

Application No.: See **Application and Related Documents** table.

Administratively Complete Date: 04/27/2016

Public Notice Date: 05/06/2017

Proposed Permit Date: 05/06/2017

Permit writer: Rick Williams

Air Pollution Control Officer
4/19/2019

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Title V Permit Revisions/Changes

Revision No.	Permit No.	Issue Date	Public Notice Date	Change Type	Description
Initial	139-97-TV	01/24/2001	04/02/2000	Initial	Initial Permit Issuance
R1	139-97-TV(R1)	08/02/2011	04/01/2011	Renewal	5 year renewal: Incorporate Construction Permits 121-03, 348-05, 82-06, 446-08, 447-08, 259-09-C. Change of Address Ownership/Name Change
N/A	O-0002-17-V	06/13/2017	05/06/2017	Renewal	Renewal, change permit number format Incorporate Construction Permit: 31887-11-C
R1	O-0002-17-V (R1)	04/19/2019	N/A	Admin Revision	pp 17-19 – update plantwide STAR requirements to current standard language pp. 24, 102 – Update oven and afterburner control efficiencies based on Feb 13, 2018 stack test pp 35-53,97,102,103 - Incorporate construction permit C-0002-1001-18-V pp. 82, 103 – update default control efficiency for bag houses update control device language throughout

Construction Permit History since Last TV Permit Renewal

Permit No.	Effective Date	Description
31887-11-C	05/31/2011	One (1) new Wheelabrator Baghouse (No. 9 Model 126-D K.D.) replacing cartridge-type dust collector C14a that control emissions from the existing #1 Open Head Drum Blaster E14a.
C-0002-1001-18-V	12/26/2018	Global Finishing Systems model RCBG-140812-SF3-S paint booth and 1.0 MMBtu/hr natural gas-fired paint curing oven

Permit Renewal Related Documents

Document Number	Date Received	Description
75725	03 Mar 2016	Permit renewal application
76554	07 Apr 2016	Request for additional application information
76778	26 Apr 2016	Receipt of additional paint usage information and Cert of Authority
76781	27 Apr 2016	“Administratively complete” verification letter from the District
80399	09 Jun 2016	Letter to Industrial Container requesting updated EA Demo
78864	10 Aug 2016	Updated EA Demo response
80372	27 Sep 2016	40 CFR 63, Subpart DDDDD Notice and Action Required
81057	29 Dec 2016	Initial Notification of Applicability – 40 CFR 63, Subpart DDDDD
81516	17 Jan 2017	Request for Initial Tune-up schedule
81517	27 Jan 2017	Energy Assessment and Boiler Tune-up results
81518	30 Jan 2017	Request for Notice of Compliance Status
82279	01 Mar 2017	Notice of Compliance Status
88757	11/03/2017	Approval of stack test deadline extension
90149	01/19/2018	Review of stack test protocol re: alternate test methods
90184	01/24/2018	Approval of stack test protocol with alternate test methods
91558	04/12/2018	Stack test final test report
92555	06/11/2018	Letter authorizing use of new afterburner emission factors based on stack test results.
96580	12/27/2018	Issuance of paint booth construction permit
96963	02/04/2019	email authorizing use of new default control efficiency for bag houses

Abbreviations and Acronyms

AP-42	- AP-42, <i>Compilation of Air Pollutant Emission Factors</i> , published by U.S.EPA
APCD	- Louisville Metro Air Pollution Control District
BAC	- Benchmark Ambient Concentration
BACT	- Best Available Control Technology
Btu	- British thermal unit
CEMS	- Continuous Emission Monitoring System
CFR	- Code of Federal Regulations
CO	- Carbon monoxide
District	- Louisville Metro Air Pollution Control District
EA	- Environmental Acceptability
gal	- U.S. fluid gallons
GHG	- Greenhouse Gas
HAP	- Hazardous Air Pollutant
Hg	- Mercury
hr	- Hour
in.	- Inches
lbs	- Pounds
l	- Liter
LMAPCD	- Louisville Metro Air Pollution Control District
mmHg	- Millimeters of mercury column height
MM	- Million
MSDS	- Material Safety Data Sheet
NAICS	- North American Industry Classification System
NO _x	- Nitrogen oxides
PM	- Particulate Matter
PM ₁₀	- Particulate Matter less than 10 microns
PM _{2.5}	- Particulate Matter less than 2.5 microns
ppm	- parts per million
PSD	- Prevention of Significant Deterioration
psia	- Pounds per square inch absolute
QA	- Quality Assurance
RACT	- Reasonably Available Control Technology
SDS	- Safety Data Sheet
SIC	- Standard Industrial Classification
SIP	- State Implementation Plan
SO ₂	- Sulfur dioxide
STAR	- Strategic Toxic Air Reduction
TAC	- Toxic Air Contaminant
UTM	- Universal Transverse Mercator
VOC	- Volatile Organic Compound
w.c.	- Water column
year	- Any period of twelve consecutive months, unless "calendar year" is specified
yr	- Year, or any 12 consecutive-month period, as determined by context

Preamble

Title V of the Clean Air Act Amendments of 1990 (the Act) required EPA to create an operating permit program for implementation by state or local air permitting authorities. The purposes of this program are: (1) to require an affected company to assume full responsibility for demonstrating compliance with applicable regulations; (2) to capture all of the regulatory information pertaining to an affected company in a single document; and (3) to make permits more consistent with each other.

A company is subject to the Title V program if it meets any of several criteria related to the nature or amount of its emissions. The Title V operating permit specifies what the affected company is, how it may operate, what its applicable regulations are, how it will demonstrate compliance, and what is required if compliance is not achieved. In Jefferson County, Kentucky, the Louisville Metro Air Pollution Control District (LMAPCD or APCD) is responsible for issuing Title V permits to affected companies and enforcing local regulations and delegated federal and state regulations. EPA may enforce federal regulations but not "District Only Enforceable Regulations."

Title V offers the public an opportunity to review and comment on a company's draft permit. It is intended to help the public understand the company's compliance responsibility under the Clean Air Act. Additionally, the Title V process provides a mechanism to incorporate new applicable requirements. Such requirements are available to the public for review and comment before they are adopted.

Title V Permit General Conditions define requirements that are generally applicable to all Title V companies under the jurisdiction of LMAPCD. This avoids repeating these requirements in every section of the company's Title V permit. Company-specific conditions augment the General Conditions as necessary; these appear in the sections of the permit addressing individual emission units or emission points.

The General Conditions include references to regulatory requirements that may not currently apply to the company, but which provide guidance for potential changes at the company or in the regulations during the life of the permit. Such requirements may become applicable if the company makes certain modifications or a new applicable requirement is adopted.

When the applicability of a section or subpart of a regulation is unclear, a clarifying citation will be made in the company's Title V permit at the emission unit/point level. Comments may also be added at the emission unit/point level to give further clarification or explanation.

The owner or operator's Title V permit may include a current table of "insignificant activities."

Insignificant activities are defined in District Regulation 2.16 section 1.23, as of the date the permit was proposed for review by U.S. EPA, Region 4.

Insignificant activities identified in District Regulation 1.02, section 1.38, and Appendix A may be subject to size or production rate disclosure requirements pursuant to Regulation 2.16 section 3.5.4.1.4.

Insignificant activities identified in District Regulation 1.02, section 1.38, and Appendix A shall comply with generally applicable requirements as required by Regulation 2.16 section 4.1.9.4.

General Conditions

1. **Compliance** - The owner or operator shall comply with all applicable requirements and with all terms and conditions of this permit. Any noncompliance shall constitute a violation of the Act, State, and District regulations and shall cause the source to be subject to enforcement actions including, but not limited to, the termination, revocation and reissuance, or revision of this permit, or denial of a permit application to renew this permit. Notwithstanding any other provision in the Jefferson County portion of the Kentucky SIP approved by EPA, any credible evidence may be used for the purpose of establishing whether the owner or operator is in compliance with, has violated, or is in violation of any such plan. [Regulation 2.16, sections 4.1.3, 4.1.13.1, and 4.1.13.7]
2. **Compliance Certification** - The owner or operator shall certify, annually, or more frequently if required in applicable regulations, compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall meet the requirements of Regulation 2.16, sections 3.5.11 and 4.3.5. The owner or operator shall submit the annual compliance certification (Form 9400-O) directly to the EPA and to the District, as set forth in Regulation 2.16, section 4.3.5.4, at the following addresses:

*US EPA - Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-8960*

*Air Pollution Control District
701 W. Ormsby Ave., Suite 303
Louisville, KY 40203*

The owner or operator shall submit the Compliance Certification on or before April 15 of each year, or other such due date as required by another applicable regulation.

3. **Compliance Schedule** - The owner or operator shall submit a schedule of compliance for each emission unit that is not in compliance with all applicable requirements. A compliance schedule must meet the requirements of Regulation 2.16, section 3.5.9.5. A schedule of compliance shall be supplemental to, and shall not condone noncompliance with, the applicable requirements on which it is based. For each schedule of compliance, the owner or operator shall submit certified progress reports at least semi-annually, or at a more frequent period if specified in an applicable requirement or by the District in accordance with Regulation 2.16 section 4.3.4. The progress reports shall contain:
 - a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when activities, milestones, or compliance were achieved.
 - b. An explanation of why dates in the schedule of compliance were not or will not be met, and preventive or corrective measures adopted.
4. **Duty to Supplement or Correct Application** - If the owner or operator fails to submit relevant facts or has submitted incorrect information in the permit application, they shall, upon discovery of the occurrence, promptly submit the supplementary facts or corrected information in accordance with Regulation 2.16, section 3.4.

5. **Emergency Provision**

- a. An emergency shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emission limitations if the conditions in Regulation 2.16 are met. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - i. An emergency occurred and that the owner or operator can identify the cause of the emergency;
 - ii. The permitted facility was at the time being properly operated;
 - iii. During the period of the emergency the owner or operator expeditiously took all reasonable steps, consistent with safe operating practices, to minimize levels of emissions that exceeded the emission standards or other requirements in this permit; and
 - iv. The owner or operator submitted notice meeting the requirements of Regulation 1.07 of the time when emissions limitations were exceeded because of the emergency. This notice must fulfill the requirement of this condition, and must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- b. In an enforcement proceeding, the owner or operator seeking to establish the occurrence of an emergency has the burden of proof.
- c. This condition is in addition to any emergency or upset provision contained in an applicable requirement. [Regulation 2.16, sections 4.7.1 through 4.7.4]

6. **Emission Fees Payment Requirements** - The owner or operator shall pay annual emission fees in accordance with Regulation 2.08, section 12.3. Failure to pay the emissions fees when due shall constitute a violation of District Regulations. Such failure is subject to penalties and an increase in the fee of an additional 5% per month up to a maximum of 25% of the original amount due. In addition, failure to pay emissions fees within 60 days of the due date shall automatically suspend this permit to operate until the fee is paid or a schedule for payment acceptable to the District has been established. [Regulation 2.08, section 12.2.4]

7. **Emission Offset Requirements** - The owner or operator shall comply with the requirements of Regulation 2.04.

8. **Enforceability Requirements** - Except for the conditions that are specifically designated as District-Only Enforceable Conditions, all terms and conditions of this permit, including any provisions designed to limit a source's potential to emit, are enforceable by EPA and citizens as specified under the Act. [Regulation 2.16, sections 4.2.1 and 4.2.2]

9. **Enforcement Action Defense**

- a. It shall not be a defense for the owner or operator in an enforcement action that it would have been necessary for the owner or operator to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

- b. The owner or operator's failure to halt or reduce activity may be 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 continued operation. [Regulation 2.16, sections 4.1.13.2 and 4.1.13.3]
10. **Hazardous Air Pollutants and Sources Categories** - The owner or operator shall comply with the applicable requirements of Regulations 5.02 and 5.14.
11. **Information Requests** - The owner or operator shall furnish to the District, within a reasonable time, information requested in writing by the District, to determine whether cause exists for revising, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The owner or operator shall also furnish, upon request, copies of records required to be kept by this permit. [Regulation 2.16, section 4.1.13.6]
- If information is submitted to the District under a claim of confidentiality, the source shall submit a copy of the confidential information directly to EPA at the address shown in General Condition 35.b. [Regulation 2.07, section 10.2]
12. **Insignificant Activities** - The owner or operator shall:
- a. Notify the District in a timely manner of any proposed change to an insignificant activity that would require a permit revision. [Regulation 2.16, section 5]
- b. Submit a current list of insignificant activities by April 15 of each year with the annual compliance certification, including an identification of the additions and removals of insignificant activities that occurred during the preceding year. [Regulation 2.16, section 4.3.5.3.6]
13. **Inspection and Entry** - Upon presentation of credentials and other documents as required by law, the owner or operator shall allow the District or an authorized representative to perform the following during reasonable hours: [Regulation 2.16, section 4.3.2]
- a. Enter the premises to inspect any emissions-related activity or records required in this permit.
- b. Have access to and copy records required by this permit.
- c. Inspect facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required by this permit.
- d. Sample or monitor substances or parameters to assure compliance with this permit or any applicable requirements.
14. **Monitoring and Related Record Keeping and Reporting Requirement** - The owner or operator shall comply with the requirements of Regulation 2.16, section 4.1.9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month. The owner or operator shall submit all required monitoring reports at least once every six months, unless more frequent reporting is required by an applicable requirement. The reporting period shall be 1 January through 30 June and 1 July through 31 December of each

calendar year. All reports shall be sent to the District at the address shown in paragraph 2 of these General Conditions and must be submitted by the 60th day following the end of each reporting period, unless specified elsewhere in this permit. If surrogate operating parameters are monitored and recorded in lieu of emission monitoring, then an exceedance of multiple parameters may be deemed a single violation by the District for enforcement purposes. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All semi-annual compliance reports shall include the statement "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete" and the signature and title of a responsible official of the company.

The semi-annual compliance reports are due on or before the following dates of each calendar year:

<u>Reporting Period</u>	<u>Report Due Date</u>
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year

If a change in the responsible official (RO) occurs during the term of this permit, or if an RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

15. **Off-permit Documents** - Any applicable requirements, including emission limitations, control technology requirements, or work practice standards, contained in an off-permit document cannot be changed without undergoing the permit revision procedures in Regulation 2.16, section 5. [Regulation 2.16, section 4.1.5]
16. **Operational Flexibility** - The owner or operator may make changes without permit revision in accordance with Regulation 2.16, section 5.8.
17. **Permit Amendments (Administrative)** - This permit can be administratively amended by the District in accordance with Regulation 2.16, section 5.4.
18. **Permit Application Submittal** - The owner or operator shall submit a timely and complete application for permit renewal or significant revision. If the owner or operator submits a timely and complete application then the owner or operator's failure to have a permit is not a violation until the District takes formal action on this permit application. This protection shall cease to apply if, subsequent to completeness determination, the owner or operator fails to submit, by the deadline specified in writing by the District, additional information required to process the application as required by Regulation 2.16, sections 3 and 5.2.
19. **Permit Duration** - This permit is issued for a fixed term of 5 years, in accordance with Regulation 2.16, section 4.1.8.3.
20. **Permit Renewal, Expiration and Application** - Permit renewal, expiration and application procedural requirements shall be in accordance with Regulation 2.16, sections 4.1.8.2 and 5.3. This permit may only be renewed in accordance with section 5.3.

21. **Permit Revisions** - 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. [Regulation 2.16, section 4.1.16]
22. **Permit Revision Procedures (Minor)** - Except as provided in 40 CFR Part 72, the Acid Rain Program, this permit may be revised in accordance with Regulation 2.16, section 5.5.
23. **Permit Revision Procedures (Significant)** - A source seeking to make a significant permit revision shall meet all the Title V requirements for permit applications, issuance and Permit renewal, in accordance with Regulation 2.16, section 5.7, and all other applicable District Regulations.
24. **Permit Termination and Revocation by the District** - The District may terminate this permit only upon written request of the owner or operator. The District may revoke a permit for cause, in accordance with Regulation 2.16, section 5.11.1 through 5.11.6. For purposes of section 5.11.1, substantial or unresolved noncompliance includes, but is not limited to:
 - a. Knowingly operating process or air pollution control equipment in a manner not allowed by an applicable requirement or that results in excess emissions of a regulated air pollutant that would endanger the public or the environment;
 - b. Failure or neglect to furnish information, analyses, plans, or specifications required by the District;
 - c. Knowingly making any false statement in any permit application;
 - d. Noncompliance with Regulation 1.07, section 4.2; or
 - e. Noncompliance with KRS Chapter 77.
25. **Permit Shield** - The permit shield shall apply in accordance with Regulation 2.16, section 4.6.1.
26. **Prevention of Significant Deterioration of Air Quality** - The owner or operator shall comply with the requirements of Regulation 2.05.
27. **Property Rights** - This permit shall not convey property rights of any sort or grant exclusive privileges in accordance with Regulation 2.16, section 4.1.13.5.
28. **Public Participation** - Except for modifications qualifying for administrative permit amendments or minor permit revision procedures, all permit proceedings shall meet the requirements of Regulations 2.07, section 1; and 2.16, sections 5.1.1.2 and 5.5.4.
29. **Reopening For Cause** - This permit shall be reopened and revised by the District in accordance with Regulation 2.16 section 5.9.
30. **Reopening for Cause by EPA** - This permit may be revised, revoked and reissued or terminated for cause by EPA in accordance with Regulation 2.16 section 5.10.
31. **Risk Management Plan (112(r))** - For each process subject to section 112(r) of the Act, the owner or operator shall comply with 40 CFR Part 68 and Regulation 5.15.
32. **Severability Clause** - The conditions of this permit are severable. Therefore, if any condition of this permit, or the application of any condition of this permit to any specific

circumstance, is determined to be invalid, the application of the condition in question to other circumstances, as well as the remainder of this permit's conditions, shall not be affected. [Regulation 2.16, section 4.1.12]

33. **Stack Height Considerations** - The owner or operator shall comply with the requirements of Regulation 2.10.

34. **Startups, Shutdowns, and Upset Conditions Requirements** - The owner or operator shall comply with the requirements of Regulation 1.07.

35. **Submittal of Reports, Data, Notifications, and Applications**

a. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit as set forth in Regulation 2.16 sections 3.1, 3.3, 3.4, 3.5, 4.1.13.6, 5.8.5 and 5.12 shall be submitted to:

***Air Pollution Control District
701 W. Ormsby Ave., Suite 303
Louisville, KY 40203***

b. Documents that are specifically required to be submitted to EPA, as set forth in Regulation 2.16 sections 3.3 and 5.8.5 shall be mailed to EPA at:

***US EPA - Region IV
APTMD - 12th floor
Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104***

36. **Other Applicable Regulations** - The owner or operator shall comply with all applicable requirements of the following:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance With Emissions Standards And Maintenance Requirements
1.06	Source Self-Monitoring, Emission Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions

Regulation	Title
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.07	Public Notification for Title V, PSD, and Other Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
2.16	Title V Operating Permits
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.07	Episode Reporting Requirements
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards

District Only Enforceable Regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors
2.08	Emission Fee, Permit Fees and Permit Renewal Procedures
5.00	Definitions
5.01	General Provisions
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant
5.23	Categories of Toxic Air Contaminants

37. **Stratospheric Ozone Protection Requirements** - Any facility having refrigeration equipment, including air conditioning equipment, which uses a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), and any facility which maintains, services, or repairs motor vehicles using a Class I or II substance as refrigerant must comply with all requirements of 40 CFR 82, Subparts A, B, and F. Those requirements include the following restrictions:

- a. Any facility having any refrigeration equipment that normally contains fifty (50) pounds of refrigerant or more must keep servicing records documenting the date and type of all service and the quantity of any refrigerant added, according to 40 CFR 82.166;
- b. No person repairing or servicing a motor vehicle may perform any service on a motor vehicle air conditioner (MVAC) involving the refrigerant for such air conditioner unless the person has been properly trained and certified as provided in 40 CFR 82.34 and 40 CFR 82.40, and properly uses equipment approved according to 40 CFR 82.36 and 40 CFR 82.38, and complies with 40 CFR 82.42;
- c. No person may sell or distribute, or offer for sale or distribution, any substance listed as a Class I or II substance in 40 CFR 82, Subpart A, Appendices A and B, except in compliance with 40 CFR 82.34(b), 40 CFR 82.42, and/or 40 CFR 82.166;
- d. No person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the atmosphere any Class I or II substance used as a refrigerant in such equipment and no other person may open appliances (except MVACs as defined in 40 CFR 82.152) for service, maintenance, or repair unless the person has been properly trained and certified according to 40 CFR 82.161 and unless the person uses equipment certified for that type of appliance according to 40 CFR 82.158 and unless the person observes the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
- e. No person may dispose of appliances (except small appliances, as defined in 40 CFR 82.152) without using equipment certified for that type of appliance according to 40 CFR 82.158 and without observing the practices set forth in 40 CFR 82.156 and 40 CFR 82.166;
- f. No person may recover refrigerant from small appliances, MVACs and MVAC-like appliances (as defined in 40 CFR 82.152), except in compliance with the requirements of 40 CFR 82 Subpart F;
- g. If the permittee manufactures, transforms, imports, or exports, a Class I or II substance (listed in 40 CFR 82, Subpart A, Appendices A and B), the permittee is subject to all requirements as specified in 40 CFR 82 Subpart A, Production and Consumption Controls. [Regulation 2.16, section 4.1.5]

Plantwide STAR Requirements**Plantwide STAR Applicable Regulations:**

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

Plantwide STAR Specific Conditions

S1. Standards

[Regulation 2.16 Section 4.1.1]

a. TAC

- i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be *de minimis*.¹ [Regulations 5.00 and 5.21] The plantwide modeled risk summary is shown in Table 1.

Plantwide Sum	All existing & new		All new P/PE	
	Actual	Goal	Actual	Goal
Industrial Total R _C	3.23	< 75	0.80	< 38
Non-Ind. Total R _C	2.39	< 7.5	0.95	< 3.8
Industrial Max. R _{NC}	1.40	<3.0		
Non-Ind. Max. R _{NC}	0.80	<1.0		

Table 1: Plantwide Summary

- ii. The modeled risk for each emission point and compound that is not *de minimis* is shown in Table 2

¹ Industrial Container Services submitted the TAC Category 1 Environmental Acceptability Demonstration to the District in February and June 2007, and the Category 2 EA Demo in April 2007. Tier 3 (SCREEN3) modeling was performed for each emission unit that has non-*de minimis* TAC emissions. Paint formulation changes subsequent to the 2007 modeling altered the TAC emission profiles from U2 (E6 and E10), and ICS submitted an updated EA demonstration on 10 August 2016. Uncontrolled emissions exceeded *de minimis* levels for formaldehyde from paint booths E6 and E10, but the uncontrolled emissions were shown to be environmentally acceptable. Manganese emissions from U5-E14f exceeded uncontrolled *de minimis* levels and EA goals. Modeling of uncontrolled emissions was performed to establish limits to assure environmental acceptability.

TAC		E1		E6	E10	E14f controlled	E16	
		R _c	R _{NC}	R _c	R _c	R _{NC}	R _c	R _{NC}
Industrial	Cumene	---	---	---	---	---	0.34	0.000
	Ethylbenzene	---	---	---	---	---	0.46	0.000
	Formaldehyde	---	---	0.49	0.43	---	---	---
	Manganese	---	---	---	---	1.4	---	---
	Chromium compounds	1.51	0.02	---	---	---	---	---
Non-Industrial	Cumene	---	---	---	---	---	0.41	0.000
	Ethylbenzene	---	---	---	---	---	0.54	0.000
	Formaldehyde	---	---	0.17	0.34	---	---	---
	Manganese	---	---	---	---	0.80	---	---
	Chromium compounds	0.93	0.01	---	---	---	---	---

Table 2: Individual Modeled risk for non-de minimis emission points and compounds

- iii. The owner or operator shall perform a new Environmental Acceptability (EA) Demonstration or *de minimis* determination when the following events occur and submit the EA Demonstration on the schedule noted in the reporting section:
- (1) An application to construct or modify a process or process equipment is submitted to the District pursuant to Regulation 2.03, 2.04 or 2.05. [Regulation 5.21, section 4.22.1]
 - (2) A modification of any physical modeling parameters such as fence lines or building heights that are not otherwise subject to the requirements in this permit that affects the demonstration of compliance. [Regulation 5.21, section 4.22.2]; or
 - (3) A change occurs in the process or process equipment, including raw material or fuel type substitution. [Regulation 5.21, section 4.22.3].
- iv. When a new TAC is introduced or for any existing TAC which does not have an established BAC or *de minimis* value, the owner or operator shall calculate and report these values as part of any aforementioned EA Demonstration. The form, located in Attachment C, may be used for determining BAC and *de minimis* values. [Regulation 5.20, sections 3 and 4]

S2. Monitoring and Record Keeping

[Regulation 2.16 Section 4.1.9.1 and 4.1.9.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. TAC

- i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to, MSDS/SDS, analysis of emissions, and/or modeling results.

S3. Reporting

[Regulation 2.16 Section 4.1.1]

The owner or operator shall report the following information, as required by General Condition 14:

a. TAC

- i. The owner or operator shall submit new EA Demonstrations involving applications to construct or modify with the construction permit application. [Regulation 5.21, section 4.22.1]
- ii. The owner or operator shall submit new EA Demonstrations involving modification of any physical modeling parameter, such as fence lines or building heights, that are not otherwise subject to the permit requirements for that facility that affects the demonstration of compliance with the operating permit renewal application. [Regulation 5.21, section 4.22.2]
- iii. The owner or operator shall submit new EA Demonstrations involving a change in a process or process equipment, including raw material or fuel type substitution before making the change. [Regulation 5.21, section 4.22.3]
 - (1) Prior approval by the District is not required if the change does not result in emissions that exceed an EA goal, does not cause emissions of a TAC to no longer be de minimis, and a permit modification is not required. In this case, the new EA Demonstration shall be submitted within 6 months of the change.

S4. Testing

[Regulation 2.16, section 4.3.1]

a. General Requirements

- i. These conditions apply for all testing unless superseded by requirements listed in the individual emission unit.

- ii. Devices of adequately similar design may be represented by a common performance test contingent upon review and approval of the testing protocol by the District.
- iii. The owner or operator shall use the most recent District-accepted performance test results to demonstrate compliance with the emission limits and in the annual emission inventory reporting.
- iv. The District may require retesting if there is reasonable belief that currently-used emission factors or control efficiencies do not accurately reflect the actual performance of the device. If performance testing is not completed by the required date, then the company may be subject to enforcement and shall calculate emissions using expired test result data, methods such as EPA-approved emission factors and guidance documents such as EIIP and AP-42, or other methods upon written approval by the District, whichever results in the greater (more conservative) emissions.
- v. For control devices not hard piped to the process equipment, the owner or operator shall perform a capture efficiency test using EPA guidelines. In lieu of performing a capture efficiency test, the owner or operator may submit a reasonable estimate of capture efficiency with thorough justification subject to approval by the District in the written test plan (stack test protocol).
- vi. Before conducting a performance test, the owner or operator shall submit a written test plan (protocol). The plan shall include the EPA test methods that will be used for testing, the process operating parameters that will be monitored during the performance test, and the control device performance indicators that will be monitored during the performance test. The test plans shall be furnished to the District at least 30 days prior to the actual date of the performance test. Attachment D - Protocol Checklist for a Performance Test to this permit provides information that must be submitted in the protocol.
- vii. The owner or operator shall be responsible for obtaining and analyzing audit samples when the EPA Reference Method is used to analyze samples, to demonstrate compliance with the source's emission regulation. The audit samples shall be available for verification by the District during the on-site testing.
- viii. The owner or operator shall provide the District at least 10 days prior notice of any performance test to afford the District the opportunity to have an observer present.
- ix. The owner or operator shall furnish the District with a written report of the results of the performance test within 60 days following the actual date of completion of the performance test.

Emission Unit U1 - Drum Reclamation Furnace**U1 Applicable Regulations:**

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
1.05	Compliance with Emission Standards and Maintenance Requirements	1, 3, 4, 5
7.08	Standards of Performance for New Process Operations	1- 4
7.25	Standards of Performance for New sources Using Volatile Organic compounds	1- 5

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U1 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E1	Drum Reclamation Furnace rated at 10 MMBtu/hr, integrated with a 11.7 MMBtu/hr waste heat recovery boiler Installed October 1993	1.05; STAR, ² 7.08, 7.25	C1	S1

² The STAR regulations comprise District regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.

U1 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator
C1	Oxidizer/Afterburner (12 MMBtu/hr) Air flow rate: 28,225 acfm (installed September 2010)	VOC 99.7% ³	Combustion chamber and afterburner temperatures

³ This control efficiency is based on a February 2, 2011 stack test.

U1 Specific Conditions

S1. Standards

[Regulation 2.16, section 4.1.1]

a. NO_x

- i. The owner or operator shall not allow or cause the NO_x emissions to exceed 300 ppmv, expressed as NO₂.⁴ [Regulation 7.08, section 3.1.2]

b. Opacity

- i. The owner or operator shall not allow or cause visible emissions from any emission point or control device to equal or exceed 20% opacity. [Regulation 7.08, section 3.1.1]

c. PM

- i. The owner or operator shall not allow or cause the PM emissions from the drum furnace (E1) and associated afterburner (C1) to exceed 2.34 lb/hr, averaged over actual operating hours in a calendar day.⁵ [Regulation 7.08, section 3.1.2]

d. TAC

- i. See the Plantwide STAR Requirements.
- ii. The owner or operator shall not allow or cause emission of the compounds in Table 3 to exceed *de minimis* levels.⁶ The *de minimis* levels established as of October 10, 2016 are shown in Table 3.

TAC	lb/hr	Pounds per 12-consecutive-month limit	Avg Period	Basis
Formaldehyde CAS 50-00-0	0.042	36.96	Annual	Controlled PTE
Tetrachloroethylene CAS 127-18-4	2.08	1848	Annual	Controlled PTE

Table 3. *De minimis* emission rates for category 1 TACs emitted from E1.

⁴ The stack test conducted on February 13, 2018 used Method 7E to determine the NO_x emissions from the drum reclamation furnace. Based on the average of three 1-hr test runs, the NO_x emission rate was 85.8 ppmv at a production rate of 300 drums per hour which is less than the applicable NO_x emission standard of 300 ppmv, expressed as NO₂.

⁵ The stack test conducted on February 13, 2018 used Method 5 to determine the PM emissions from the drum reclamation furnace afterburner. Based on the average of three 1-hr test runs, the PM emission rate was 1.44 lb/hr at a production rate of 300 drums per hour. This emission rate is less than the applicable PM emission standard of 2.34 lb/hr..

⁶ Industrial Container Services has requested an emission limit of *de minimis* for this emission point. Controlled potential emissions are less than *de minimis*. Uncontrolled emissions must be monitored to assure that *de minimis* emission levels are not exceeded. The *de minimis* limits are current as of October 10, 2016.

- iii. The oxidizer/afterburner (C1) shall be operating at any time steel drums are processed in the drum furnace (E1). [Regulation 5.21, section 4.2]
- iv. The owner or operator shall not exceed the following rates for lead-chromate and strontium chromate⁷: [Regulation 5.21, section 4.2]
 - (1) The annual average rate shall not exceed 75 barrels per hour total for barrels containing these two compounds and the annual average residual material in such barrels shall not exceed 0.5 inches in depth;⁸
 - (2) The emission of chromium shall not exceed 11.14 pounds in any 12-consecutive-month period.

e. VOC

- i. The owner or operator shall operate and maintain the control device (afterburner C1) at all times an associated emission point (reclamation furnace E1) is in operation, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice for minimizing emissions. [Regulation 1.05, section 5]
- ii. The owner or operator shall not allow or cause the VOC emissions to exceed 5 tons per 12-consecutive-months.⁹ (BACT) [Permit 426-93-C, 15 Oct 1993 and Regulation 7.25, section 3.1]
- iii. The owner or operator shall not process more than 300 barrels per hour, continuously, through the furnace. These barrels shall contain no more than one inch of residual VOC-containing material when introduced to the furnace. (BACT) [Permit 426-93-C, dated 15 Oct 1993 and Regulation 7.25, section 3.1]
- iv. The afterburner (C1) shall meet an average VOC destruction efficiency of 99.4%.⁹ (BACT) [Permit 426-93-C, dated 15 Oct 1993 and Regulation 7.25, section 3.1]

⁷ These are Category 1 hexavalent chromium compounds.

⁸ The EA Demo submitted by Allied Drum Services (Industrial Container Services' predecessor) on 7 February 2007, the modeling utilizing this production rate demonstrated environmental acceptability for these compounds, operating uncontrolled.

⁹ Stack testing of the drum furnace (E1) and oxidizer/afterburner (C1) was conducted on 10 May 2005. This testing demonstrated an average VOC destruction efficiency of 99.4% at a throughput of 300 barrels per hour. The District has accepted this destruction efficiency as BACT for this facility. The pre-control VOC emissions are 19.3 tons per year. Therefore 40 CFR 64 (CAM) is not applicable to the drum reclamation furnace.

S2. Monitoring and Record Keeping
[Regulation 2.16, sections 4.1.9.1 and 4.1.9.2)]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. NO_x

- i. There are no compliance monitoring and record keeping requirements for NO_x for Emission Unit U1.¹⁰

b. Opacity

- i. For each emission point, conduct a monthly one-minute visible emissions survey during normal operation. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.
- ii. At emission points where visible emissions are observed, initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A within 24 hours of the initial observation.
- iii. Maintain records, monthly, of the results of all visible emissions surveys and Methods 9 observations performed. These records shall include the date of each visible emission survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what, if any, corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. PM

- i. There are no compliance monitoring and record keeping requirements for PM for Emission Unit U1.¹¹

d. TAC

- i. See the Plantwide STAR Requirements.

¹⁰ Stack testing conducted on May 10, 2005 and February 13, 2018 showed that the required NO_x emission rate cannot be exceeded without controls. Therefore, record-keeping for these emissions is not required.

¹¹ Stack testing conducted on May 10, 2005 and February 13, 2018 showed that the required PM emission rate cannot be exceeded. Therefore, record-keeping for PM emissions is not required.

- ii. Maintain monthly records of the number of barrels containing lead-chromate or strontium-chromate and the depth of the residual material in each barrel.
- iii. For emission point E1, maintain the following records, monthly: [Regulation 5.21, section 4.10]
 - (1) Calculate the monthly and 12-consecutive-month TAC emissions for any TAC with an emission standard using the methods in Attachment B - Calculation Methodology.^{12, 13}
 - (2) For any control device bypass, maintain records of the bypass event as follows:
 - (a) Date;
 - (b) Start time and stop time;
 - (c) Identification of the process equipment and control device;
 - (d) The 12 consecutive month total emissions for each TAC with an emission standard for each 12-consecutive-month period that includes the bypass event, using the methods in Attachment B - Calculation Methodology;
 - (e) TAC emissions for each TAC with an emission standard, in lb/hr, for each hour that the control equipment was bypassed;
 - (f) Summary of the cause or reason for each bypass event;
 - (g) Corrective action taken to minimize the extent or duration of the bypass event; and
 - (h) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass.
 - (3) For any process equipment or control device temperature excursion,¹⁴ maintain records of the excursion as follows:
 - (a) Date;
 - (b) Start time and stop time;
 - (c) Identification of the process equipment and control device;

¹² The drum reclamation furnace was installed in 1993 and is considered an existing device for the STAR program. Existing devices are required to meet emission standards only for Category 1 TACs and those Category 2 TACs that were reported in the 2006 Toxics Release Inventory. Industrial Container Services included no Category 2 TACs in this report.

¹³ As of the date of issuance of this permit, this requirement applies to lead- and strontium-chromate, tetrachloroethylene, and formaldehyde for this emission unit.

¹⁴ An excursion is the shift of an operating parameter (temperature) for a piece of process or control equipment outside of the specified operating range.

- (d) The 12 consecutive month total emissions for each TAC with an emission standard for each 12-consecutive-month period that includes the excursion, using the methods in Attachment B - Calculation Methodology;
- (e) TAC emissions for each TAC with an emission standard, in lb/hr, for each hour of the temperature excursion;
- (f) Summary of the cause or reason for each excursion;
- (g) Corrective action taken to minimize the extent or duration of the excursion; and
- (h) Measures implemented to prevent reoccurrence of the situation that resulted in the excursion.

e. VOC

- i. Maintain continuous records of furnace combustion zone and the oxidizer/afterburner combustion zone temperatures. The monitoring device shall be maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's specifications and recommendations. The monitoring device shall be provided with adequate access for inspection and shall be in operation when the drum reclamation furnace is in use.
- ii. To demonstrate 99.4% destruction efficiency, the following operating parameters must be maintained while the drum furnace (E1) is in use:
[Construction permit 259-09-C (R1), January 31, 2010]
 - (1) Drum furnace combustion zone temperature $\geq 1000^{\circ}\text{F}$
 - (2) Oxidizer/afterburner (C1) combustion zone temperature $\geq 1500^{\circ}\text{F}$ with one second retention time
- iii. Maintain records each month of monthly and 12-consecutive-month VOC emissions using the methods in Attachment B - Calculation Methodology.
- iv. For any control device bypass, maintain records of the bypass event as follows:
 - (1) Date;
 - (2) Start time and stop time;
 - (3) Identification of the process equipment and control device;
 - (4) The 12 consecutive month total VOC emissions for each 12-consecutive-month period that includes the bypass event, using the methods in Attachment B - Calculation Methodology;
 - (5) Summary of the cause or reason for each bypass event;

- (6) Corrective action taken to minimize the extent or duration of the bypass event; and
 - (7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.
- v. Maintain daily records of any periods of time when there was a process equipment or control device temperature excursion,¹⁴ or record a declaration that both were operating above the minimum specified temperatures. If there was a temperature excursion for either piece of equipment, keep a record of the following for each such event:
 - (1) Date;
 - (2) Start time and stop time;
 - (3) Identification of the process equipment and control device;
 - (4) The 12 consecutive month total VOC emissions for each 12-consecutive-month period that includes the excursion;
 - (5) Summary of the cause or reason for each excursion;
 - (6) Corrective action taken to minimize the extent or duration of the excursion; and
 - (7) Measures implemented to prevent reoccurrence of the situation that resulted in the excursion.
- vi. Monitor and maintain daily records of the number of drums reclaimed; the contents of each drum, including the depth of the residual VOC-containing material; and the hours of operation of the reclamation furnace daily.

S3. Reporting

[Regulation 2.16, section 4.1.9.3]

The owner or operator shall report the following information, as required by General Condition 14:

a. NO_x

- i. There are no routine compliance reporting requirements.

b. Opacity

- i. Any deviation from the requirement to perform the required monthly visible emission surveys or Method 9 observations.
- ii. Any deviation from the requirement to record the results of each monthly visible emission survey and Method 9 observation performed.

- iii. The number, date, and time of each visible emission survey where visible emissions were observed and the results of the Method 9 observation performed.
 - iv. Identification of all periods of exceeding the opacity standard.
 - v. Description of any corrective action taken for each exceedance of an opacity standard.
- c. PM**
- i. There are no routine compliance reporting requirements.
- d. TAC**
- i. See the Plantwide STAR Requirements.
 - ii. The monthly and 12-consecutive-month TAC emissions for each TAC with an emission standard, using the methods in Attachment B - Calculation Methodology.
 - iii. All periods of bypassing the oxidizer/afterburner during a reporting period. The semi-annual compliance report must include:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration of each bypass event;
 - (3) The 12 consecutive month total emissions for each TAC with an emission standard for each 12-consecutive-month period that includes the bypass event, for each bypass event;
 - (4) TAC emissions for each TAC with an emission standard, in lb/hr, for each hour that the control equipment was bypassed, and comparison to the *de minimis* hourly emission rate;
 - (5) Summary information on the cause or reason of each bypass event;
 - (6) Corrective action taken to minimize the extent and duration of each bypass event;
 - (7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass.
 - iv. All periods of temperature excursion by the drum reclamation furnace or oxidizer/afterburner during a reporting period. The semi-annual compliance report must include:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration of each temperature excursion;

- (3) The 12 consecutive month total emissions for each TAC with an emission standard for each 12-consecutive-month period that includes the excursion, for each excursion;
 - (4) TAC emissions for each TAC with an emission standard, in lb/hr, for each hour of the temperature excursion, and comparison to the *de minimis* hourly emission rate;
 - (5) Summary information on the cause or reason for the excursion;
 - (6) Corrective action taken to minimize the extent and duration of each excursion;
 - (7) Measures implemented to prevent reoccurrence of the situation that resulted in each excursion.
- v. Identification of all periods of an exceedance of the limit on the number of drums processed per hour during a reporting period and the number of drums actually processed during such exceedances.
 - vi. Identification of all periods of an exceedance of an hourly or annual emission limit for any TAC with an emission limit.
 - vii. Identification of any incidence in which the maximum allowable residual depth for barrels containing lead- or strontium-chromate was exceeded.

e. VOC

- i. The monthly and 12-consecutive-month VOC emissions.
- ii. All periods of bypassing the oxidizer/afterburner when the drum reclamation furnace was in operation during a reporting period. The semi-annual compliance report must include:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration of each bypass event;
 - (3) The 12 consecutive month total VOC emissions for each 12-consecutive-month period that includes the bypass event, for each bypass event;
 - (4) Summary information on the cause or reason of each bypass event;
 - (5) Corrective action taken to minimize the extent and duration of each bypass event;
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass.
- iii. All periods of temperature excursion by the drum reclamation furnace or oxidizer/afterburner during a reporting period. The semi-annual compliance report must include:

- (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration of each excursion;
 - (3) The 12 consecutive month total VOC emissions for each 12-consecutive-month period that includes the excursion, for each excursion;
 - (4) Summary information on the cause or reason for each excursion;
 - (5) Corrective action taken to minimize the extent and duration of each excursion; and
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in the excursion.
- iv. Identification of all periods of an exceedance of the limit on the number of drums processed per hour during a reporting period and the number of drums actually processed during such exceedances.
 - v. Identification of all periods of exceedance of the 12-consecutive-month VOC emission limit.
 - vi. Identification of any incidence in which the maximum allowable residual depth for any VOC-containing material was exceeded.

S4. Testing

[Regulation 2.16, section 4.3.1]

a. General Requirements

- i. See Plantwide emission unit testing requirements.

b. PM

- i. Within 180 days of the effective date of this permit, the owner or operator shall perform an EPA Reference Method 5 performance test for PM and EPA Reference Method 201A for PM₁₀ and PM_{2.5} on the inlet and outlet of the control device or emission point to determine the emission rate and control efficiency.¹⁵ The following shall be addressed in the stack test plan/protocol: The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which results in the greatest emissions may necessitate a re-test or necessitate a revision of the

¹⁵ As extension of this deadline to test (originally December 10, 2017) was granted by APCD on November 3, 2017. This testing was completed on February 13, 2018.

allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

c. VOC

- i. No later than 28 February 2021,¹⁶ the owner or operator shall perform an EPA Reference Method 25A performance test on the inlet and outlet of the control device or emission point. The following shall be addressed in the stack test plan/protocol: The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which resulted in the greatest emissions, may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

¹⁶ The last VOC emission stack test for the Drum furnace/afterburner was performed 22 February 2011.

Emission Unit U2 - Metal Parts Surface Coating Operation 1

U2 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
1.05	Compliance with Emission Standards and Maintenance Requirements	1, 3, 4, 5
6.09	Standards of Performance for Existing Process Operations	1 - 3 and 5
7.08	Standards of Performance for New Process Operations	1 - 3
6.31	Standards of Performance for Existing Miscellaneous Metal Parts and Products Surface Coating	1 – 7
7.59	Standards of Performance for New Miscellaneous Metal Parts and Products Surface Coating	1 – 7
40 CFR Part 63 Subpart A	General Provisions	63.1 - 63.16
40 CFR Part 63 Subpart M	National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products	All

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U2 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E2	Paint Booth (55 and 30 gallon drums) Custom Built. Installed June 1973.	STAR, ¹⁷ 1.05, 5.02 6.09, 6.31, 40 CFR 63, Subpart M MMM	C2	S2
E3	Drum and Lid drying oven, Eclipse AH Data 140, 3.5 MMBtu/hr ¹⁸ Installed February 1994	STAR, ¹⁷ 1.05, 5.02 7.59, 40 CFR 63, Subpart M MMM	N/A	S3a, S3b
E4	Drum and Lid drying oven, Eclipse AH Data 140, 3.5 MMBtu/hr ¹⁸ Installed February 1994	STAR, ¹⁷ 1.05, 5.02 7.59, 40 CFR 63, Subpart M MMM	N/A	S4a, S4b
E5	Paint Booth (OH Drum Lining #1) Custom Built. Installed July 1992.	STAR, ¹⁷ 1.05, 5.02 7.08, 7.59, 40 CFR 63, Subpart M MMM	C5	S5
E6	Paint Booth (OH Drum Lining #2) Custom Built. Installed July 1992.	STAR, ¹⁷ 1.05, 5.02 7.08, 7.59, 40 CFR 63, Subpart M MMM	C6	S6
E7	Lining Oven, Spraycon DLC-72C, 3.5 MMBtu/hr ¹⁸ Installed May 1973	STAR, ¹⁷ 1.05, 5.02 6.31, 40 CFR 63, Subpart M MMM	N/A	S7a, S7b
E8	Lining Oven, Spraycon DLC-72C, 3.5 MMBtu/hr ¹⁸ Installed May 1973	STAR, ¹⁷ 1.05, 5.02 6.31, 40 CFR 63, Subpart M MMM	N/A	S8a, S8b
E9	Open Head Paint Booth Installed November 1974.	STAR, ¹⁷ 1.05, 5.02 6.09, 6.31, 40 CFR 63, Subpart M MMM	C9	S9
E10	Drum Lid Paint Booth Installed November 1986.	STAR, ¹⁷ 1.05, 5.02 7.08, 7.59, 40 CFR 63, Subpart M MMM	C10	S10
E16	Paint Booth: Global Finishing Solutions model RCBG-140812-SF3-S, installed 2018	STAR, ¹⁷ 1.05, 2.04, 2.05, 5.02, 7.08, 7.59, 40 CFR 63 Subpart M MMM	C16	S16
E17	Paint curing oven, direct-fired: ¹⁸ Eclipse model AH 1.0 MMBtu/hr natural gas burner – Insignificant Activity , installed 2018	STAR, ¹⁷ 1.05, 2.04, 2.05, 5.02 7.59, 40 CFR 63, Subpart M MMM	N/A	Fugitive

¹⁷ The STAR regulations comprise District regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.

¹⁸ The Boiler MACT, 40 CFR 63, subpart DDDDD is not applicable because these are not indirect-fired process heaters as defined in §63.7575. Emissions from the combustion of natural gas are *de minimis* by definition [Regulation 5.21, section 2.7]

U2 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator
C2, C5, C6, C9, C10	Washable stainless steel filter panels to control PM emissions	90% ¹⁹	Visible Emissions survey
C16	Panel filters: 2 banks of eight 20x20 inch filters	95%	Visible emission survey

¹⁹ This is the District pre-approved control efficiency for dry filters.

U2 Specific Conditions

S1. Standards

[Regulation 2.16, section 4.1.1]

a. HAP

- i. For each existing general use coating affected source, limit organic HAP emissions to no more than 0.31 kg (2.6 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.
[40 CFR 63.3890(b)(1)]
- ii. You must include all coatings (as defined in §63.3981), thinners and/or additives, and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit, set forth in the previous paragraph and specified in §63.3890(b). To make this determination, you must use at least one of the compliance options specified in 40 CFR 63.3891.²⁰ You may apply any of the compliance options to an individual coating operation, or to multiple coating operations as a group, or to the entire affected source. You may use different compliance options for different coating operations or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating operation or group of coating operations, you must document this switch as required by §63.3930(c), and you must report it in the next semiannual compliance report required in §63.3920.
[40 CFR 63.3891]
- iii. *Emission rate without add-on controls option.* Demonstrate that, based on the coatings, thinners, and/or other additives, and cleaning material used in the coating operation(s), the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, calculated as a rolling 12-month emission rate and determined on a monthly basis. You must meet all the requirements of §§63.3950, 63.3951, and 63.3952 to demonstrate compliance with the emission limit using this option. [40 CFR 63.3891(b)]

²⁰ This regulation allows for three options to demonstrate compliance: (1) ‘use of compliant materials’ [§63.3891(a)], (2) ‘emission rate without add-on controls’ [§63.3891(b)], or (3) ‘emission rate with add-on controls’ [§63.3891(c)]. Industrial Container Services has historically used the second option (for which the requirements are set forth in this permit), but is not restricted from using either of the other methods in the future, provided that they follow the compliance protocols and reporting requirements set forth in 40 CFR 63, Subpart Mmmm.

- iv. Any coating operation(s) for which you use the *compliant material option* or the *emission rate without add-on controls* compliance option must be in compliance with the emission limit specified above and in 63.3890(b) at all times. [40 CFR 63.3900(a)(1)]
- v. You must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subpart (40 CFR 63, subpart M), according to the provisions in §63.6(e)(1)(i). [40 CFR 63.3900(b)]

b. Opacity

- i. The owner or operator shall not allow or cause visible emissions from any affected emission point (E2, E5, E6, E9, E10, E16) to equal or exceed 20% opacity. [Regulation 6.09, section 3.1 and Regulation 7.08, section 3.1.1]

c. PM

- i. For Emission Points E2 and E9, the owner or operator shall not allow the PM emissions to exceed 2.58 lb/hr from each paint booth based on actual operating hours in a calendar day.²¹ [Regulation 6.09, section 3.2]
- ii. For Emission Points E5, E6, E10 and E16, the owner or operator shall not allow the PM emissions to exceed 2.34 lb/hr from each paint booth based on actual operating hours in a calendar day.²¹ [Regulation 7.08, section 3.1.2]
- iii. The owner or operator shall operate and maintain the control devices at all times an associated emission point is in operation, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice for minimizing emissions. [Regulation 1.05, section 5]
- iv. The owner or operator shall not exceed these emission limits from emission points E16 and E17 combined in any 12 consecutive month period: [Regulation 2.05, section 1]
 - (1) PM – 25 tons
 - (2) PM10 – 15 tons
 - (3) PM2.5 – 10 tons

²¹ The potential hourly controlled PM emissions from each paint booth are below the applicable PM emission standards based on the maximum hourly coating usage, a coating density of 9.38 lb/gal, a maximum solids content of 35%, 50% transfer efficiency, and 90% control efficiency for each paint booth PM filter.

d. TAC

- i. See the Plantwide STAR Requirements.²²

e. VOC

- i. The owner or operator shall not emit more than 40 tons of VOCs in any 12 consecutive month period from emission points E16 and E17 combined. [Regulation 2.04, section 4]
- ii. The owner or operator shall not cause or allow the emission of VOC from any affected facility resulting from the coating of metallic surfaces in excess of the amounts shown in Table 4. Compliance with these emission limits shall be based on a calendar-day averaging period in accordance with section 3.2 of Regulations 6.31 or 7.59, as applicable. If more than one limit in Table 4 applies for a specific coating, the least stringent limit shall apply. [Regulation 1.05, section 4.1, and Regulation 6.31, section 3.1 or Regulation 7.59, section 3.1]

Coating Description	VOC content (kg/l)	VOC content (lb/gal)
	(Less water and exempt solvents)	
Clear coats	0.52	4.3
Air-dried coating	0.42	3.5
Extreme-performance coating	0.42	3.5
All other coatings	0.36	3.0

Table 4 - Allowable VOC content for miscellaneous metal coating.

S2. Monitoring and Recordkeeping

[Regulation 2.16, sections 4.1.9.1 and 4.1.9.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

²² Uncontrolled emissions of formaldehyde from emission points E6 and E10 could potentially exceed *de minimis* levels; therefore Tier 3 (SCREEN3) air dispersion modeling was performed to determine compliance with the STAR program. Results of this uncontrolled modeling, demonstrating that the EA goals were met, were presented in the “Plantwide STAR Requirements” section of this permit. Since the modeling was uncontrolled emission limits were not needed.

a. HAP

- i. The owner or operator shall meet the following requirements to demonstrate continuous compliance with emission limitation when using the *emission rate without add-on controls* option.
 - (1) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to §63.3951(a) through (g), must be less than or equal to the emission limit in §63.3890. A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.3950 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.3951(a) through (g) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation. [40 CFR 63.3952(a)]
 - (a) *Determine the mass fraction of organic HAP for each material.* Determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each month using one of the methods specified in §63.3941(a). [40 CFR 63.3951(a)]
 - (b) *Determine the volume fraction of coating solids.* Determine the volume fraction of coating solids [liter (gal) of coating solids per liter (gal) of coating] for each coating used during each month using one of the methods specified in §63.3941(b). [40 CFR 63.3951(b)]
 - (c) *Determine the density of each material.* Determine the density of each liquid coating, thinner and/or other additive, and cleaning material used during each month from test results using ASTM Method D1475-98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see §63.14); information from the supplier or manufacturer of the material; or reference sources providing density or specific gravity data for pure materials. If you are including powder coatings in the compliance determination, determine the density of powder coatings, using ASTM Method D5965-02, "Standard Test Methods for Specific Gravity of Coating Powders" (incorporated by reference, see §63.14), or information from the supplier. If there is disagreement between ASTM Method D1475-98 or ASTM Method D5965-02 test results and other such information sources, the test results will take precedence unless, after

consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C, and 2, of this section. [40 CFR 63.3951(c)]

- (d) *Determine the volume of each material used.* Determine the volume (liters) of each coating, thinner and/or other additive, and cleaning material used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, and 1C, of this section. [40 CFR 63.3951(d)]
- (e) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners and/or other additives, and cleaning materials used during each month minus the organic HAP in certain waste materials. The owner or operator shall calculate the mass of organic HAP emissions using Equation 1. [40 CFR 63.3951(e)]

$$H_e = A + B + C - R_w$$

where:

- H_e = Total mass of organic HAP emissions during the month, kg;
- A = Total mass of organic HAP in the coatings used during the month, kg, as calculated in Equation 1A.
- B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg, as calculated in Equation 1B.
- C = Total mass of organic HAP in the cleaning materials used during the month, kg, as calculated in Equation 1C.
- R_w = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, in kg, determined according to paragraph (e)(4) of §63.3951. (You may assign a value of zero to R_w if you do not wish to use this allowance.)

- (i) Calculate the kg organic HAP in the coatings used during the month using Equation 1A:
[40 CFR 63.3951(e)(1)]

$$A = \sum_{i=1}^m (Vol_{c,i})(D_{c,i})(W_{c,i})$$

where:

- A = Total mass of organic HAP in the coatings used during the month, kg;
 Vol_{c,i} = Total volume of coating *i* used during the month, liters;
 D_{c,i} = Density of coating *i*, kg coating per liter coating;
 W_{c,i} = Mass fraction of organic HAP in coating *i*, kg organic HAP per kg coating;
 M = Number of different coatings used during the month.

- (ii) Calculate the kg of organic HAP in the thinners and/or other additives used during the month using Equation 1B: [40 CFR 63.3951(e)(2)]

$$B = \sum_{j=1}^m (Vol_{t,j})(D_{t,j})(W_{t,j})$$

where:

- B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg;
 Vol_{t,j} = Total volume of thinner and/or other additive *j* used during the month, liters;
 D_t = Density of thinner and/or other additive *j*, kg per liter;
 W_{t,j} = Mass fraction of organic HAP in thinner and/or other additive *j*, kg organic HAP per kg thinner and/or other additive;
 N = Number of different thinners and/or other additives used during the month.

- (iii) Calculate the kg organic HAP in the cleaning materials used during the month using Equation 1C: [40 CFR 63.3951(e)(3)]

$$C = \sum_{k=1}^p (Vol_{s,k})(D_{s,k})(W_{s,k})$$

where:

- C = Total mass of organic HAP in the cleaning materials used during the month, kg;
- Vol_{s,k} = Total volume of cleaning material *k* used during the month, liters;
- D_{s,k} = Density of cleaning material *k*, kg per liter;
- W_{s,k} = Mass fraction of organic HAP in cleaning material *k*, kg organic HAP per kg material;
- P = Number of different cleaning materials used during the month.

- (iv) If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in Equation 1 of this section, then you must determine the mass according to paragraphs §63.3951(e)(4)(i) through (iv). [40 CFR 63.3951(e)(4)]

- (f) *Determine the total volume of coating solids used.* Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all the coatings used during each month, using Equation 2: [40 CFR 63.3951(f)]

$$V_{st} = \sum_{i=1}^m (Vol_{c,i})(V_{s,i})$$

where:

- V_{st} = Total volume of coating solids used during the month, liters;
- Vol_{c,i} = Total volume of coating *i* used during the month, liters.

$V_{s,i}$ = Volume fraction of coating solids for coating i , liter solids per liter coating, determined according to §63.3941(b).

M = Number of coatings used during the month.

- (g) *Calculate the organic HAP emission rate.* Calculate the organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used, using Equation 3: [40 CFR 63.3951(g)]

$$H_{yr} = \frac{\sum_{y=1}^n H_e}{\sum_{y=1}^n V_{st}}$$

where:

H_{yr} = Average organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used.

H_e = Total mass of organic HAP emissions from all materials used during month y , kg, as calculated by Equation 1.

V_{st} = Total volume of coating solids used during month y , liters, as calculated by Equation 2.

y = Identifier for months.

n = Number of full or partial months in the compliance period (for all compliance periods, n equals 12).

- ii. Regardless of the compliance method the owner or operator shall maintain the following records:

(1) You must collect and keep records of the data and information below. Failure to collect and keep these records is a deviation from the applicable standard. [40 CFR 63.3930]

(a) A copy of each notification and report that you submitted to comply with this subpart, and the documentation supporting each notification and report. [40 CFR 63.3930(a)]

(b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and/or other additive, and cleaning material, and the volume fraction of coating solids for each coating. If you

conducted testing to determine mass fraction of organic HAP, density, or volume fraction of coating solids, you must keep a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier. [40 CFR 63.3930(b)]

- (c) For each compliance period, the records specified in paragraphs (c)(1) through (4) of this section:
 - [40 CFR 63.3930(c)]
 - (i) A record of the coating operations on which you used each compliance option and the time periods (beginning and ending dates and times) for each option you used. [40 CFR 63.3930(c)(1)]
 - (ii) A record of the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1, 1A through 1C, and 2, and, if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4); the calculation of the total volume of coating solids used each month using Equation 2; and the calculation of each 12-month organic HAP emission rate using Equation 3. [40 CFR 63.3930(c)(3)]
- (2) A record of the name and volume of each coating, thinner and/or other additive, and cleaning material used during each compliance period. [(40 CFR 63.3930(d)]
- (3) A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each compliance period unless the material is tracked by weight. [40 CFR 63.3930(e)]
- (4) A record of the volume fraction of coating solids for each coating used during each compliance period. [40 CFR 63.3930(f)]
- (5) If you use either the emission rate without add-on controls or the emission rate with add-on controls compliance option, the density for each coating, thinner and/or other additive, and cleaning material used during each compliance period. [40 CFR 63.3930(g)]
- (6) If you use an allowance in Equation 1 of §63.3951 for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage, and disposal facility (TSDF)

according to §63.3951(e)(4), you must keep records of the information specified in paragraphs §63.3930(h)(1) through (3) of this section: [40 CFR 63.3930(h)]

- (a) The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of §63.3951; a statement of which subparts under 40 CFR parts 262, 264, 265 , and 266 apply to the facility; and the date of each shipment. [40 CFR 63.3930(h)(1)]
 - (b) Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of §63.3951. [40 CFR 63.3930(h)(2)]
 - (c) The methodology used in accordance with §63.3951(e)(4) to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment. [40 CFR 63.3930(h)(3)]
- (7) You must keep records of the date, time, and duration of each deviation. [40 CFR 63.3930(j)]
- iii. The owner or operator shall keep records in the form and time period as the following:
- (1) Your records must be in a form suitable and readily available for expeditious review. Where appropriate, the records may be maintained as electronic spreadsheets or as a database. [40 CFR 63.3931(a)]
 - (2) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.3931(b)]
 - (3) You must keep each record on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You may keep the records off-site for the remaining 3 years. [40 CFR 63.3931(c)]

- iv. The owner or operator shall maintain a copy of the MSDS/SDS for each HAP-containing material used at this plant.
[Regulation 2.16, section 4.1.9]

b. Opacity

- i. For each PM emission point (E2 – E10, E16), conduct a monthly one-minute visible emissions survey during normal operation. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.
- ii. At emission points where visible emissions are observed, initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A within 24 hours of the initial observation.
- iii. Maintain records, monthly, of the results of all visible emissions surveys and Methods 9 observations performed. These records shall include the date of each visible emission survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what, if any, corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. PM

- i. Perform monthly visual inspections of each paint booth PM filter system to ensure proper installment (i.e. proper alignment/placement, gaps, etc.) and replace filters as needed.
- ii. Maintain monthly records of the results of each visual inspection. These records shall include the date and time of the inspection, the name of the person that conducted the inspection, and a brief summary of any equipment defects observed, including a list of any components that were replaced or repaired.
- iii. Monthly, maintain records of the type and amount of coating materials sprayed in spray booth E16, and from these records calculate the PM, PM₁₀, and PM_{2.5} emissions from the spray booth.
- iv. Maintain daily record of any period of time when a spray booth was operating and the associated air filters were not in place or record a declaration that the filters were in place at all times that day when the paint booths were operating. If there is any time that the associated filters were bypassed when the paint booths were operating, then the owner or operator shall keep a record of the following for each bypass event:

- (1) Date;
- (2) Start time and stop time;
- (3) Identification of the process equipment and control device;
- (4) PM emissions for each hour that the control equipment was bypassed, in lb/hr;
- (5) Summary of the cause or reason for each bypass event;
- (6) Corrective action taken to minimize the extent or duration of the bypass event; and
- (7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. TAC

- i. See the Plantwide STAR Requirements.

e. VOC

- i. Maintain records that include, but not be limited to, the following:
[Regulation 6.31, section 6 and Regulation 7.59, section 6]
 - (1) The regulation and section number applicable to the affected facility for which the records are being maintained;
 - (2) The application method and substrate type (metal, plastic, etc.);
 - (3) The amount and type of coatings (including catalyst and reducer for multicomponent coatings) and solvent (including exempt compounds) used at each point of application during the averaging period;
 - (4) The VOC content as applied in each coating and solvent;
 - (5) The date, or usage record period, for each application of coating and solvent;
 - (6) The amount of surface preparation, clean-up, wash-up of solvent (including exempt compounds) used and the VOC content of each material used during the averaging period.
- ii. The owner or operator shall, monthly, maintain records of the type and amount of coating materials sprayed in spray booth E16, and from these records calculate the VOC emissions from the spray booth.
- iii. The averaging period weighted average VOC content, which means the VOC content of two or more coatings as applied on a coating line during any averaging period and weighted according to the fraction of the total coating volume that each coating represents, shall be calculated using the following equation:

$$VOC_w = \sum_{i=1}^n \frac{V_i C_i}{VT}$$

where:

- VOC_w = The average VOC content of two or more coatings as applied each averaging period on a coating line, in kg VOC/l (lb of VOC/gal) of coating, excluding water and exempt solvents.
- V_i = The volume of each coating as applied each averaging period on a coating line in units of liters (gallons), excluding water and exempt solvents.
- C_i = The VOC content of each coating as applied each averaging period on a coating line in units of kg of VOC/l (lb of VOC/gal) of coating, excluding water and exempt solvents.
- VT = The total volume of all coatings as applied each averaging period on a coating line in units of liters (gallons), excluding water and exempt solvents.
- n = The number of different coatings as applied each averaging period on a coating line.

S3. Reporting

[Regulation 2.16, section 4.1.9.3]

The owner or operator shall report the following information, as required by General Condition 14:

a. HAP

- i. *General Requirements.* The semi-annual compliance report must contain the information specified in §63.3920, paragraphs (a)(3)(i) through (vii) , and the information specified in §63.3920, paragraphs (a)(4) through (7) and (c)(1) that are applicable to your affected source:

[40 CFR 63.3920(a)(3)]

- (1) Company name and address. [40 CFR 63.3920(a)(3)(i)]
- (2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. [40 CFR 63.3920(a)(3)(ii)]
- (3) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.

[40 CFR 63.3920(a)(3)(iii)]

- (4) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation during the reporting period. If you switched compliance options during the reporting period, you must report the beginning and ending dates for each option you used. [40 CFR 63.3920(a)(3)(iv)]
- (5) If you used the emission rate without add-on controls or the emission rate with add-on controls compliance option (§63.3891(b) or (c)), the calculations results for each 12-month organic-HAP emission rate during the 6-month reporting period. [40 CFR 63.3920(a)(3)(v)]
- ii. *No deviation:*²³ If there were no deviations from the emission limitations in §§63.3890, 63.3892, and 63.3893 that apply to you, the semi-annual compliance report must include a statement that there were no deviations from the emission limitations during the reporting period. [40 CFR 63.3920(a)(4)]
- iii. *Deviations:*²³ If you used the emission rate without add-on controls option and there was a deviation from the applicable emission limit in §63.3890(b), the semi-annual compliance report must contain the information in paragraphs (a)(6)(i) through (iii) of this section. [40 CFR 63.3920(a)(6)]
- (1) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.3890. [40 CFR 63.3920(a)(6)(i)]
- (2) The calculations used to determine the 12-month organic HAP emission rate for the compliance period in which the deviation occurred. You must submit the calculations for Equations 1, 1A through 1C, 2, and 3 of §63.3951; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4). You do not need to submit background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports). [40 CFR 63.3920(a)(6)(ii)]

²³ Deviation means any instance in which an affected source subject to Subpart M MMMM, or an owner or operator of such a source: (40 CFR 63.3981)

- Fails to meet any requirement or obligation established by this Subpart M MMMM including but not limited to, any emission limit or operating limit or work practice standard;
- Fails to meet any term or condition that is adopted to implement an applicable requirement in Subpart M MMMM and that is included in the operating permit for any affected source required to obtain such a permit; or
- Fails to meet any emission limit, or operating limit, or work practice standard in Subpart M MMMM during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by Subpart M MMMM.

- (3) A statement of the cause of each deviation.
[40 CFR 63.3920(a)(6)(iii)]
- iv. As part of each semiannual compliance report required by §63.3920, you must identify the coating operation(s) for which you used the *emission rate without add-on controls* option. If there were no deviations from the emission limitations, you must submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in (the HAP Standards of this permit and) §63.3890, determined according to §63.3951(a) through (g). [40 CFR 63.3952(c)]
- v. *Inclusion with Title V report.* Each affected source that has obtained a Title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in 40 CFR Part 63, Subpart M MMMM in the semi-annual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a semi-annual compliance report pursuant to §63.3920 along with, or as part of, the semi-annual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the semi-annual compliance report includes all required information concerning deviations from any emission limitation in Subpart M MMMM, its submission will be deemed to satisfy any obligation to report the same deviations in the semi-annual monitoring report. However, submission of a semi-annual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.²⁴ [40 CFR 63.3920(a)(2)]
- vi. *Dates.* Unless the Administrator has approved or agreed to a different schedule for submission of reports under §63.10(a), you must prepare and submit each semi-annual compliance report according to the dates specified in paragraphs (a)(1)(i) through (iv) of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.²⁴ [40 CFR 63.3920(a)(1)]
- (1) Each semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
[40 CFR 63.3920(a)(1)(ii)]

²⁴ In accordance with 40 CFR Part 63, Subpart M MMMM, section 63.3920(a)(1) and 63.3920(a)(1)(iv), Industrial Container Services, Inc. may submit their Subpart M MMMM semi-annual compliance reports on the same schedule as the Title V operating permit reporting requirements.

- (2) Each semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
[40 CFR 63.3920(a)(1)(iii)]
- (3) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in paragraph (a)(1)(iii) of this section. [40 CFR 63.3920(a)(1)(iv)]

b. Opacity

- i. Any deviation from the requirement to perform the required monthly visible emission surveys or Method 9 observations.
- ii. Any deviation from the requirement to record the results of each monthly visible emission survey and Method 9 observation performed.
- iii. The number, date, and time of each visible emission survey where visible emissions were observed and the results of the Method 9 observation performed.
- iv. Identification of all periods of exceeding the opacity standard.
- v. Description of any corrective action taken for each exceedance of an opacity standard.

c. PM

- i. Any instances of exceeding the PSD avoidance limits set forth in Regulation 2.05.
- ii. Any deviation from the requirement to perform the visual inspections of the paint booth filter system.
- iii. Any deviation from the requirement to keep records of the results of each paint booth filter system inspection.
- iv. All periods of exceeding a PM emission rate standard during a reporting period, including the following information:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration of each bypass event;
 - (3) The PM emission rate, in lb/hr;

- (4) Summary information on the cause or reason for each bypass event;
 - (5) Corrective action taken to minimize the extent and duration of each bypass event; and
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass.
 - v. Identification of all periods of exceedance of the hourly PM emission limit and the emission rate (in lb/hr) for such periods.
- d. TAC**
 - i. See the Plantwide STAR Requirements.
- e. VOC**
 - i. Any instances of exceeding the NSR avoidance limits set forth in Regulation 2.04.
 - ii. All periods of exceeding a VOC emission standard during a reporting period, including the following information:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration during which a deviation from the coating VOC limits occurred;
 - (3) The quantity of excess emissions;
 - (4) Summary information on the cause or reason for excess emissions;
 - (5) Corrective action taken to minimize the extent and duration of each excess emissions event;
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in excess VOC emissions;

Emission Unit U3 - Metal Parts Surface Coating Operation 2

U3 Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
1.05	Compliance with Emission Standards and Maintenance Requirements	1, 3, 4, 5
7.08	Standards of Performance for New Process Operations	1 – 4
7.59	Standards of Performance for New Miscellaneous Metal Parts and Products Surface Coating	1 – 7
40 CFR Part 63 Subpart A	General Provisions	63.1 - 63.16
40 CFR Part 63 Subpart M	National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products	All

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption of National Emission Standards for Hazardous Air Pollutants	1, 3.95 and 4
5.14	Hazardous Air Pollutants and Source Categories	1, 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

U3 Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E11	One (1) Paint Booth (16 gallon drums) Custom Built. Installed June 1993	STAR, ²⁵ 1.05, 5.02 7.08, 7.59, 40 CFR 63 Subpart MMMM	C11	S11
E31	One (1) Paint Booth (Open head 85 gal overpack drums) Custom Built, installed October 2006		C31	S31

U3 Control Devices:

Control ID	Description	Control Efficiency	Performance Indicator
C11	Fiberglass paint filter pads to control PM emissions	90%	Visual inspection
C31	Fiberglass paint filter pads to control PM emissions	90%	Visual inspection

²⁵ The STAR regulations comprise District regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.

U3 Specific Conditions

S1. Standard

[Regulation 2.16, section 4.1.1]

a. HAP

- i. For each existing general use coating affected source, limit organic HAP emissions to no more than 0.31 kg (2.6 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.
[40 CFR 63.3890(b)(1)]
- ii. You must include all coatings (as defined in §63.3981), thinners and/or additives, and cleaning materials used in the affected source when determining whether the organic HAP emission rate is equal to or less than the applicable emission limit, set forth in the previous paragraph and specified in §63.3890(b). To make this determination, you must use at least one of the compliance options specified in 40 CFR 63.3891.²⁶ You may apply any of the compliance options to an individual coating operation, or to multiple coating operations as a group, or to the entire affected source. You may use different compliance options for different coating operations or at different times on the same coating operation. You may employ different compliance options when different coatings are applied to the same part, or when the same coating is applied to different parts. However, you may not use different compliance options at the same time on the same coating operation. If you switch between compliance options for any coating operation or group of coating operations, you must document this switch as required by §63.3930(c), and you must report it in the next semiannual compliance report required in §63.3920.
[40 CFR 63.3891]
- iii. *Emission rate without add-on controls option.* Demonstrate that, based on the coatings, thinners, and/or other additives, and cleaning material used in the coating operation(s), the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, calculated as a rolling 12-month emission rate and determined on a monthly basis. You must meet all the requirements of §§63.3950, 63.3951, and 63.3952 to demonstrate compliance with the emission limit using this option. [40 CFR 63.3891(b)]

²⁶ This regulation allows for three options to demonstrate compliance: (1) ‘use of compliant materials’ [§63.3891(a)], (2) ‘emission rate without add-on controls’ [§63.3891(b)], or (3) ‘emission rate with add-on controls’ [§63.3891(c)]. Industrial Container Services has historically used the second option (for which the requirements are set forth in this permit), but is not restricted from using either of the other methods in the future, provided that they follow the compliance protocols and reporting requirements set forth in 40 CFR 63, Subpart Mmmm.

- iv. Any coating operation(s) for which you use the *compliant material* option or the *emission rate without add-on controls* compliance option must be in compliance with the emission limit specified above and in 63.3890(b) at all times. [40 CFR 63.3900(a)(1)]
- v. You must always operate and maintain your affected source, including all air pollution control and monitoring equipment you use for purposes of complying with this subpart, according to the provisions in §63.6(e)(1)(i). [40 CFR 63.3900(b)]

b. Opacity

- i. The owner or operator shall not allow or cause visible emissions from any affected emission point (E11 or E31) to equal or exceed 20% opacity. [Regulation 7.08, section 3.1.1]

c. PM

- i. For Emission Points E11 and E31, the owner or operator shall not allow the PM emissions to exceed 2.34 lb/hr from each paint booth based on actual operating hours in a calendar day.²⁷ [Regulation 7.08, section 3.1.2]
- ii. The owner or operator shall operate and maintain the control devices at all times an associated emission point is in operation, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice for minimizing emissions. [Regulation 1.05, section 5]

d. TAC

- i. See the Plantwide STAR Requirements.²⁸

e. VOC

- i. The owner or operator shall not cause or allow the emission of VOC from any affected facility resulting from the coating of metallic surfaces in excess of the amounts shown in Table 5. Compliance with these emission limits shall be based on a calendar-day averaging period in accordance with Regulation 7.59, section 3.2. If more than one limit in Table 5 applies

²⁷ The potential hourly controlled PM emissions from each paint booth are below the applicable PM emission standards based on the maximum hourly coating usage, a coating density of 9.38 lb/gal, a maximum solids content of 35%, 50% transfer efficiency, and 90% control efficiency for each paint booth PM filter.

²⁸ Emission point E11 is an existing source and must only consider emissions of Category 1 TACs. Emission point E31 is a new source and must consider all Category 1 through Category 4 TACs. In both cases all TAC emissions are *de minimis*, based on uncontrolled PTE, as demonstrated by the STAR analysis submitted by Industrial Container Services on 11 August 2016.

for a specific coating, the least stringent limit shall apply.
 [Regulation 1.05, section 4.1 and Regulation 7.59, section 3.1]

Coating Description	VOC content (kg/l)	VOC content (lb/gal)
	(Less water and exempt solvents)	
Clear coats	0.52	4.3
Air-dried coating	0.42	3.5
Extreme-performance coating	0.42	3.5
All other coatings	0.36	3.0

Table 5 - Allowable VOC content for Miscellaneous Metal Coating

S2. Monitoring and Recordkeeping

[Regulation 2.16, sections 4.1.9.1 and 4.1.9.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. HAP

i. The owner or operator shall meet the following requirements to demonstrate continuous compliance with emission limitation when using the *emission rate without add-on controls* option.

(1) To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to §63.3951(a) through (g), must be less than or equal to the emission limit in §63.3890(b). A compliance period consists of 12 months. Each month after the end of the initial compliance period described in §63.3950 is the end of a compliance period consisting of that month and the preceding 11 months. You must perform the calculations in §63.3951(a) through (g) on a monthly basis using data from the previous 12 months of operation. If you are complying with a facility-specific emission limit under §63.3890(c), you must also perform the calculation using Equation 1 in §63.3890(c)(2) on a monthly basis using the data from the previous 12 months of operation. [40 CFR 63.3952(a)]

(a) *Determine the mass fraction of organic HAP for each material.* Determine the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each month using one of the methods specified in §63.3941(a). [40 CFR 63.3951(a)]

- (b) *Determine the volume fraction of coating solids.* Determine the volume fraction of coating solids [liter (gal) of coating solids per liter (gal) of coating] for each coating used during each month using one of the methods specified in §63.3941(b). [40 CFR 63.3951(b)]
- (c) *Determine the density of each material.* Determine the density of each liquid coating, thinner and/or other additive, and cleaning material used during each month from test results using ASTM Method D1475-98, "Standard Test Method for Density of Liquid Coatings, Inks, and Related Products" (incorporated by reference, see §63.14); information from the supplier or manufacturer of the material; or reference sources providing density or specific gravity data for pure materials. If you are including powder coatings in the compliance determination, determine the density of powder coatings, using ASTM Method D5965-02, "Standard Test Methods for Specific Gravity of Coating Powders" (incorporated by reference, see §63.14), or information from the supplier. If there is disagreement between ASTM Method D1475-98 or ASTM Method D5965-02 test results and other such information sources, the test results will take precedence unless, after consultation, you demonstrate to the satisfaction of the enforcement agency that the formulation data are correct. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine material density. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, 1C, and 2, of this section. [40 CFR 63.3951(c)]
- (d) *Determine the volume of each material used.* Determine the volume (liters) of each coating, thinner and/or other additive, and cleaning material used during each month by measurement or usage records. If you purchase materials or monitor consumption by weight instead of volume, you do not need to determine the volume of each material used. Instead, you may use the material weight in place of the combined terms for density and volume in Equations 1A, 1B, and 1C, of this section. [40 CFR 63.3951(d)]
- (e) *Calculate the mass of organic HAP emissions.* The mass of organic HAP emissions is the combined mass of organic HAP contained in all coatings, thinners and/or other additives, and cleaning materials used during each month minus the organic HAP in certain waste materials. The owner or operator shall calculate the mass of organic HAP emissions using Equation 1. [40 CFR 63.3951(e)]

$$H_e = A + B + C - R_w$$

where:

- H_e = Total mass of organic HAP emissions during the month, kg;
- A = Total mass of organic HAP in the coatings used during the month, kg, as calculated in Equation 1A.
- B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg, as calculated in Equation 1B.
- C = Total mass of organic HAP in the cleaning materials used during the month, kg, as calculated in Equation 1C.
- R_w = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the month, in kg, determined according to paragraph (e)(4) of §63.3951. (You may assign a value of zero to R_w if you do not wish to use this allowance.)

- (i) Calculate the kg organic HAP in the coatings used during the month using Equation 1A:
[40 CFR 63.3951(e)(1)]

$$A = \sum_{i=1}^m (Vol_{c,i})(D_{c,i})(W_{c,i})$$

where:

- A = Total mass of organic HAP in the coatings used during the month, kg;
- $Vol_{c,i}$ = Total volume of coating i used during the month, liters;
- $D_{c,i}$ = Density of coating i , kg coating per liter coating;
- $W_{c,i}$ = Mass fraction of organic HAP in coating i , kg organic HAP per kg coating;
- M = Number of different coatings used during the month.

- (ii) Calculate the kg of organic HAP in the thinners and/or other additives used during the month using Equation 1B: [40 CFR 63.3951(e)(2)]

$$B = \sum_{j=1}^m (Vol_{t,j})(D_{t,j})(W_{t,j})$$

where:

- B = Total mass of organic HAP in the thinners and/or other additives used during the month, kg;
 Vol_{t,j} = Total volume of thinner and/or other additive *j* used during the month, liters;
 D_t = Density of thinner and/or other additive *j*, kg per liter;
 W_{t,j} = Mass fraction of organic HAP in thinner and/or other additive *j*, kg organic HAP per kg thinner and/or other additive;
 N = Number of different thinners and/or other additives used during the month.

- (iii) Calculate the kg organic HAP in the cleaning materials used during the month using Equation 1C: [40 CFR 63.3951(e)(3)]

$$C = \sum_{k=1}^p (Vol_{s,k})(D_{s,k})(W_{s,k})$$

where:

- C = Total mass of organic HAP in the cleaning materials used during the month, kg;
 Vol_{s,k} = Total volume of cleaning material *k* used during the month, liters;
 D_{s,k} = Density of cleaning material *k*, kg per liter;
 W_{s,k} = Mass fraction of organic HAP in cleaning material *k*, kg organic HAP per kg material;
 P = Number of different cleaning materials used during the month.

- (iv) If you choose to account for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSD in Equation 1 of this section, then you must determine the mass according to paragraphs §63.3951(e)(4)(i) through (iv).
[40 CFR 63.3951(e)(4)]
- (f) *Determine the total volume of coating solids used.* Determine the total volume of coating solids used, liters, which is the combined volume of coating solids for all the coatings used during each month, using Equation 2:
[40 CFR 63.3951(f)]

$$V_{st} = \sum_{i=1}^m (Vol_{c,i})(V_{s,i})$$

where:

- V_{st} = Total volume of coating solids used during the month, liters;
- $Vol_{c,i}$ = Total volume of coating i used during the month, liters.
- $V_{s,i}$ = Volume fraction of coating solids for coating i , liter solids per liter coating, determined according to §63.3941(b).
- M = Number of coatings used during the month.

- (g) *Calculate the organic HAP emission rate.* Calculate the organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used, using Equation 3: [40 CFR 63.3951(g)]

$$H_{yr} = \frac{\sum_{y=1}^n H_e}{\sum_{y=1}^n V_{st}}$$

where:

- H_{yr} = Average organic HAP emission rate for the compliance period, kg organic HAP emitted per liter coating solids used.
- H_e = Total mass of organic HAP emissions from all materials used during month y , kg, as calculated by Equation 1.

- V_{st} = Total volume of coating solids used during month y , liters, as calculated by Equation 2.
- y = Identifier for months.
- n = Number of full or partial months in the compliance period (for all compliance periods, n equals 12).

ii. Regardless of the compliance method the owner or operator shall maintain the following records:

- (1) You must collect and keep records of the data and information below. Failure to collect and keep these records is a deviation from the applicable standard. [40 CFR 63.3930]
- (a) A copy of each notification and report that you submitted to comply with this subpart, and the documentation supporting each notification and report. [40 CFR 63.3930(a)]
- (b) A current copy of information provided by materials suppliers or manufacturers, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP and density for each coating, thinner and/or other additive, and cleaning material, and the volume fraction of coating solids for each coating. If you conducted testing to determine mass fraction of organic HAP, density, or volume fraction of coating solids, you must keep a copy of the complete test report. If you use information provided to you by the manufacturer or supplier of the material that was based on testing, you must keep the summary sheet of results provided to you by the manufacturer or supplier. You are not required to obtain the test report or other supporting documentation from the manufacturer or supplier. [40 CFR 63.3930(b)]
- (c) For each compliance period, the records specified in paragraphs (c)(1) through (4) of this section: [40 CFR 63.3930(c)]
- (i) A record of the coating operations on which you used each compliance option and the time periods (beginning and ending dates and times) for each option you used. [40 CFR 63.3930(c)(1)]
- (ii) A record of the calculation of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month using Equations 1, 1A through 1C, and 2, and, if applicable, the calculation used to

determine mass of organic HAP in waste materials according to §63.3951(e)(4); the calculation of the total volume of coating solids used each month using Equation 2; and the calculation of each 12-month organic HAP emission rate using Equation 3. [40 CFR 63.3930(c)(3)]

- (2) A record of the name and volume of each coating, thinner and/or other additive, and cleaning material used during each compliance period. [(40 CFR 63.3930(d)]
- (3) A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used during each compliance period unless the material is tracked by weight. [40 CFR 63.3930(e)]
- (4) A record of the volume fraction of coating solids for each coating used during each compliance period. [40 CFR 63.3930(f)]
- (5) If you use either the emission rate without add-on controls or the emission rate with add-on controls compliance option, the density for each coating, thinner and/or other additive, and cleaning material used during each compliance period. [40 CFR 63.3930(g)]
- (6) If you use an allowance in Equation 1 of §63.3951 for organic HAP contained in waste materials sent to or designated for shipment to a treatment, storage, and disposal facility (TSDF) according to §63.3951(e)(4), you must keep records of the information specified in paragraphs §63.3930(h)(1) through (3) of this section: [40 CFR 63.3930(h)]
 - (a) The name and address of each TSDF to which you sent waste materials for which you use an allowance in Equation 1 of §63.3951; a statement of which subparts under 40 CFR parts 262, 264, 265 , and 266 apply to the facility; and the date of each shipment. [40 CFR 63.3930(h)(1)]
 - (b) Identification of the coating operations producing waste materials included in each shipment and the month or months in which you used the allowance for these materials in Equation 1 of §63.3951. [40 CFR 63.3930(h)(2)]
 - (c) The methodology used in accordance with §63.3951(e)(4) to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data,

frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment. [40 CFR 63.3930(h)(3)]

- (7) You must keep records of the date, time, and duration of each deviation. [40 CFR 63.3930(j)]
- iii. The owner or operator shall keep records in the form and time period as the following:
 - (1) Your records must be in a form suitable and readily available for expeditious review. Where appropriate, the records may be maintained as electronic spreadsheets or as a database. [40 CFR 63.3931(a)]
 - (2) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.3931(b)]
 - (3) You must keep each record on-site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to §63.10(b)(1). You may keep the records off-site for the remaining 3 years. [40 CFR 63.3931(c)]
 - iv. The owner or operator shall maintain a copy of the MSDS/SDS for each HAP-containing material used at this plant. [Regulation 2.16, section 4.1.9]

b. Opacity

- i. For each PM emission point (E11 and E31), conduct a monthly one-minute visible emissions survey during normal operation. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.
- ii. At emission points where visible emissions are observed, initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A within 24 hours of the initial observation.
- iii. Maintain records, monthly, of the results of all visible emissions surveys and Methods 9 observations performed. These records shall include the date of each visible emission survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what, if any, corrective action was performed. If an emission point is not being

operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

c. PM

- i. Perform monthly visual inspections of each paint booth PM filter system to ensure proper installment (i.e. proper alignment/placement, gaps, etc.) and replace filters as needed.
- ii. Maintain monthly records of the results of each visual inspection. These records shall include the date and time of the inspection, the name of the person that conducted the inspection, and a brief summary of any equipment defects observed, including a list of any components that were replaced or repaired.
- iii. Maintain daily record of any period of time when a spray booth was operating and the associated air filters were not in place, or record a declaration that the filters were in place at all times that day when the paint booths were operating. If there is any time that the associated filters were bypassed when the paint booths were operating, then the owner or operator shall keep a record of the following for each bypass event:
 - (1) Date;
 - (2) Start time and stop time;
 - (3) Identification of the process equipment and control device;
 - (4) PM emissions for each hour that the control equipment was bypassed, in lb/hr;
 - (5) Summary of the cause or reason for each bypass event;
 - (6) Corrective action taken to minimize the extent or duration of the bypass event; and
 - (7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

d. TAC

- i. See the Plantwide STAR Requirements.

e. VOC

- i. Maintain records that include, but not be limited to, the following:
[Regulation 7.59, section 6]
 - (1) The regulation and section number applicable to the affected facility, for which the records are being maintained;
 - (2) The application method and substrate type (metal, plastic, etc.);

- (3) The amount and type of coatings (including catalyst and reducer for multicomponent coatings) and solvent (including exempt compounds) used at each point of application during the averaging period;
 - (4) The VOC content as applied in each coating and solvent;
 - (5) The date, or usage record period, for each application of coating and solvent;
 - (6) The amount of surface preparation, clean-up, wash-up of solvent (including exempt compounds) used and the VOC content of each material used during the averaging period.
- ii. The averaging period weighted average VOC content, which means the VOC content of two or more coatings as applied on a coating line during any averaging period and weighted according to the fraction of the total coating volume that each coating represents, shall be calculated using the following equation:

$$VOC_w = \sum_{i=1}^n \frac{V_i C_i}{VT}$$

where:

- VOC_w = The average VOC content of two or more coatings as applied each averaging period on a coating line, in kg VOC/l (lb of VOC/gal) of coating, excluding water and exempt solvents.
- V_i = The volume of each coating as applied each averaging period on a coating line in units of liters (gallons), excluding water and exempt solvents.
- C_i = The VOC content of each coating as applied each averaging period on a coating line in units of kg of VOC/l (lb of VOC/gal) of coating, excluding water and exempt solvents.
- VT = The total volume of all coatings as applied each averaging period on a coating line in units of liters (gallons), excluding water and exempt solvents.
- n = The number of different coatings as applied each averaging period on a coating line.

S3. Reporting

[Regulation 2.16, section 4.1.9.3]

The owner or operator shall report the following information, in accordance with General Condition 14:

a. HAP

- i. *General Requirements.* The semi-annual compliance report must contain the information specified in §63.3920, paragraphs (a)(3)(i) through (vii), and the information specified in §63.3920, paragraphs (a)(4) through (7) and (c)(1) that are applicable to your affected source:
[40 CFR 63.3920(a)(3)]
 - (1) Company name and address. [40 CFR 63.3920(a)(3)(i)]
 - (2) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. [40 CFR 63.3920(a)(3)(ii)]
 - (3) Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.
[40 CFR 63.3920(a)(3)(iii)]
 - (4) Identification of the compliance option or options specified in §63.3891 that you used on each coating operation during the reporting period. If you switched compliance options during the reporting period, you must report the beginning and ending dates for each option you used. [40 CFR 63.3920(a)(3)(iv)]
 - (5) If you used the *emission rate without add-on controls* or the *emission rate with add-on controls* compliance option (§63.3891(b) or (c)), the calculations results for each 12-month organic-HAP emission rate during the 6-month reporting period.
[40 CFR 63.3920(a)(3)(v)]
- ii. *No deviation:*²⁹ If there were no deviations from the emission limitations in §§63.3890, 63.3892, and 63.3893 that apply to you, the semi-annual

²⁹ Deviation means any instance in which an affected source subject to Subpart M MMM, or an owner or operator of such a source: (40 CFR 63.3981)

- Fails to meet any requirement or obligation established by this Subpart M MMM including but not limited to, any emission limit or operating limit or work practice standard;
- Fails to meet any term or condition that is adopted to implement an applicable requirement in Subpart M MMM and that is included in the operating permit for any affected source required to obtain such a permit; or

compliance report must include a statement that there were no deviations from the emission limitations during the reporting period.

[40 CFR 63.3920(a)(4)]

- iii. *Deviations:*²⁹ If you used the emission rate without add-on controls option and there was a deviation from the applicable emission limit in §63.3890(b), the semi-annual compliance report must contain the information in paragraphs (a)(6)(i) through (iii) of this section.

[40 CFR 63.3920(a)(6)]

(1) The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the applicable emission limit in §63.3890. [40 CFR 63.3920(a)(6)(i)]

(2) The calculations used to determine the 12-month organic HAP emission rate for the compliance period in which the deviation occurred. You must submit the calculations for Equations 1, 1A through 1C, 2, and 3 of §63.3951; and if applicable, the calculation used to determine mass of organic HAP in waste materials according to §63.3951(e)(4). You do not need to submit background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports).

[40 CFR 63.3920(a)(6)(ii)]

(3) A statement of the cause of each deviation.

[40 CFR 63.3920(a)(6)(iii)]

- iv. As part of each semiannual compliance report required by §63.3920, you must identify the coating operation(s) for which you used the *emission rate without add-on controls* option. If there were no deviations from the emission limitations, you must submit a statement that the coating operation(s) was (were) in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in §63.3890, determined according to §63.3951(a) through (g).

[40 CFR 63.3952(c)]

- v. *Inclusion with Title V report.* Each affected source that has obtained a Title V operating permit pursuant to 40 CFR part 70 or 40 CFR part 71 must report all deviations as defined in 40 CFR Part 63, Subpart M MMM in the semi-annual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a semi-annual compliance report pursuant to §63.3920 along with, or as part of, the semi-annual monitoring report required by 40 CFR

• Fails to meet any emission limit, or operating limit, or work practice standard in Subpart M MMM during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by Subpart M MMM.

70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the semi-annual compliance report includes all required information concerning deviations from any emission limitation in Subpart M MMM, its submission will be deemed to satisfy any obligation to report the same deviations in the semi-annual monitoring report. However, submission of a semi-annual compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permitting authority.³⁰ [40 CFR 63.3920(a)(2)]

vi. *Dates.* Unless the Administrator has approved or agreed to a different schedule for submission of reports under §63.10(a), you must prepare and submit each semi-annual compliance report according to the dates specified in paragraphs (a)(1)(i) through (iv) of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.³⁰ [40 CFR 63.3920(a)(1)]

(1) Each semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
[40 CFR 63.3920(a)(1)(ii)]

(2) Each semiannual compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.
[40 CFR 63.3920(a)(1)(iii)]

(3) For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the date specified in paragraph (a)(1)(iii) of this section. [40 CFR 63.3920(a)(1)(iv)]

b. Opacity

i. Any deviation from the requirement to perform the required monthly visible emission surveys or Method 9 observation.

ii. Any deviation from the requirement to record the results of each monthly visible emission survey and Method 9 observation performed.

³⁰ In accordance with 40 CFR Part 63, Subpart M MMM, section 63.3920(a)(1) and 63.3920(a)(1)(iv), Industrial Container Services, Inc. may submit their Subpart M MMM semi-annual compliance reports on the same schedule as the Title V operating permit reporting requirements.

- iii. The number, date, and time of each visible emission survey where visible emissions were observed and the results of the Method 9 observation performed.
- iv. Identification of all periods of exceeding the opacity standard.
- v. Description of any corrective action taken for each exceedance of an opacity standard.

c. PM

- i. All periods of exceeding a PM emission rate standard during a reporting period. The report shall include the following:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration of each bypass event;
 - (3) The PM emission rate, in lb/hr;
 - (4) Summary information on the cause or reason for each bypass event;
 - (5) Corrective action taken to minimize the extent and duration of each bypass event; and
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass.

d. TAC

- i. See the Plantwide STAR Requirements.

e. VOC

- i. All periods of exceeding a VOC emission standard during a reporting period, including the following information:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration during which a deviation from the coating VOC limits occurred;
 - (3) The quantity of excess emissions;
 - (4) Summary information on the cause or reason for excess emissions;
 - (5) Corrective action taken to minimize the extent and duration of each excess emissions event;
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in excess VOC emissions;

Emission Unit U4 - Natural Gas-Fired Boiler

Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
6.07	Standard of Performance for Existing Indirect Heat Exchangers	1 - 4
40 CFR Part 63 Subpart A	General Provisions	63.1 - 63.16
40 CFR 63, Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.02	Adoption and Incorporation of National Emission Standards for Hazardous Air Pollutants	1, 2, 4, 5, 6
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E13	25.2 MMBtu/hr Boiler Scotch North American, installed January 1975	STAR, ^{31, 32} 6.07, 40 CFR 63, Subpart DDDDD	N/A	S13

Control Devices:

There are no control devices associated with Emission Unit U4.

³¹ The STAR regulations comprise District regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.

³² Emissions from the combustion of natural gas are *de minimis* by definition [Regulation 5.21, section 2.7]

U4 Specific Conditions

S1. Standards

[Regulation 2.16, section 4.1.1]

a. HAP

- i. As specified in §63.9(b)(2), if you startup your affected source before January 31, 2013, you must submit an Initial Notification not later than 120 days after January 31, 2013. [40 CFR 63.7545(b)] The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator³³ in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:³⁴ [40 CFR 63.9(b)(2)]
 - (1) The name and address of the owner or operator;
 - (2) The address (*i.e.*, physical location) of the affected source;
 - (3) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;
 - (4) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and
 - (5) A statement of whether the affected source is a major source or an area source.
- ii. For existing affected sources (as defined in §63.7490), you must complete the initial compliance demonstrations, as specified in paragraphs (a) through (d) of this section, no later than 180 days after the compliance date that is specified for your source in §63.7495 and according to the applicable provisions in §63.7(a)(2) as cited in Table 10 to this subpart, except as specified in paragraph (j) of this section.
 - (1) You must complete the one-time energy assessment specified in Table 3 to this subpart no later than the compliance date specified

³³ §63.7570(a) states, in part, “This subpart can be implemented and enforced by the EPA, or an Administrator such as your state, local, or tribal agency. If the EPA Administrator has delegated authority to your state, local, or tribal agency, then that agency (as well as the EPA) has the authority to implement and enforce this subpart.” The Louisville Metro Air Pollution Control District has been delegated authority by the EPA Administrator to implement this regulation.

³⁴ ICS submitted their Initial Notification on December 29, 2016

in §63.7495.³⁵ [40 CFR 63.7510(e)] [You] must have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operated under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in §63.7495 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in §63.7575: [40 CFR 63, Subpart DDDDD, Table 3, item 4]

- (a) A visual inspection of the boiler or process heater system; [Table 3, 4a]
- (b) An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints; [Table 3, 4b]
- (c) An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator; [Table 3, 4c]
- (d) A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage; [Table 3, 4d]
- (e) A review of the facility's energy management program and provide recommendations for improvements consistent with the definition of energy management program, if identified; [Table 3, 4e]
- (f) A list of cost-effective energy conservation measures that are within the facility's control; [Table 3, 4f]
- (g) A list of the energy savings potential of the energy conservation measures identified; [Table 3, 4g]
- (h) A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments. [Table 3, 4h]

³⁵ The compliance date for the one-time energy assessment and boiler tune-up was 31 January 2016. ICS completed their assessment and tune-up on 23 January 2017 and submitted notification to the District on 1 March 2017.

- (2) You must complete an initial tune-up by following the procedures described in §63.7540(a)(10)(i) through (vi) no later than the compliance date specified in §63.7495,³⁵ except as specified in paragraph (j) of this section [40 CFR 63.7510(e)] If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of this section. You must conduct the tune-up while burning the type of fuel (or fuels in case of units that routinely burn a mixture) that provided the majority of the heat input to the boiler or process heater over the 12 months prior to the tune-up. [40 CFR 63.7540(a)(10)] Each annual tune-up must be no more than 13 months after the previous tune-up. [40 CFR 63.7515(d)]
- (a) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown); [63.7540(a)(10)(i)]
 - (b) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available; [63.7540(a)(10)(ii)]
 - (c) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown); [63.7540(a)(10)(iii)]
 - (d) Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject; [63.7540(a)(10)(iv)]
 - (e) Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; [63.7540(a)(10)(v)] and
 - (f) Maintain on-site and submit, if requested by the Administrator, a report containing the following information: [63.7540(a)(10)(vi)]
 - (i) The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume

percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater, [63.7540(a)(10)(vi)(A)] and

(ii) A description of any corrective actions taken as a part of the tune-up. [63.7540(a)(10)(vi)(B)]

iii. If an emission unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. [40 CFR 63.7540(a)(13)]

b. Opacity

i. No owner or operator shall cause the emission into the open air of particulate matter from any indirect heat exchanger which is greater than 20% opacity.³⁶ [Regulation 6.07, section 3.2]

c. PM

i. The owner or operator shall not allow or cause to be discharged into the atmosphere, any gases which contain particulate matter in excess of 0.45 lb per MMBtu heat input capacity.³⁷ [Regulation 6.07, section 3.1]

d. SO₂

i. The owner or operator shall not cause to be discharged into the atmosphere, any gases which contain sulfur dioxide in excess of 1.0 lb/MMBtu heat input capacity.³⁷ [Regulation 6.07, section 4.1]

S2. Monitoring and Recordkeeping

[Regulation 2.16, sections 4.1.9.1 and 4.1.9.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. HAP

i. You must keep records according to paragraphs (a)(1) and (2) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting

³⁶ The District has determined that combusting natural gas should not cause an exceedance of the opacity standard. Industrial Container Services is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

³⁷ A one-time PM and SO₂ compliance demonstration has been performed for the boiler using AP-42 emission factors. The potential uncontrolled emissions of PM and SO₂ cannot exceed the applicable emission standards when combusting natural gas; therefore, no monitoring, record keeping, or reporting is required.

any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in §63.10(b)(2)(xiv). [63.7555(a)(1)]

(2) Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii). [63.7555(a)(2)]

ii. Your records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). [40 CFR 63.7560(a)]

iii. As specified in 40 CFR 63.10(b)(1), the owner or operator shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. [40 CFR 63.7560(b)]

iv. You must keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). You may keep the records off site for the remaining 3 years. [40 CFR 63.7560(c)]

b. Opacity

i. There are no compliance monitoring and record keeping requirements for this pollutant.

c. PM

i. There are no compliance monitoring and record keeping requirements for this pollutant.

d. SO₂

i. There are no compliance monitoring and record keeping requirements for this pollutant.

S3. Reporting

[Regulation 2.16, section 4.1.9.3]

The owner or operator shall report the following information, as required by General Condition 14:

a. HAP

i. You must include with the Notification of Compliance Status a signed certification that the energy assessment was completed according Table 3 of this subpart, and that the assessment is an accurate depiction of your facility at the time of the assessment, or that the maximum number of on-

site technical hours specified in the definition of energy assessment applicable to the facility has been expended.³⁵ [40 CFR 63.7530(e)]

- ii. You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the following requirements in 40 CFR 63.7545(e). [40 CFR 63.7530(f)] For the initial compliance demonstration for each boiler or process heater, you must submit the Notification of Compliance Status, including all performance test results and fuel analyses, before the close of business on the 60th day following the completion of all performance test and/or other initial compliance demonstrations for all boiler or process heaters at the facility according to §63.10(d)(2). The Notification of Compliance Status report must contain all the information specified in paragraphs (e)(1) through (8) of this section, as applicable. [63.7545(e)]
 - (1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration. [40 CFR 63.7545(e)(1)]
 - (2) A signed certification that you have met all applicable emission limits and work practice standards. [40 CFR 63.7545(e)(6)]
 - (3) If you had a deviation from any work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken in the Notification of Compliance Status report. [40 CFR 63.7545(e)(7)]
 - (4) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official: [40 CFR 63.7545(e)(8)]
 - (a) “This facility complies with the required initial tune-up according to the procedures in §63.7540(a)(10)(i) through (vi).”
 - (b) “This facility has had an energy assessment performed according to §63.7530(e).”
- iii. Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this

subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct subsequent annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or Table 4 operating limits, you may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report. [40 CFR 63.7550(b)]

- (1) If submitting an annual, biennial, or 5-year compliance report, the first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on December 31 within 1, 2, or 5 years, as applicable, after the compliance date that is specified for your source in §63.7495. [63.7550(b)(1)]
- (2) The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31. [63.7550(b)(2)]
- (3) Annual, biennial, and 5-year compliance reports must cover the applicable 1-, 2-, or 5-year periods from January 1 to December 31.
- (4) Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than January 31.
- (5) The compliance report shall include information required in 40 CFR 63.7550(c)(1) through (c)(5).
[40 CFR 63, Subpart DDDDD, Table 9, item 1.a]
 - (a) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii) of this section, (xiv) and (xvii) of this section, and paragraph (c)(5)(iv) of this section for limited-use boiler or process heater.
 - (i) Company and Facility name and address. [63.7550(c)(5)(i)]
 - (ii) Process unit information and operating parameter limitations. [63.7550(c)(5)(ii)]
 - (iii) Date of report and beginning and ending dates of the reporting period. [63.7550(c)(5)(iii)]
 - (iv) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual, biennial, or 5-year tune-up according to §63.7540(a)(10), (11), or (12) respectively. Include the date of the most recent burner inspection if it was not done annually, biennially, or on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown. [63.7550(c)(5)(xiv)]

- (v) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report. [63.7550(c)(5)(xvii)]

b. Opacity

- i. There are no routine compliance reporting requirements.

c. PM

- i. There are no routine compliance reporting requirements.

d. SO₂

- i. There are no routine compliance reporting requirements.

Emission Unit U5 - Shot Blast Cleaning Units

Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
6.09	Standard of Performance for Existing Process Operations	1 - 3
7.08	Standard of Performance for New Process Operations	1 - 3
40 CFR Part 64	Compliance Assurance Monitoring ³⁸	64.1 through 64.10

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

³⁸ Industrial Container Services submitted the required CAM Plan to the District on 30 September 2009. This Plan was incorporated into the Title V permit 137-97-TV (R1). Certain additions, consistent with the original submission, were made where necessary to meet all of the requirements if the CAM Plan as described in the federal regulation. Where features of the Plan were less stringent than the corresponding federal or local regulations require, those features were made more stringent to match the regulation. The Plan presented here (in

Attachment A - Compliance Assurance Monitoring (CAM) Plan is unchanged from the plan presented in the 137-97-TV (R1) permit.

Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E14a	Open Head Blaster #1 Pangborn 126,000 lb/hr, installed June 1973	STAR, ³⁹ 6.09, 40 CFR 64	C14a	S14a
E14c	Tighthead Blaster Wheelabrator 75,000 lb/hr, installed November 1969		C8	S21
E14b	Open Head Blaster #2 Pangborn 126,000 lb/hr, installed June 1995	STAR, ³⁹ 7.08, 40 CFR 64	C14b	S14b
E14e	Ring Blaster Wheelabrator 30,000 lb/hr, installed June 1997		C14e	S14e
E14f	Lid Blaster Wheelabrator 19,200 lb/hr, installed 2009		C14f	S14f

Control Devices:

Control ID	Description	Control Efficiency <small>footnote 40</small>	Performance Indicator
C14a	Baghouse: Wheelabrator No. 9 Model 126-D K.D. (2011)	98%	Differential pressure
C14b	Baghouse: Micro Air, Model RP8-3	98%	Differential pressure.
C14e	Baghouse: AAF, Model Arrestal	98%	Differential pressure
C8	Baghouse: Amerex, Model CD-32 (4x4)	98%	Differential pressure
C14f	Baghouse: Torit, Model DFT Z-8	98%	Differential pressure

³⁹ The STAR regulations comprise District regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.

⁴⁰ The APCD default control efficiency for baghouses was changed from 95% to 98% in March 2018.

U5 Specific Conditions

S1. Standards

[Regulation 2.16, section 4.1.1]

a. Opacity

- i. The owner or operator shall not allow or cause visible emissions from shot blast equipment or associated control device to equal or exceed 20% opacity. [Regulation 6.09, section 3.1 and Regulation 7.08, section 3.1.1]

b. PM

- i. For Emission Points E14a, the owner or operator shall not allow the PM emissions to exceed 46.75 lb/hr based on actual operating hours in a calendar day.⁴¹ [Regulation 6.09, section 3.2]
- ii. For Emission Point E14b, the owner or operator shall not allow the PM emissions to exceed 33.59 lb/hr based on actual operating hours in a calendar day.⁴¹ [Regulation 7.08, section 3.1.2]
- iii. For Emission Point E14c, the owner or operator shall not allow the PM emissions to exceed 41.94 lb/hr based on actual operating hours in a calendar day.⁴¹ [Regulation 6.09, section 3.2]
- iv. For Emission Point E14e, the owner or operator shall not allow the PM emissions to exceed 19.24 lb/hr based on actual operating hours in a calendar day.⁴¹ [Regulation 7.08, section 3.1.2]
- v. For Emission Point E14f, the owner or operator shall not allow the PM emissions to exceed 14.59 lb/hr based on actual operating hours in a calendar day.⁴¹ [Regulation 7.08, section 3.1.2]
- vi. The owner or operator shall operate and maintain the control devices at all times an associated emission point is in operation, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice for minimizing emissions.
[Regulation 1.05, section 5]

⁴¹ The potential uncontrolled PM emissions could exceed the applicable PM emission standard; therefore, the company is required to monitor the performance of the baghouses. The potential controlled PM emissions are below the applicable emission standard based on the maximum capacity of each blast booth and the AP-42 emission factors for steel shot that assume a control efficiency of 98% for each baghouse.

c. TAC

- i. See the Plantwide STAR Requirements.
- ii. Emissions of manganese (CAS 7439-96-5) from emission point E14f shall not exceed 1375 pounds in any 12-consecutive-month period.⁴²

S2. Monitoring and Recordkeeping

[Regulation 2.16, sections 4.1.9.1 and 4.1.9.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. Opacity

- i. For each PM emission point (E14a, E14b, E14c, E14e, E14f), conduct a monthly one-minute visible emissions survey during normal operation. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.
- ii. At emission points where visible emissions are observed, initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A within 24 hours of the initial observation.
- iii. Maintain records, monthly, of the results of all visible emissions surveys and Methods 9 observations performed. These records shall include the date of each visible emission survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what, if any, corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

b. PM

- i. Perform a monthly visual inspection of the structural and mechanical integrity of each shot blast unit and associated baghouse for signs of damage, air leakage, corrosion, or other equipment defects. The owner or operator shall repair and/or replace defective components as needed. All

⁴² Controlled emissions of manganese from emission point E14f could potentially exceed the *de minimis* levels; therefore, Tier 3 (SCREEN3) air dispersion modeling was performed to determine compliance with the STAR program based on controlled PTE, therefore limits are required to demonstrate compliance. Results of this modeling demonstrating that EA goals were met were presented in the "Plantwide STAR Requirements" section of his permit.

equipment defects shall be repaired within 15 working days following the date the equipment defect was first observed.

- ii. Maintain monthly records of the results of each visual inspection. The records shall include the date and time of the inspection, the name of the person that conducted the inspection, and a brief summary of any equipment defects observed, including a list of any components that were replaced or repaired and the date of replacement or repair.
- iii. Maintain daily record of any period of time when the shot blast booths were operating and the associated baghouses were bypassed, or record a declaration that the baghouses were on line at all times that day when the respective shot blast equipment was operating. If there is any time during which the baghouses were bypassed or not in operation when the associated shot blast booths were operating, then the owner or operator shall keep a record of the following for each bypass event:
 - (1) Date;
 - (2) Start time and stop time;
 - (3) Identification of the process equipment and control device;
 - (4) PM emissions for each hour if the control equipment was bypassed, in lb/hr;
 - (5) Summary of the cause or reason for each bypass event;
 - (6) Corrective action taken to minimize the extent or duration of the bypass event; and
 - (7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.
- iv. Monitor and maintain records of the hours of operation for each shot blast cleaning unit.
- v. For all control devices, monitor and record the pressure drop at least once during each operating day to assure the pressure drop is maintained between 0.5 and 8.0 inches w.c. The differential pressure gauges shall be calibrated annually. [40 CFR 64.3(a)(2) and 64.7(a)]
- vi. Maintain records of monitoring data, corrective actions taken, gauge calibration records, and other supporting information required to be maintained under this part (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). [40 CFR 64.9(b)(1)]
- vii. *Proper maintenance.* At all times, the owner or operator shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment. [40 CFR 64.7(b)]

- viii. *Continued operation.* Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. [40 CFR 64.7(c)]
- ix. *Response to Excursions or Exceedances.* Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable. [40 CFR 64.7(d)(1)]
- x. Determination of whether the owner or operator has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. [40 CFR 64.7(d)(2)]
- xi. *Documentation of need for improved monitoring.* After approval of monitoring under Part 64, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator

ranges or designated conditions, the owner or operator shall promptly notify the District and, if necessary, submit a proposed modification to the part 70 permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64(e)]

xii. The PM emissions from the shot blast booths shall be calculated according to either of the following methods, or another method, after approval in writing by the District:

(1) Using the (known) control efficiency:

$$E_{PM} = \frac{(EF_{PM})(TR_b/1000)(OH_b)}{(2000, lbs/ton)} (1 - Ef_c)$$

where

- E_{PM} = PM emissions, tons
- EF_{PM} = 2.7 lb/1,000 lb abrasive, emission factor for shot blast
- TR_b = Maximum throughput rate of the shot of each blast booth, lbs/hr
 - Pangborn #1 blast booth (E14a): $TR_b = 126,000$ lbs/hr
 - Pangborn #2 blast booth (E14b): $TR_b = 126,000$ lbs/hr
 - Ring Wheelabrator (E14e): $TR_b = 30,000$ lbs/hr
 - Tighthouse Wheelabrator (E14c): $TR_b = 75,000$ lbs/hr
 - Lid Blast Wheelabrator (E14f): $TR_b = 19,200$ lbs/hr
- OH_b = Operation hours of each blast booth, hours
- Ef_c = Control efficiency of the baghouse, %

(2) Or, using the controlled emission factor

$$E_{PM} = \frac{(EF_{PMc})(TR_b/1000)(OH_b)}{(2000, lbs/ton)}$$

where

- E_{PM} = PM emissions, tons
- EF_{PMc} = Controlled PM 0.069 lb/1,000 lb abrasive, emission factor for shot blast
- TR_b = Maximum throughput rate of the shot of each blast booth, lbs/hr
 - Pangborn #1 blast booth (E14a): $TR_b = 126,000$ lbs/hr
 - Pangborn #2 blast booth (E14b): $TR_b = 126,000$ lbs/hr
 - Ring Wheelabrator (E14e): $TR_b = 30,000$ lbs/hr
 - Tighthouse Wheelabrator (E14c): $TR_b = 75,000$ lbs/hr
 - Lid Blast Wheelabrator (E14f): $TR_b = 19,200$ lbs/hr
- OH_b = Operation hours of each blast booth, hours

c. TAC

- i. See the Plantwide STAR Requirements.
- ii. For emission point E14f, monthly, maintain the following records:
[Regulation 5.21, section 4.10]
 - (1) Calculate the monthly and 12-consecutive-month TAC emissions for any TAC with an emission standard.⁴³
 - (2) For any control device bypass (C14f baghouse), maintain records of the bypass event as follows:
 - (a) Date;
 - (b) Start time and stop time;
 - (c) Identification of the process equipment and control device;
 - (d) The 12 consecutive month total emissions for each TAC with an emission standard for each 12-consecutive-month period that includes the bypass event, using the methods in Attachment B - Calculation Methodology
 - (e) Summary of the cause or reason for each bypass event;
 - (f) Corrective action taken to minimize the extent or duration of the bypass event; and
 - (g) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass.

S3. Reporting

[Regulation 2.16, section 4.1.9.3]

The owner or operator shall report the following information, in accordance with General Condition 14:

a. Opacity

- i. Any deviation from the requirement to perform the required monthly visible emission surveys or Method 9 tests.
- ii. Any deviation from the requirement to record the results of each monthly visible emission survey and Method 9 test performed.
- iii. The number, date, and time of each visible emission survey where visible emissions were observed and the results of the Method 9 observation performed.

⁴³ At the date of issuance of this permit, the only such TAC in this emission unit is manganese.

- iv. Identification of all periods of exceeding the opacity standard.
- v. Description of any corrective action taken for each exceedance of an opacity standard.

b. PM

- i. All periods of exceeding a PM emission rate standard or bypassing a baghouse during a reporting period including the following information:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration during which a deviation occurred;
 - (3) The PM emission rate, in lb/hr;
 - (4) Summary information on the cause or reason for excess emissions; and
 - (5) Corrective action taken to minimize the extent and duration of each excess emission or bypass event;
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in excess PM emissions.
- ii. The semi-annual compliance report shall include summary information on the number, duration and cause (including unknown cause, if applicable) of excursions and exceedances, as applicable, and the corrective actions taken. [40 CFR 64.9(a)(2)(i)]
- iii. The semi-annual compliance report shall include a description of the actions taken to implement a QIP during the reporting period as specified in 64.8. Upon completion of the QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring. [40 CFR 64.9(a)(2)(iii)]

c. TAC

- i. See the Plantwide STAR Requirements.
- ii. The monthly and 12-consecutive-month TAC emissions for each TAC with an emission standard, using the methodology described in Attachment B - Calculation Methodology
- iii. All periods of bypassing the baghouse (C14f) when the lid blaster Wheelabrator (E14f) was in operation during a reporting period, including the following information:
 - (1) Emission Unit ID number and emission point ID number;
 - (2) The date and duration of each bypass event;

- (3) The 12 consecutive month total emissions for each TAC with an emission standard for each 12-consecutive-month period that includes the bypass event;
 - (4) Summary information on the cause or reason for each bypass event;
 - (5) Corrective action taken to minimize the extent and duration of each bypass event;
 - (6) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass.
- iv. Identification of all periods of an exceedance of the annual emission limit for any TAC with an emission limit.

S4. Testing

[Regulation 2.16, section 4.3.1]

a. General Requirements

- i. See Plantwide emission unit testing requirements.

b. PM

- i. Before adopting a control efficiency greater than that shown in Attachment B - Calculation Methodology for any control device, the owner or operator shall perform an EPA Reference Method 5 performance test on the inlet and outlet of the control device or emission point to determine the emission rate and control efficiency. The following shall be addressed in the stack test plan/protocol: The test shall be performed at 90% or higher of maximum capacity, or allowable/permitted capacity, or at a level of capacity which results in the greatest emissions and is representative of the operations. Failure to perform the test, at maximum capacity, allowable/permitted capacity, or at a level of capacity which results in the greatest emissions may necessitate a re-test or necessitate a revision of the allowable/permitted capacity of the process equipment depending upon the difference between the testing results and the limit.

Emission Unit U7 – Insignificant Activities with Regulatory Requirements

Applicable Regulations:

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
6.09	Standards of Performance for Existing Process Operations	1, 2, 3
6.18	Standards of Performance for Solvent Metal Cleaning Equipment	1, 2, 4
6.13	Standard of Performance for Existing Storage Vessels for Volatile Organic Compounds	1, 2, 3
6.24	Standards of Performance for Existing Sources Using Organic Materials	1 - 5

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	Title	Applicable Sections
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6

Equipment:

Emission Point	Description	Applicable Regulation	Control ID	Stack ID
E32	Diesel fuel storage tank	STAR ^{44, 45} 6.13	N/A	N/A
E33	Cold solvent parts washer with secondary reservoir	STAR ^{44, 45} 6.18	N/A	N/A
E34	Plastic barrel grinding and storage	6.09, 6.24	N/A	N/A

Control Devices:

There are no control devices associated with Emission Unit U7.

⁴⁴ The STAR regulations comprise District regulations 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23.

⁴⁵ Emissions from insignificant activities are *de minimis* by definition [Regulation 5.21, section 2.3]

U7 Specific Conditions

S1. Standards

[Regulation 2.16, section 4.1.1]

a. Opacity

- i. The owner or operator shall not allow visible emissions from E34 to equal or exceed 20% opacity. [Regulation 6.09, section 3.1]

b. PM

- i. The owner or operator shall not allow PM emissions from E34 to exceed 2.58 pounds per hour based on actual operating hours in a calendar month.⁴⁶ [Regulation 6.09, section 3.2]

c. VOC

- i. The owner or operator shall use the Diesel fuel storage tank (E32) to store only Diesel motor fuel, with a true vapor pressure less than 1.5 psia. [Regulation 6.13, section 3.3]
- ii. The cold solvent parts washer (E33) shall meet the following requirements: [Regulation 6.18, section 4]
 - (1) The cold cleaner shall be fitted with a tightly fitting cover that is free of cracks, holes, or other defects;
 - (2) The cold cleaner shall be equipped with a drainage facility that is designed so that the solvent that drains off parts removed from the cleaner will return to the cold cleaner;
 - (3) A permanent, conspicuous label summarizing the following requirements shall be installed on or near the cold cleaner:
 - (a) Waste solvent must be stored only in a covered container.
 - (b) The solvent level in the cold cleaner shall not exceed the fill line.
 - (c) The cold cleaner shall be closed whenever a part is not being handled in the cold cleaner.
 - (d) Parts to be cleaned shall be racked or placed into the cold cleaner in a manner that will minimize drag-out losses.
 - (e) Cleaned parts shall be drained for at least 15 seconds or until dripping ceases, whichever is longer.

⁴⁶ A determination has been made that this emission rate cannot be exceeded uncontrolled.

- (f) A spill during solvent transfer shall be cleaned immediately, and the wipe rags or other sorbent material shall be immediately be stored in a covered container for disposal or recycling unless enclosed storage is not allowed by fire-protection authorities.
 - (g) Sponges, fabric, wood, leather, paper products, and other absorbent materials shall not be cleaned in a cold cleaner.
- (4) If used, the solvent spray shall be a fluid stream, not a fine, atomized, or shower type spray, at a pressure that does not cause excessive splashing.
 - (5) Work area fans shall be located and positioned so that they do not blow across the opening of the cold cleaner.
 - (6) If a pump-agitated solvent bath is used, the agitator shall be operated to produce no more than a rolling motion of the solvent with no observable splashing against the tank walls or the part being cleaned.
 - (7) The solvent-containing portion of the cold cleaner shall be free of all liquid leaks.
 - (8) The solvent used in the cold cleaner shall have a vapor pressure that does not exceed 0.019 psi measured at 68°F.
- iii. The owner or operator shall not discharge from E34 into the atmosphere organic materials in excess of: [Regulation 6.24, section 3]
 - (1) 40 pounds in any calendar day or eight pounds in any one hour of any Class II solvent,⁴⁷ unless this discharge has been reduced by at least 85% in weight.
 - (2) 3000 pounds in any calendar day or 450 pounds in any one hour of any Class III solvent,⁴⁸ unless this discharge has been reduced by at least 85% in weight.

⁴⁷ A Class II solvent is any organic material except perchlorethylene which has an aggregate of more than 20% of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations referred to the total volume of organic materials: [6.24 §2.3]

- (1) A combination of hydrocarbons having an olefinic or cycloolefinic type of unsaturation - 5%;
- (2) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene - 8%; or
- (3) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene, or toluene - 20%;

⁴⁸ A Class III solvent is any organic material that is not classified as a Class I or Class II solvent. There are no Class I solvents processed at ICS. [6.24 §2.4]

S2. Monitoring and Recordkeeping

[Regulation 2.16, sections 4.1.9.1 and 4.1.9.2]

The owner or operator shall maintain the required records for a minimum of five years and make the records readily available to the District upon request.

a. Opacity

- i. Each calendar month the owner or operator shall conduct a one-minute visible emissions survey, during normal operation, of emission point E34. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.
- ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.
- iii. The owner or operator shall, monthly, maintain records of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

b. PM

- i. The owner or operator shall maintain monthly records of the number of barrels processed.

c. VOC

- i. Maintain monthly records of Diesel fuel delivered to and withdrawn from the Diesel fuel storage tank (E32).
- ii. For the cold solvent parts washer (E32), the owner or operator shall maintain records that include the following for each solvent purchase: [Regulation 6.18, section 4.4.2]
 - (1) The name and address of the solvent supplier,
 - (2) The date of the purchase,
 - (3) The type of the solvent, and
 - (4) The vapor pressure of the solvent measured in mm_{Hg} at 68°F.

- iii. The owner or operator shall maintain the following records for E34:
[Regulation 6.24, section 4]
 - (1) The hours of operation of the equipment or usage for each day;
 - (2) The daily amount used in gallons of each solvent, cleaner, etc.; and
 - (3) Monthly calculations showing the average hourly and daily VOC emissions.

S3. Reporting

[Regulation 2.16, section 4.1.9.3]

The owner or operator shall report the following information as required by General Condition G14:

a. Opacity

- i. Any deviation from the requirement to perform the required monthly visible emission surveys or Method 9 tests.
- ii. Any deviation from the requirement to record the results of each monthly visible emission survey and Method 9 test performed.
- iii. The number, date, and time of each visible emission survey where visible emissions were observed and the results of the Method 9 observation performed.
- iv. Identification of all periods of exceeding the opacity standard.
- v. Description of any corrective action taken for each exceedance of an opacity standard.

b. PM

- i. There are no routine compliance reporting requirements.

c. VOC

- i. For E34 subject to Regulation 6.24:
 - (1) Identification of all periods of exceedances of the hourly and daily VOC emission limit, including the quantity of excess emissions;
 - (2) Reason for excess emissions; and
 - (3) Description of any corrective action taken.

Permit Shield

The owner or operator is hereby granted a permit shield that shall apply as long as the owner or operator demonstrates ongoing compliance with all conditions of this permit. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements of the regulations cited in this permit as of the date of issuance, pursuant to Regulation 2.16, section 4.6.1.

Off-Permit Documents

There are no off-permit documents associated with this Title V permit.

Alternative Operating Scenario

The company requested no alternative operating scenario in its Title V application.

Insignificant Activities

Equipment	Qty	PTE (tpy)	Regulation Basis
Storage tanks - diesel fuel, 550 gallon (See Emission Unit U7)	1	<0.01	Regulation 1.02, Appendix A, §3.25
Soil or groundwater remediation (passive)	1	VOC < 1.0	Regulation 1.02, Appendix A, §3.20
Emergency Relief Vents or ventilating systems	2	0.00	Regulation 1.02, Appendix A, §3.10
Heat-treating, soaking, case-hardening or surface conditioning of metal objects – using natural gas	2	NOx: .04	Regulation 1.02, Appendix A, §3.14
Washing or Drying Fabricated metal	2	0.00	Regulation 1.02, Appendix A, §3.15
Office Space Heaters- direct fired units	2	NOx: .04	Regulation 2.16, section 1.23
Cold Solvent Parts Cleaner with Secondary Reservoir (See Emission Unit U7)	1	VOC < 1.0	Regulation 1.02, Appendix A, §3.22
Plastics handling, grinding and regrind storage (See Emission Unit U7)	1	VOC: 1.4 PM: 2.41	Regulation 2.16, section 1.23

Insignificant Activities

Equipment	Qty	PTE (tpy)	Regulation Basis
Yard storage of RCRA-empty steel drums and bulk totes all are less than 250 gallons each	78	VOC: < 5 HAP: <0.5	Regulation 1.02, Appendix A, §3.24
Wastewater treatment operations/activities	1	0.01 SO _x	Regulation 2.16, section 1.23.1.2
Elementary neutralization of corrosive wastes in containers (neutralize high-pH NaOH waste with H ₂ SO ₄)	1	0.01 SO _x	Regulation 2.16, section 1.23.1.2
Paint curing oven, direct-fired: Eclipse model AH 1.0 MMBtu/hr natural gas burner	1	NO _x 0.43 CO 0.36	Regulation 1.02

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) unit.

Source-Wide Activities Not Otherwise Regulated⁴⁹

Equipment Description	Quantity	Make	Model
Bulk storage of non-VOC raw materials (NaOH)	1	N/A	N/A
Internal Combustion Engine Fixed or Mobile	15	N/A	N/A
Maintenance Brazing, soldering or welding	4	N/A	N/A

⁴⁹ This table is for informational purposes only. The listed equipment emits zero or negligible air pollutants. There are no compliance monitoring, recordkeeping, or reporting requirements for any of the listed equipment.

Attachment A - Compliance Assurance Monitoring (CAM) Plan

Company Name: Industrial Container Services, Inc.

Plant ID: 0002

Emission Unit: U5

Emission Point: E14a, E14b, E14c, E14e and E14f

Applicable Regulation: 7.08

PM Emission Limit: E14a: 33.59 lb/hr; E14b: 8.48 lb/hr; E14c: 5.51 lb/hr; E14e: 19.24 lb/hr; and E14f: 14.59 lb/hr.

Control Device: C14a (E14a), C14b (E14b), C8 (E14c), C14e (E14e) and C14f (E14f)

Monitoring Approach: The key elements of the monitoring approach are presented in the below Table.

	Indicator 1	Indicator 2	Inspection Maintenance
Indicator [(64.6c(1)(i)]	Pressure Drop (ΔP) across baghouse.	Visible emissions	Monthly maintenance and structural integrity inspection. Maintenance and inspection as recommended by manufacturer.
Measurement Approach [(64.6c(1)(ii)]	A pressure drop indicator shall be used to measure ΔP across the baghouse	Visible emission surveys will be conducted on a monthly basis	
Indicator Range [(64.6c(2)]	An excursion for the baghouse is defined as any operating condition where the ΔP is less than 0.5 inches H ₂ O or greater than 8 inches H ₂ O	An excursion for visible emissions is defined as the presence of any visible emissions greater than 20% opacity.	
Bypass [(64.6(a)(2)]	If the ΔP falls below the 0.5 inches H ₂ O, a possibility of a bypass is investigated.		
QIP Threshold [64.8]	Daily ΔP readings outside the performance indicator range for more than 3 times within a 3 month period	Visible emissions greater than 20% opacity for more than 3 times within a 3 month period	
Performance Criteria/data representativeness [64.6 (c)(1)(iii)]	ΔP : Minimum acceptable accuracy of pressure drop indicator per manufacturers specifications	Measurements are made at the exhaust stack	

	Indicator 1	Indicator 2	Inspection Maintenance
QA/QC Practices and Criteria [64.6 (b)(3)]	ΔP: Visual inspection and routine maintenance per manufacturer’s recommendations. Inspect and maintain per Manufacturer’s recommendations.	The observer will be certified in Method 9 procedures.	
Monitoring Frequency [64.6 (b)(4)]	ΔP monitored on a daily basis	Visible Emissions Survey conducted on a monthly basis	Monthly Inspection
Data Collection Procedures [64.6 (b)(4)(iii)]	Recorded on a daily basis	Recorded by observer on a monthly basis	Records are maintained to document monthly visual inspection and any maintenance performed.
Record Keeping and Reporting [64.9]	Excursion reporting and corrective actions taken Semi-annual Reports include: Investigation and corrective action report. Date, time, and duration of excursion. Cause of and corrective actions taken to eliminate excursion, and Measures taken to prevent re-occurrence A description of the actions taken to implement a QIP (as applicable)	Semi-annual Reports include: Investigation and corrective action report. Date, time, and duration of excursion. Cause of and corrective actions taken to eliminate excursion, and Measures taken to prevent re-occurrence A description of the actions taken to implement a QIP (as applicable)	

Justification

Background: The pollutant specific emission source control devices at the facility consist of a baghouse to control PM emissions from the shot blast cleaning units (blast booths).

Rationale for Selection of Performance Indicators: Pressure drop and visible emissions were selected as performance indicators because, in combination, they are indicative of good operation and maintenance. When the system is operating properly, there will be little or no visible emissions. This is a good indicator because any increase in visible emissions indicates reduced control device performance.

Rationale for Selection of Indicator Ranges: The selected range for the baghouse is 0.5” to 8” H₂O. These values are based on manufacturer’s recommended specifications for proper operation of the control devices. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence. All excursions will be documented.

Quality Improvement Plan (QIP) Threshold: The selected QIP threshold is three excursions within a 3 month period. If the QIP threshold is exceeded in a semi-annual period, a QIP will be developed and implemented.

Attachment B - Calculation Methodology

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:

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

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 emission calculation may be used if first proposed to and approved in writing by the District.

Emission Source		Description	Pollutant	Emission factor	Source	Control Effic.	Note
Unit	Point						
U1	E1	Drum reclamation furnace with afterburner	PM	1.44	Stack test	75.5%	1, 2, 3
			PM ₁₀	1.12		67.3%	
			PM _{2.5}	1.13		67.3%	
		TAC VOC HAP	As reported by 'AirTrace' or other approved tracking software		99.7%	4	
		Natural gas combustion in furnace and afterburner	CO NO _x PM ⁵⁰ SO ₂ VOC HAP Lead	84 100 7.6 0.6 5.5 See table 0.0005	AP42, Chap. 1.4	N/A	5
U2	E2	Paint booth for 30- and 55-gallon drums	HAP PM TAC VOC	Mass balance method	---	---	
	E5	Paint booth #1 for open-head drum lining					
	E6	Paint booth #2 for open-head drum lining					
	E9	Paint booth for open-head drums					
	E10	Paint booth for drum lids					
	E16	Paint booth GFS-RCBG-140812-SF3-S					

Emission Source		Description	Pollutant	Emission factor	Source	Control Effic.	Note
Unit	Point						
	E3	Drum and lid oven	CO NO _x PM ⁵⁰ SO ₂ VOC HAP Lead	84	AP42, Chap. 1.4	N/A	5
	E4	Drum and lid oven		100			
	E7	Lining Oven		7.6			
	E8	Lining oven		0.6			
	E17	Paint curing oven		0.6 5.5 See table 0.0005			
U3	E11	Paint booth for 16-gallon drums	HAP PM TAC VOC	Mass balance method		---	---
	E31	Paint booth for 85-gallon overpack drums					
U4	E13	25.2 MMBtu natural gas-fired boiler	CO NO _x PM ⁵⁰ SO ₂ VOC HAP Lead	84 100 7.6 0.6 5.5 See table 0.0005	AP42, Chap. 1.4	N/A	5
U5	E14a	Open head blaster #1	PM	3.45	AP42, Table 13.2.6-1	98%	7, 6, 9
	E14b	Open head blaster #2					
	E14c	Tight head blaster					
	E14e	Ring blaster					
	E14f	Lid blaster	TAC	Mass balance method		---	8
U7	E32	Diesel fuel storage tank	VOC	TANKS, or equivalent		---	---
	E33	Cold solvent parts washer	VOC	Mass balance method		---	---
	E34	Plastic barrel grinding and storage	VOC	As reported by 'AirTrace' or other approved tracking software		---	---

⁵⁰ For natural gas combustion, PM = PM₁₀ = PM_{2.5}.

Emission Source		Description	Pollutant	Emission factor	Source	Control Effic.	Note
Unit	Point						
			PM	0.35	Note 10	---	11
IA		Soil and groundwater remediation	VOC	Engineering estimate		---	---
		Heat treating, etc. using natural gas	CO	84	AP42, Chap. 1.4		5
			NO _x	100			
			PM ⁵⁰	7.6			
			SO ₂	0.6			
			VOC	5.5			
			HAP	See table			
	Lead		0.0005				
		Office space heaters	CO	84	AP42, Chap. 1.4		5
			NO _x	100			
			PM ⁵⁰	7.6			
			SO ₂	0.6			
			VOC	5.5			
			HAP	See table			
			Lead	0.0005			
		Yard storage of RCRA-empty drums	VOC	As reported by 'AirTrace' or other APCD-approved tracking software		---	---
		Wastewater treatment activities	SO ₂	Engineering estimate		---	---
		Neutralization of corrosive wastes	SO ₂	Engineering estimate		---	---

Notes

- Emission factor units are pounds of PM per hour of operation (lb/hr). The control efficiency is provided is derived from the input and outlet emission rates for the afterburner and is provided for reference only.
- This permit revision updates the emission rates from those set forth in the original issue of this permit and are based on the stack test conducted February 13, 2018.
- Deleted in revision 1
- Control efficiency determined during stack test performed 22 Feb 2011.
- Emission factor units are pounds of pollutant per million cubic feet of natural gas burned, (lb/MMscf).
- Emission factor units are pounds of pollutant per 1000-pounds of abrasive circulated, (lb/1000-lb).
- AP42-13.2.6 gives a controlled emission factor of 0.069 lb/(1000 lb). The uncontrolled emission factor given here is calculated by dividing the AP42 factor by (1-control efficiency). The control efficiency shown in this table is the APCD default efficiency that is used when testing data to provide a more accurate value is not available.
- HAP emissions are calculated by multiplying the PM mass emission by the percentage of HAP in the abrasive material.
- Emissions are calculated by multiplying the emission factor given times the maximum capacity of the blast equipment per hour times the hours of operation. [$PM = EF \times \left(\frac{lb_{abrasive}}{hr} \right) \times \text{hours of operation}$]
- No values for PM emissions from plastic shredding could be found in open literature. As an upper limit APCD believes that woodworking can serve as a surrogate process. The emission factor quoted here is for wood sawing at a sawmill, and comes from an EPA Region 10 Memorandum: *Particulate Matter Potential to Emit Emission Factors for Activities at Sawmills, ...*, dated 8 May 2014 [https://www.epa.gov/sites/production/files/2016-09/documents/spmpteeef_memo.pdf]
- Emission factor units are pounds of PM per ton of processed material. Typical plastic barrel weight is 25 pounds each.

Attachment D - Protocol Checklist for a Performance Test

A completed protocol should include the following information:

1. Facility name, location, and ID #;
2. Responsible Official and environmental contact names;
3. Permit numbers that are requiring the test to be conducted;
4. Test methods to be used (i.e. EPA Method 1, 2, 3, 4, and 5);
5. Alternative test methods or description of modifications to the test methods to be used;
6. Purpose of the test including equipment and pollutant to be tested; the purpose may be described in the permit that requires the test to be conducted or may be to show compliance with a federal regulation or emission standard;
7. Tentative test dates (These may change but the District will need final notice at least 10 days in advance of the actual test dates in order to arrange for observation.);
8. Maximum rated production capacity of the system;
9. Production-rate goal planned during the performance test for demonstration of compliance (if appropriate, based on limits);
10. Method to be used for determining rate of production during the performance test;
11. Method to be used for determining rate of production during subsequent operations of the process equipment to demonstrate compliance;
12. Description of normal operation cycles;
13. Discussion of operating conditions that tend to cause worse case emissions; it is especially important to clarify this if worst case emissions do not come from the maximum production rate;
14. Process flow diagram;
15. The type and manufacturer of the control equipment, if any;
16. The control equipment (baghouse, scrubber, condenser, etc.) parameter to be monitored and recorded during the performance test. Note that this data will be used to ensure representative operation during subsequent operations. These parameters can include pressure drops, flow rates, pH, and temperature. The values achieved during the test may be required during subsequent operations to describe what pressure drops, etcetera, are indicative of good operating performance; and
17. How quality assurance and accuracy of the data will be maintained, including;
 - Sample identification and chain-of-custody procedures
 - Audit sample provider and number of audit samples to be used, if applicable
18. Pipe, duct, stack, or flue diameter to be tested;
19. Distances from the testing sample ports to the nearest upstream and downstream flow disturbances such as bends, valves, constrictions, expansions, and exit points for outlet and additionally for inlet;
20. Determine number of traverse points to be tested for outlet and additionally for inlet if required using Appendix A-1 to 40 CFR Part 60:
 - Method 1 if stack diameter is >12"
 - Method 1a if stack diameter is greater than or equal to 4" and less than 12"
 - Alternate method of determination for <4"
 - If a sample location at least two stack or duct diameters downstream and half a diameter upstream from any flow disturbance is not available then an alternative procedure is available for determining the acceptability of a measurement location. This procedure described in Method 1, Section 11.5 allows for the determination of gas flow angles at the sampling points and comparison of the measured results with acceptability criteria.
21. The Stack Test Review fee shall be submitted with each stack test protocol.