DART CONTAINER CORPORATION
www.dart.biz
500 Hogsback Road • Mason, Michigan 48854 • (800) 248-5960

May 16, 2024

Ms. Caryn Owens
ROP Central Processing Unit
Michigan Department of Environment, Great Lakes, and Energy – Air Quality Division
120 West Chapin Street
Cadillac, Michigan 49601

SUBJECT: **Dart Container of Michigan, LLC**
MI-ROP-D8065-2020 – Application for Minor Modification; Rule 216(2)

Dear Ms. Owens,

Dart Container of Michigan, LLC (Dart) is submitting the following certifications and documentation for the application for a minor modification, per Rule 216(2), of the above referenced Renewable Operating Permit (ROP), to include (aka roll-in) the changes authorized under PTI 149-23:

- Signed ROP C-001 Certification (form EQP5773) for Section 1;
- Completed ROP M-001: Rule 216(2) Minor Modification Application (form EQP5775);
- AI-001: PTI Application # 2023-0280 (which include all supporting documentation, calculations, and references) and PTI # 149-23; and
- AI-002: Marked-up pages of the relevant sections of above referenced ROP.

If you have any questions, or require additional information, please contact me at 517-244-2483 (marc.landry@dart.biz) or Don Wiltse at 517-244-2452 (don.wiltse@dart.biz).

Sincerely,

On Behalf of Dart Container of Michigan, LLC

Mr. Marc Landry
Mason Cup Plant Manager
Dart Container of Michigan, LLC

Cc: David Rauch, Lansing District Office, MI EGLE AQD
Site Files

Enclosures:

EGLE

Michigan Department of Environment, Great Lakes, and Energy
Air Quality Division

App No. 202400070

RENEWABLE OPERATING PERMIT
M-001: RULE 215 CHANGE NOTIFICATION
RULE 216 AMENDMENT/MODIFICATION APPLICATION

This information is required by Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment.

1. SRN D8065	2. ROP Number D8065-MI-ROP-2020	3. County Ingham
4. Stationary Source Name Dart Container of Michigan, LLC		
5. Location Address 432 Hogsback Road		6. City Mason

7. Submittal Type - *The submittal must meet the criteria for the box checked below. Check only one box. Attach a mark-up of the affected ROP pages for applications for Rule 216 changes.*

- ☐ **Rule 215(1) Notification of change**. *Complete Items 8 – 10 and 14*
- ☐ **Rule 215(2) Notification of change**. *Complete Items 8 – 10 and 14*
- ☐ **Rule 215(3) Notification of change**. *Complete Items 8 – 11 and 14*
- ☐ **Rule 215(5) Notification of change**. *Complete Items 8 – 10 and 14*
- ☐ **Rule 216(1)(a)(i)-(iv) Administrative Amendment**. *Complete Items 8 – 10 and 14*
- ☐ **Rule 216(1)(a)(v) Administrative Amendment**. *Complete Items 8 – 14. Results of testing, monitoring & recordkeeping must be submitted. See detailed instructions.*
- ☒ **Rule 216(2) Minor Modification**. *Complete Items 8 – 12 and 14*
- ☐ **Rule 216(3) Significant Modification**. *Complete Items 8 – 12 and 14, and provide any additional information needed on ROP application forms. See detailed instructions.*
- ☐ **Rule 216(4) State-Only Modification**. *Complete Items 8 – 12 and 14*

8. Effective date of the change. (MM/DD/YYYY) *See detailed instructions.* **02 / 22 / 2024**

9. Change in emissions? ☒ Yes ☐ No

10. Description of Change - *Describe any changes or additions to the ROP, including any changes in emissions and/or pollutants that will occur. If additional space is needed, complete an Additional Information form (AI-001).*

See attached AI-001 form for additional information, including the application details/data provided in application 2023-0280. See attached AI-002 for a marked-up copy of the relevant sections of the ROP.

11. New Source Review Permit(s) to Install (PTI) associated with this application? ☒ Yes ☐ No

If Yes, enter the PTI Number(s) 149 - 23 ____ - ____ ____ - ____ ____ - ____ ____ - ____

12. Compliance Status - *A narrative compliance plan, including a schedule for compliance, must be submitted using an AI-001 if any of the following are checked No.*

a. Is the change identified above in compliance with the associated applicable requirement(s)? ☒ Yes ☐ No

b. Will the change identified above continue to be in compliance with the associated applicable requirement(s)? ☒ Yes ☐ No

c. If the change includes a future applicable requirement(s), will timely compliance be achieved? ☒ Yes ☐ No

13. Operator's Additional Information ID - *Create an Additional Information (AI) ID for the associated AI-001 form used to provide supplemental information.* **AI-002**

14. Contact Name	Telephone No.	E-mail Address
Marc Landry, Mason Cup Plant Mgr	**517-244-2483**	**marc.landry@dart.biz**

15. This submittal also updates the ROP renewal application submitted on ____/____/____ ☐ Yes ☒ N/A
(If yes, a mark-up of the affected pages of the ROP must be attached.)

NOTE: A CERTIFICATION FORM (C-001) SIGNED BY A RESPONSIBLE OFFICIAL MUST ACCOMPANY ALL SUBMITTALS

App No. 202400070

EGLE Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division

RENEWABLE OPERATING PERMIT APPLICATION
C-001: CERTIFICATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in civil and/or criminal penalties. Please type or print clearly.

This form is completed and included as part of Renewable Operating Permit (ROP) initial and renewal applications, notifications of change, amendments, modifications, and additional information.

Form Type **C-001**	SRN D8065

Stationary Source Name: Dart Container of Michigan, LLC	
City: Mason	County: Ingham

SUBMITTAL CERTIFICATION INFORMATION

1. Type of Submittal *Check only one box.*

☐ Initial Application (Rule 210) ☒ Notification / Administrative Amendment / Modification (Rules 215/216)

☐ Renewal (Rule 210) ☐ Other, describe on AI-001

2. If this ROP has more than one Section, list the Section(s) that this Certification applies to **1**

3. Submittal Media ☒ E-mail ☐ FTP ☐ Disk ☒ Paper

4. Operator's Additional Information ID - Create an Additional Information (AI) ID that is used to provide supplemental information on AI-001 regarding a submittal.

AI-002 - Marked up copy of D8065-MI-ROP-2020

CONTACT INFORMATION

Contact Name: **Don Wiltse**	Title: **Senior Environmental Engineer**
Phone number: **517-244-2452**	E-mail address: **don.wiltse@dart.biz**

This form must be signed and dated by a Responsible Official.

Responsible Official Name: **Marc Landry**			Title: **Mason Cup Plant Manager**	
Mailing address: **432 Hogsback Road**				
City: **Mason**	State: **MI**	ZIP Code: **48854**	County: **Ingham**	Country: **USA**

As a Responsible Official, I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate and complete.

Marc Landry — Signature of Responsible Official

5-17-24 — Date

EQP 5773 (updated 4-2019)

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

SRN: D8065	Section Number (if applicable): 1

1. Additional Information ID
AI-001

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

On subsequent pages, please find the complete PTI application (App# 2023-0280) package that should cover all the proposed changes and revisions, as well as the final PTI (149-23).

Boiler #6 was installed and operational as of 2/22/2024. However, the installation of Boiler 7A has been delayed by several weeks, and its installation is expected to start on 5/17/2024 and to be completed in mid-to-late July 2024.

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MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY

PERMIT TO INSTALL APPLICATION

For authority to install, construct, reconstruct, relocate, or modify process, fuel-burning or refuse burning equipment and/or control equipment. Permits to install are required by administrative rules pursuant to Section 5505 of 1994 PA

FOR EGLE USE
APPLICATION NUMBER

Please type or print clearly. The "Application Instructions" and "Information Required for an Administratively Complete Permit to Install Application" are available on the Air Quality Division (AQD) Permit Web Page.
Please call the AQD at 517-899-6252. if you have not been contacted within 15 days of your application submittal.

1. FACILITY CODES: State Registration Number (SRN) and North American Industry Classification System (NAICS)
SRN: D8065 NAICS: 326140

2. APPLICANT NAME: (Business License Name of Corporation, Partnership, Individual Owner, Government Agency)
Dart Container Corporation of Michigan, LLC

3. APPLICANT ADDRESS: (Number and Street)
432 Hogsback Road

MAIL CODE: N/A

CITY: (City, Village or Township)
Mason

STATE: MI

ZIP CODE: 48854

COUNTY: Ingham

4. EQUIPMENT OR PROCESS LOCATION: (Number and Street – if different than Item 3)
Same

CITY: (City, Village or Township)
Same

ZIP CODE: Same

COUNTY: Same

5. GENERAL NATURE OF BUSINESS:
Foam container (expanded polystyrene) manufacturing

6. EQUIPMENT OR PROCESS DESCRIPTION: (A Description MUST Be Provided Here. Include Emission Unit IDs. Attach additional sheets if necessary; number and date each page of the submittal.)

This permit application is for the installation of two replacement boilers, to replace two existing boilers that are down for maintenance/replacement. EU-Boiler5 (600 hp boiler installed in 1970, out of service as of 3/15/23) and EU-Boiler7 (700 hp boiler installed in 1976, out of service as of 9/1/23) have been deemed no longer repairable and need to be replaced. These existing boilers will be replaced by EU-Boiler6 (600 hp boiler) and EU-Boiler7A (700 hp boiler manufactured in 2020), respectively. EU-Boiler6 burns natural gas only and is outfitted with a low NOx burner and a flue gas recirculation system. EU-Boiler7A will be modified (prior to installation) with a low NOx burner to meet applicable requirements. See the attached: "Permit to Install Application For the Installation of Two Replacement Boilers for Dart Container Corporation of Michigan 432 Hogsback Rd, Mason, MI 48854" dated 11/2/2023.

7. REASON FOR APPLICATION: (Check all that apply.)
- ☒ INSTALLATION / CONSTRUCTION OF NEW EQUIPMENT OR PROCESS
- ☒ RECONSTRUCTION / MODIFICATION / RELOCATION OF EXISTING EQUIPMENT OR PROCESS – **DATE INSTALLED:** 1970, 1976
- ☐ OTHER – DESCRIBE

8. IF THE EQUIPMENT OR PROCESS THAT WILL BE COVERED BY THIS PERMIT TO INSTALL (PTI) IS CURRENTLY COVERED BY ANY ACTIVE PERMITS, LIST THE PTI NUMBER(S): N/A

9. DOES THIS FACILITY HAVE AN EXISTING RENEWABLE OPERATING PERMIT (ROP)? ☐ NOT APPLICABLE ☐ PENDING APPLICATION ☒ YES
PENDING APPLICATION OR ROP NUMBER: MI-ROP-D8065-2020

10. AUTHORIZED EMPLOYEE: Marc Landry
TITLE: Cup Plant Manager
PHONE NUMBER: (Include Area Code) 517-244-2483

SIGNATURE: Marc Landry
DATE: 11/02/2023
E-MAIL ADDRESS: Marc.Landry@dart.biz

11. CONTACT: (If different than Authorized Employee. The person to contact with questions regarding this application)
Don Wiltse
PHONE NUMBER: (Include Area Code) 517-244-2452

CONTACT AFFILIATION: Snr Environmental Engineer
E-MAIL ADDRESS: Don.wiltse@dart.biz

12. IS THE CONTACT PERSON AUTHORIZED TO NEGOTIATE THE TERMS AND CONDITIONS OF THE PERMIT TO INSTALL? ☒ YES ☐ NO

FOR EGLE USE ONLY - DO NOT WRITE BELOW

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203:	PERMIT NUMBER:
DATE PERMIT TO INSTALL APPROVED:	SIGNATURE:
DATE APPLICATION / PTI VOIDED:	SIGNATURE:
DATE APPLICATION DENIED:	SIGNATURE:

A PERMIT CERTIFICATE WILL BE ISSUED UPON APPROVAL OF A PERMIT TO INSTALL

Permit to Install Application
For the Installation of Two Replacement Boilers for
Dart Container Corporation of Michigan
432 Hogsback Rd, Mason, MI 48854

SRN: D8065
ROP Number: MI-ROP-8065-2020

Prepared by: Don Wiltse
Sr. Environmental Engineer
11/2/2023

Required Information:

A. Process Description:

Dart produces foam containers made from expandable polystyrene (EPS) beads. The purchased EPS bead typically contains between 5.5% to 6.5% pentane. The raw EPS bead first enters the cup manufacturing process from sealed two-thousand-pound supersacks, which are transferred into the dumpers. The dumpers transport the beads to blenders which are used to obtain a somewhat uniform feed, which in turn feed the holding tanks. In the holding tanks, the EPS bead awaits use by the pre-expander. Pentane emissions from these holding tanks are captured by Pentane Control System (PCS).

The pre-expander is where the initial expansion of the EPS and density control take place. The pre-expander uses steam and air to heat the EPS beads, which vaporizes the blowing agent (impregnated inside the EPS bead) resulting in the expansion of the bead to the desired puff density and size. This expanded bead is called pre-puff. Most of the pentane emissions from the pre-expansion system are captured by the PRS and ducted to the operating boiler(s) for destruction.

The pre-puff is then screened to remove clumped beads and over- and under-sized beads before sending them to holding bags or hoppers to await use by the molding machines.

At the molding machines, steam is again used to heat the pre-puff and cause it (combined with pressure) to expand into the shape of the mold and fuse the cell walls together. Cooling then takes place to set the containers shape to that of the mold. The molded containers are removed from the mold and then inspected for quality and either packaged for shipment to customers or sent to be printed.

Dart utilizes up to three boilers which burn natural gas as their primary fuel; with two of those boilers burning fuel oil as a backup fuel (for use during curtailment by Consumers Energy). The boilers produce the steam which is used in the cup manufacturing process and general building heat. The boilers are also used to control and destroy some of the pentane emissions from the manufacturing process that is captured by the PCS. The minimum capture efficiency for the PCS (established by ROP, EU-Cup, Section IV. 2) is 30% of the potential emissions from the overall cup manufacturing process.

Currently, two of those boilers are down for maintenance/replacement. EU-Boiler5 (600 hp boiler installed in 1970, out of service as of 3/15/23) and EU-Boiler7 (700 hp boiler installed in 1976, out of service as of 9/1/23) have been deemed no longer repairable and need to be replaced. These existing boilers will be replaced by EU-Boiler6 (600 hp boiler manufactured in 2013) and EU-Boiler7A (700 hp boiler manufactured in 2020), respectively. EU-Boiler6 burns natural gas only and is outfitted with a low NOx burner and a flue gas recirculation system. EU-Boiler7A burns natural gas and fuel oil and will be modified (prior to installation) with a low NOx burner to meet applicable requirements.

B. Regulatory Discussion

Dart Container is in Ingham County, which is currently designated as attainment for all criteria pollutants. The facility is considered a major source pursuant to R336.1211 due to potential emissions of all volatile organic compounds exceeding 100 tons per year. The facility is not considered a major source of hazardous air pollutant emissions because the potential emissions of any single hazardous air pollutant is less than 10 tons per year and the potential emissions of all hazardous air pollutants combined are less than 25 tons per year.

These two boiler units (EU-Boiler6 and EU-Boiler7A) will replace the existing and no longer operational boilers (EU-Boiler7, and later EU-Boiler5) as steam sources for EU-Cup manufacturing and as subsequent control devices for the destruction of captured pentane (as described in ROP EU-Cup). Other than the replacement (in function) of the existing boilers, this will not result in increased emissions from, or any changes to monitoring or recordkeeping requirements for EU-Cup. Dart will continue to operate EU-Cup as required by the ROP and continue to maintain the required monitoring and recordkeeping (as described in Section VI. 1-14).

The boiler that has been proposed to replace the existing EU-Boiler7 is a used Cleaver-Brooks CBEX-2W High Pressure Steam Boiler (Model #: CBEX-2W-700-600-300ST; 600 hp, approximately 25.1 MMBTU/hr, designated EU-Boiler6) manufactured in 2013 that burns only natural gas. EU-Boiler6 is an ultra-low NOx boiler using both a low NOx burner assembly and a flue gas recirculation system to obtain a 9 ppm NOx emission rate. Please see **Attachment 1** (EU-Boiler6 Specifications and Detailed Description) for the proposed boiler's specifications and information. Emissions from this boiler will be exhausted through the existing SV-Boiler7 stack (see EU-Boiler6 Specifications and Detailed Description for more details).

The boiler that has been proposed to replace the existing EU-Boiler5 (600 hp boiler installed in 1970) is a Cleaver-Brooks 700 hp (approximately 29.3 MMBTU/hr) manufactured in 2020, and retrofitted with an appropriate low NOx burner assembly (prior to installation). EU-Boiler7A is a dual fuel boiler; that will burn natural gas primarily and #2 fuel oil as a backup fuel. Please see **Attachment 2** (EU-Boiler7A Specifications and Detailed Description) for the proposed boiler's specifications and information. Emissions from this boiler will be exhausted through a new stack (SV-Boiler7A) meeting the same specifications as the existing SV-Boiler8 stack (see EU-Boiler7A Specifications and Detailed Description for more details).

Rule 215 & 216: This application is for the permit to install the 2 replacement boilers and will be incorporated into the sites exiting Title V permit # D8065-2020 upon issuance, as required by these rules.

Rule 1901-1908: These rules are not applicable as Ingham County is attainment for all criteria pollutants.

Rule 1801-1823: As shown below this project to replace two (2) failed boilers with boilers of similar size is not a major modification so PDS/NSR does not apply. The Prevention of Significant Deterioration (PSD) evaluation, including the emission calculations, was conducted for this project and can be found in **Attachment 4**.

Emissions Summary Table:

	PSD Major Source	PTE for Project (TPY)	Baseline Emissions (2014-2015) (TPY)	Projected Emissions for project (TPY)	Differences	Significance Level
NO_x	No	21.78	4.52	1.97	-2.55	N/A
SO_2	No	6.57	0.03	0.03	0.00	N/A
CO	No	19.62	3.77	3.96	0.19	N/A
PM10	No	8.62	0.34	0.36	0.01	N/A
PM2.5	No	8.62	0.34	0.36	0.01	N/A
Lead	No	0.0013	0.00003	0.00003	0.00	N/A
VOC	Yes	1.28	0.25	0.26	0.01	40
CO_2	No	28,032.00	N/A	N/A	N/A	N/A
Total HAPs	No	0.44	N/A	N/A	N/A	N/A

See Attachment 3 for PTE calculations and supporting calculations.

Rule 224 -230 TAC -
R 336.1224: T-BACT requirement for new and modified source of air toxics; exemptions:
This project should be exempt from the T-BACT requirements since the boilers are subject to the Boiler MACT rule JJJJJJ issued under .112(g) so meet the exemption requirements of 336.1224(2)(a)(i). The boilers also would qualify for an exemption from the MI T-BACT analysis requirement since they are boilers that burn only natural gas and # 2 diesel fuel at a rate < 100 MMBTU/hr. with a compliant stack and are located greater than 100 ft from the property line so they meet the exemption requirements of .1224(2)(d)

R 336.1225: Health-based screening level requirement for new or modified sources of air toxics &
R 336.1226: Exemptions from the health-based screening level requirement:
The installation of these boilers is exempt from the health based screening per the exemption in 336.1226(e) since the boilers will burn only natural gas and # 2 diesel fuel oil as a fuel and are rated at less than 100 MMBTU/hr and have a vertical and unobstructed stack of at least 1.5 times the building height and are located at least 100 ft from the property line.

Rule 301: The boilers will comply with the visible emissions/opacity requirements specified.

Rule 331: The boilers can comply with the PM requirements specified in Table 31 of this rule since EU-Boiler6 will burn only natural gas and EU-Boiler7A will combust only natural gas and fuel oil. Use of AP-42 emission factors demonstrate this.

Part 4 SO limits - 336.1402: Only boiler 7A will be equipped to burn fuel oil. It will only use # 2 ultra-low sulfur diesel fuel oil which has sulfur content below the limit of 1.7 #/MMBTU as # 2 FO typically has a 15-ppm sulfur content so can easily comply with the regulatory limits. Natural gas has insignificant amounts of sulfur, and its combustion is not regulated for facilities located in Ingham county.

Part 7 VOC Rules: There are no VOC control rules related to boilers, so Rule 336.1702 applies which requires BACT. Based on a review of VOC control requirements for boilers at both the federal and state levels it is proposed that BACT is "No Control" since combustion related VOC emissions are so low (at 1.3 TPY combined) and the boilers are being used to reduce and control the VOC emissions from the process (EU-Cup, as defined in the ROP).

Part 8 NOx Rules: There are no NO_X requirements or limitations that apply to these boilers due to the location since Ingham County is attainment for both NO_X and ozone. And the size or firing rates of the boilers (separately or combined) are significantly below 100 MMBTU and fuel combustion will be limited to only natural gas and diesel fuel. However, Dart has chosen to install boilers with low NO_X burners to ensure the replacement modification will not trigger the need for any PSD increment analysis or modelling. EU-Boiler6 will utilize a 9-ppm low NOx burner with FGR and EU-Boiler7A will utilize a low NOx burner with a 30-ppm output.

Rule 901: These new replacement boilers will not emit emissions that will be injurious to human health or safety, animal life or plant life.

Rule 911: If required by the department, a Preventive Maintenance, Malfunction, and Operation plan will be developed for these units.

Rule 912: Dart will operate these boilers according to the manufacturer's recommendations and in a manner that minimizes emissions and maximizes efficiency which will reduce fuel usage. The boilers are designed to burn natural gas and #2 fuel oil. Annual tune-ups and inspections are done to assure correct operation. Boiler efficiencies are monitored to assure proper operation.

PSD Rules and Increments 40 CFR, Part 52 and Michigan Rule Part 18: This project is not significant for any listed pollutant. Furthermore, the increase for this replacement is minimal since the 2 new boilers are replacing the existing boilers of similar size. The NOx emissions will decrease since the new boilers will have low NOx burners.

NSPS 40 CFR 60 Subpart Dc: These new boilers are subject to Subpart Dc.

- Fuel meters will be installed on both fuel sources to allow for monthly fuel use monitoring, as required.
- EU-Boiler7A will use ultra-low sulfur distillate fuel and supplier certifications to comply with the sulfur requirements of this subpart in 40 CFR 60.42c(d) as allowed for in 40 CFR 60.42c(h) and 60.44c(g).
- Since EU-Boiler6 only burns natural gas, section 40 CFR 60.42c and 40 CFR 60.43c do not apply, as there are no limitations or requirements.
- The Particulate Matter (PM) requirements in 40 CFR 60.43c(a) do not apply since both boilers have rated capacities of less than 30 MMBTU/hr and do not burn solid fuel.
- The opacity requirements in 40 CFR 60.43c(c) do not apply since both boilers have rated capacities of less than 30 MMBTU/hr.

Boiler MACT 40 CFR 63 Subpart DDDDD: The site would like to retain the ability to burn fuel oil so would be subject to Subpart DDDDD. The new boilers, like the remaining EU-Boiler8, will perform the required tune-up and inspections per the regulations at least once every 25 months.

C. Control Technology Analysis

Emissions from both boilers will be controlled using low NOx burner assemblies and (for EU-Boiler6) a flue gas recirculation system.

A review of both federal and other states BACT and RACT rules related to natural gas and diesel fuel fired boilers indicates that VOC BACT for boilers is no additional control. This is further supported by the fact that these boilers are themselves serving as control devices for the EU-CUP captured emissions.

Per the current requirements in our Title V (ROP) permit, Dart is required to capture and send to the boiler for destruction 30% of the available process emissions (as specified in the original 1989 BACT determination). This is done by capturing the pentane emissions from the pre-expansion system (expanders, blenders and holding tanks). The captured emissions are sent to at least one of the operating boilers and introduced as combustion air. Controls are used to limit the amount of air to below the combustion needs based on the firing rate of the boiler(s).

The boilers are then used to destroy the captured emissions at an overall destruction efficiency of greater than or equal to 95%. Undestroyed captured emissions will continue to pass through the boilers' stacks.

D. Emission Summary and Calculations:

See **Attachment 3** for the PTE calculations related to this project and supporting documents. See **Attachment 4** for the complete PSD Actual to Projected Actual test calculations, including the supporting documents.

E. Stack/Vent Parameters

Stack SVBoiler5 is scheduled for demolition/removal in Q4 2023 or Q1 2024. The existing SVBoiler8 will remain unchanged. The decimal degrees were determined via Google Earth and are within (+/- 5'). Emissions from EU-Boiler6 will be emitted through the existing SVBoiler7 stack. Emissions from EU-Boiler7A will be emitted from a new stack, identified as SVBoiler7A. The various parameters associated with the stacks associated with these two new boilers are described in the table below:

New Emission Unit ID	Stack ID	Locations (decimal degrees)	Minimum Height (above ground)	Maximum Exhaust Diameter (inches)	Roof Height (feet)	Temp Range (deg F)	Maximum Air Flow Rate (cfm, high-fire)
EU-Boiler6	SVBoiler7	42.59578, -84.46658	44	24	24	250 - 350	4598
EU-Boiler7A	SVBoiler7A	42.59577, -84.46649	44	24	24	250 - 350	5370

F. Site Description and Process Equipment Location Drawing

A site drawing showing the location of the boiler stacks (existing and new) is included in **Attachment 5**. This drawing will also show the affected stacks relative distance to the nearest property line. Further, an aerial view (image from Google Earth) shows the location of the new boilers and new stack and their relationship to the surrounding areas.

Attachment 1:

EU-Boiler6 Specifications and Detailed Description

Emission Unit ID:	EU-Boiler6
Date of Manufacture:	2013
Replacing Existing EU:	EU-Boiler7
Existing Unit Installation Date:	1976
Fuel Types:	Natural Gas
Heat Input Rating:	25.1 MMBtu/hr
Horsepower:	600 HP
Model #:	CBEX-2W-700-600-300ST
Emission Controls:	Low NOx burner with Flue Gas Recirculation
NOx Emissions:	9 ppm
Typical Operations:	3% excess O_2 and 15% excess air
Using Existing Stack or New:	Existing
Stack ID:	SVBoiler7

Stack Information:

Stack ID	Locations (decimal degrees)	Minimum Height (above ground)	Maximum Exhaust Diameter (inches)	Roof Height (feet)	Temp Range (deg F)	Maximum Air Flow Rate (cfm, high-fire)
SVBoiler7	42.59578, -84.46658	44	24	24	250 -350	4598

Please see the attached submittal documents from Delval Equipment Company and the generic CleaverBrooks specification sheet for CBEX boilers (downloaded and marked up to reflect this unit).

Dart Container Of Mi LLC
60 East Main Street
Leola PA 17540
United States

Date: 10/26/2023
Quote # : EST2297-01
Contact: Chris Wilhelm
Phone #: (717) 656-5159
Email: chris.wilhelm@dart.biz

Subject: *Used CBEX-2W Cleaver-Brooks Boiler Proposal*

We are pleased to quote the following equipment:

One (1) Used Cleaver-Brooks CBEX-2W High Pressure Steam Boiler

- **Model Number: CBEX-2W-700-600-300ST**
- 460/3/60 79amps
- Natural Gas Only
- Design Pressure: 300 psig
- Date of Manufacture: 2013
- Gross Output: 20,700 lbs/hr @ 212 F
- 9 ppm NOx with FGR
- 60 HP Blower Motor
- Entrance and Control Panel
- Natural Gas Train
- Main Low Water Cutoff
- Auxiliary Low Water Cutoff
- Safety Valves
- Surface Blowdown Stop Valve and Metering Valve
- Bottom Blowdown Valves
- Steam Stop Valve
- Feedwater Globe and Check Valve
- Feedwater Modulating Control Valve (Shipped Loose)

Total Equipment Price…….$286,000.00

Notes:

1. Startup is not included.
2. Lead time estimate 4-6 weeks.
3. Proposal and lead time based on availability at time of order.
4. Reference dimensional diagrams and wiring diagrams are shown below. Quoted equipment may be different than what is reflected in diagrams.

The boiler room shall be left in the same clean condition as existed prior to the start of work. All work will be performed on a straight time basis during regular Delval Service Department business hours unless otherwise specified. The scope of material being offered under this proposal is precise and strictly limited as described. Any hazardous materials encountered during this project shall be the responsibility of the owner. We carry workers compensation and public liability insurance and can provide proof of this insurance upon your acceptance of this proposal and your request.

This proposal is provided on a free-market basis. Should this work require prevailing wage or other certification, it is the customer's responsibility to notify Delval of such requirement prior to ordering. Any "prevailing wage" type requirement shall be treated as an addition/extra to the price provided herein.

For orders over $25,000, Delval's standard terms call for 1/3 down payment with orders, 1/3 at time of readiness to ship equipment or materials, and 1/3 net 30 days. See attached Delval Equipment Corporation - Terms and Conditions of Sale for additional details.

This quote is firm for 15 days. After 15 days contact Delval Equipment Corporation for possible price changes. Price does not include state, local or use taxes that may apply. A certificate of tax status should be furnished, if applicable, with the order. This proposal and corresponding sale is subject to the "Delval Equipment Corporation - Terms and Conditions of Sale" as listed on the attachment.

Freight charges are included to job site, unloading by others.

Estimated Lead Time:

If I may be of further assistance, please contact me.

Sincerely,
Derek S Badgley
New Equipment Sales Engineer
Phone: (610) 275-3599 x358
Mobile: (267) 393-0201
Email: dbadgley@delval.com

Proposal Acceptance : _____ _____ Date: _____
Signature of Authorized Buyer — Client Purchase Order Number (if applicable)

VALLEY FORGE BUSINESS CENTER
604 GENERAL WASHINGTON AVE
WEST NORRITON, PA 19403
PHONE: (610) 2753599
FAX: (610) 2754510

304 NORTH 4TH STREET
LEBANON, PA 17046
PHONE: (717) 2743727
FAX: (717) 2720318

295 MEADOWLANDS BOULEVARD
WASHINGTON, PA 15301
PHONE: (724) 7430410
FAX: (724) 7430415

5339 ENTERPRISE STREET
SYKESVILLE, MD 21784
PHONE: (410) 9702424

S

NB 18430

CERTIFIED BY

CLEAVER-BROOKS

300 PSI

1905 SQ FT

MDSC 20700 LBS/HR

T3564-1-1

2013

Serial No. T3564-1 NB No. 18430 Sales Order NO. T3564

DATE 9-12-13

CleaverBrooks

PACKAGED BOILER

MODEL NO. CBEX-E-700-600-300 SERIAL NO T3564-1

MAX. WORKING PRESS. 300 ST PSI DATE 2013

GROSS OUTPUT 20,083,000 BTU/HR

GAS

TYPE NAT.

MIN. INPUT 4,082,000 BTU/HR

MAX. INPUT 24,491,000 BTU/HR

MANIFOLD PRESSURE 69.5 IN W.C. (SEA LEVEL)

INLET PRESSURE 99 IN W.C. (SEA LEVEL)

NOX EMISSION LEVEL 9 PPM

OIL

GRADE

MIN. INPUT USGPH

MAX. INPUT USGPH

NOZZLE SIZE

SPRAY PATTERN SPRAY ANGLE DEG.

OIL PRESSURE AT MAX. INPUT PSI

118-200-19 THOMASVILLE, GEORGIA, U.S.A.

CleaverBrooks

ELECTRICAL REQUIRMENTS

MAIN POWER SUPPLY

460 VOLTS 3 PH 60 HZ 79 AMP

MINIMUM CIRCUIT AMPACITY 99 AMP

MAX. RATING OF CIRCUIT PROTECTION 317 AMP

SHORT CIRCUIT CURRENT RATING 10 kA RMS SYMMETRICAL

460 VOLTS MAX.

BLOWER MOTOR 60 HP 66 AMP

AIR COMPRESSOR MOTOR HP

OIL HEATER KW

CONTROL CIRCUIT

120 VOLTS 1PH 60 HZ 9 AMP

OIL PUMP MOTOR

VOLTS PH HZ AMP

WIRING DIAGRAM T3564-1-WD

ENCLOSURE TYPE 4X

MILWAUKEE, WISCONSIN, U.S.A. T

UL TAG NO

NO OIL HEAVIER THAN

MIN. PSI

MAX. PSI

MIN. W.C.

MAX. W.C.

Serial No. T3564-1-1 NB No. 184[illegible] Sales Order No. T3564

DATE 9-12-13

CLEAVER BROOKS
The power of commitment.

FLAME CONTROL PANEL

120	VOLTS	1	PH	60	HZ	9	AMP
460	VOLTS	3	PH	60	HZ	79	AMP

LARGEST MOTOR

460	VOLTS	3	PH	60	HZ	66	AMP

UL NO. CJ133068

SHORT CIRCUIT CURRENT 10 KA

RMS SYMMETRICAL 460 V MAXIMUM

WIRING DIAGRAM NO. T3564-1-1-WD

ENCLOSURE TYPE 4X

T

118-3588 CLEAVER BROOKS MILWAUKEE, WISCONSIN, U.S.A.

CLEAVER BROOKS
The power of commitment.

	VOLTS		PH		HZ		AMP

LARGEST MOTOR

	VOLTS		PH		HZ		AMP

UL NO. _____

SHORT CIRCUIT CURRENT KA

RMS SYMMETRICAL V MAXIMUM

WIRING DIAGRAM NO.

ENCLOSURE TYPE

118-3659 CLEAVER BROOKS MILWAUKEE, WISCONSIN, U.S.A.

CBEX-2W

100-800 HP

Excerpt from CleaverBrooks general Boiler Book for this type of boiler

Boiler Book

Table 1: CBEX-2W Steam Boiler Ratings

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
RATINGS - SEA LEVEL TO 700 FT.												
Rated Capacity (lbs-steam/hr from and at 212 ^{0}F)	3450	4313	5175	6900	8625	10350	12075	13800	17250	20700	24150	27600
Btu Output (1000 Btu/hr)	3347	4184	5021	6694	8368	10042	11715	13389	16736	20083	23430	26778
APPROXIMATE FUEL CONSUMPTION AT RATED CAPACITY BASED ON NOMINAL 82% EFFICIENCY												
Light Oil gph (140,000 Btu/gal)	29.2	36.4	43.7	58.3	72.9	87.5	102.0	116.6	145.8	174.9	204.1	233.3
Gas CFH (1000 Btu)	4082	5102	6123	8164	10205	12246	14287	16328	20410	24492	28574	32656
Gas (Therm/hr)	40.8	51.0	61.2	81.6	102.0	122.5	142.9	163.3	204.1	244.9	285.7	326.6
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp (60 ppm)[A]	7-1/2	7-1/2	5	20	10	15	15	15	30	40	40	60
Blower Motor hp (30 ppm)[A]	7-1/2	7-1/2	7-1/2	20	15	15	15	20	30	50	40	75
Blower Motor hp (9 ppm)[A]	5	7-1/2	7-1/2	15	15	20	15	25	30	50	75	n/a
Blower Motor hp (7 ppm)[A]	5	7-1/2	7-1/2	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Blower Motor hp (5 ppm)[A]	n/a	n/a	n/a	n/a	20	30	20	25	30	60	n/a	n/a
Oil Pump Motor, No. 2 Oil	1/3	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
Air Compressor Motor hp (No. 2 Oil firing Only)	3	3	3	3	5	5	5	5	7-1/2	7-1/2	7-1/2	7-1/2
BOILER DATA												
Heating Surface sq ft (Fireside)	417	485	563	750	879	922	1205	1521	1768	1905	2404	2481
Heating Surface sq ft (Waterside)	417.7	483.5	563.7	745.1	855.6	896.8	1170.3	1465.5	1709.9	1840.5	2319.3	2393.2

NOTES:
A. Blower motor size for boiler operating pressures 125 psig and less, contact your local Cleaver-Brooks authorized representative for higher pressures and altitude.

Table 2: CBEX-2W Hot Water Boiler Ratings

BOILER H.P.	100	125	150	200	250	300	350	400	500	600	700	800
RATINGS - SEA LEVEL TO 700 FT.												
Btu Output (1000 Btu/hr)	3347	4184	5021	6694	8368	10042	11715	13389	16736	20083	23430	26778
APPROXIMATE FUEL CONSUMPTION AT RATED CAPACITY BASED ON NOMINAL 85% EFFICIENCY												
Light Oil gph (140,000 Btu/gal)	28.1	35.2	42.2	56.3	70.3	84.4	98.4	112.5	140.6	168.8	196.9	225.0
Gas CFH (1000 Btu)	3938	4922	5907	7876	9845	11814	13783	15752	19689	23627	27565	31503
Gas (Therm/hr)	39.4	49.2	59.1	78.8	98.4	118.1	137.8	157.5	196.9	236.3	275.7	315.0
POWER REQUIREMENTS - SEA LEVEL TO 700 FT. (60 HZ)												
Blower Motor hp (60 ppm)	7-1/2	7-1/2	5	20	10	15	15	15	30	40	40	60
Blower Motor hp (30 ppm)	7-1/2	7-1/2	7-1/2	20	15	15	15	20	30	50	40	75
Blower Motor hp (9 ppm)	5	7-1/2	7-1/2	15	15	20	15	25	30	50	75	n/a
Blower Motor hp (7 ppm)	5	7-1/2	7-1/2	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Blower Motor hp (5 ppm)	n/a	n/a	n/a	n/a	20	30	20	25	30	60	n/a	n/a
Oil Pump Motor, No. 2 Oil	1/3	1/2	1/2	1/2	1/2	3/4	3/4	3/4	3/4	3/4	1	1
Air Compressor Motor hp (No. 2 Oil firing Only)	3	3	3	3	5	5	5	5	7-1/2	7-1/2	7-1/2	7-1/2
BOILER DATA												
Heating Surface sq-ft. (Fireside)	417	485	563	750	879	922	1205	1521	1768	1905	2404	2481

Figure 1. CBEX-2W Steam Boiler Dimensions, 100-800 HP

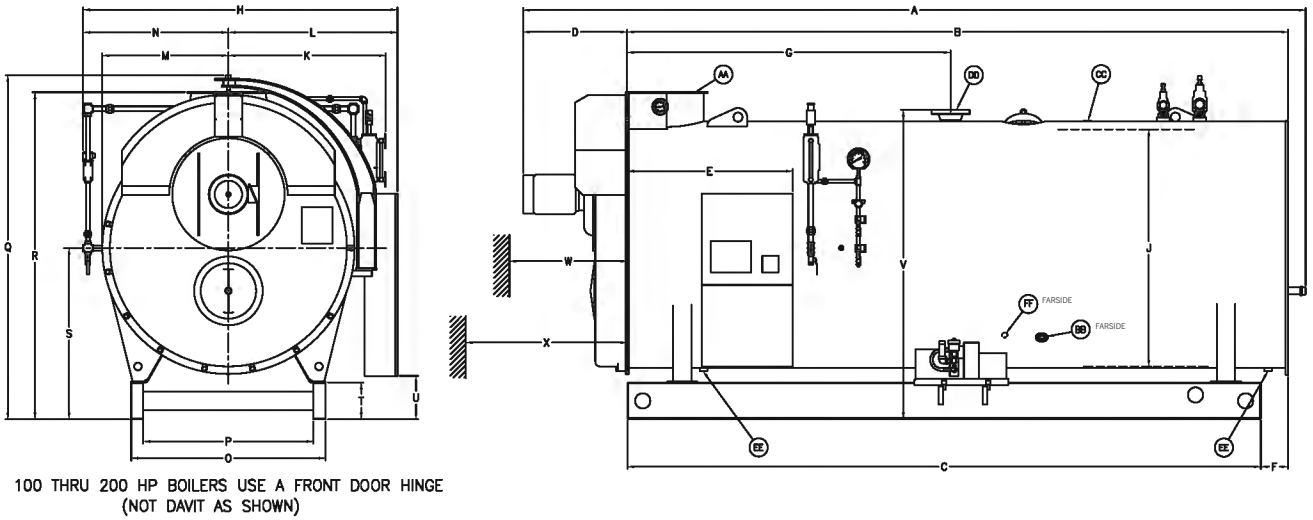


Table 3: CBEX-2W Steam Boiler Dimensions 100-800 HP

BOILER H.P.	DIM	100	125	150	200	250	300	350	400	500	600	700	800
LENGTHS													
Overall Length (60 PPM system)	A	165	172	176.5	201.5	231.5	242.5	249	265	260.5	282.5	291	299
Overall Length (30 PPM system)	A	167	176	180.5	203.5	233.5	243.5	255	268	271.5	287.5	298	307
Overall Length (9 PPM system)	A	167	176	182.5	205.5	233.5	243.5	255	270	271.5	288.5	300	n/a
Shell	B	137.25	144.25	149	168	196	204	217.5	226.5	229	244	253	260
Base Frame	C	129.5	136.5	140	159	186	194	208.5	217.5	219.5	234.5	243.5	250.5
Front Head Extension (60 PPM system)	D	21.5	21.5	21.5	27.5	29.5	32.5	25.5	32.5	25.5	32.5	32	33
Front Head Extension (30 PPM system)	D	23.5	25.5	25.5	29.5	31.5	33.5	31.5	35.5	36.5	37.5	39	41
Front Head Extension (9 PPM system)	D	23.5	25.5	27.5	31.5	31.5	33.5	31.5	37.5	36.5	38.5	41	n/a
Front Ring Flange to Panel	E	46	46	48	48	47	47	57	57	52	52	52	52
Rear Ring Flange to Base	F	7.75	7.75	9	9	10	10	9	9	9.5	9.5	9.5	9.5
Shell Flange to Steam Nozzle	G	62.5	66	73.5	75.5	96.5	100.5	106.5	111	114.5	122	126.5	130
WIDTHS													
Overall Width	H	81	81	86	86	94	94	105	105	112	112	119	119
I.D. Boiler	J	55	55	60	60	67	67	78	78	85	85	92	92
Center to Water Column	K	42.5	42.5	45	45	48.5	48.5	54	54	57.5	57.5	61	61
Center to Panel	L	44.5	44.5	47	47	50.5	50.5	56	56	59.5	59.5	63	63
Center to Lagging	M	30.5	30.5	33	33	36.5	36.5	42	42	45.5	45.5	49	49
Center to Auxiliary LWCO	N	36.5	36.5	39	39	43.5	43.5	49	49	52.5	52.5	56	56
Base Outside	O	47.5	47.5	52.5	52.5	51	51	64	64	60	60	68	68
Base Inside	P	39.5	39.5	44.5	44.5	43	43	56	56	47	47	55	55
HEIGHTS													
Overall Height	Q	81.5	81.5	87	87	101.5	101.5	113	113	122	122	130	130
Base to Vent Outlet	R	81	81	87	87	94.5	94.5	108	108	114.5	114.5	122.5	122.5
Base to Boiler Centerline	S	41	41	46	46	50	50	56.5	56.5	61	61	65.5	65.5
Height of Base Frame	T	12	12	12	12	12	12	12	12	12	12	12	12
Base to Bottom of Panel	U	17	17	17	17	20	20	24	24	23	23	23	23
Base to Steam Outlet	V	78.5	78.5	82.5	82.5	90	90	102	102	110	110	118	118
BOILER CONNECTIONS													
Feedwater Inlet	BB	1.25	1.5	1.5	2	2	2	2.5	2.5	2.5	2.5	2.5	2.5

Table 3: CBEX-2W Steam Boiler Dimensions 100-800 HP (Continued)

Surface Blowoff	CC	1	1	1	1	1	1	1	1	1	1	1	1
Steam Nozzle (300# ANSI Flange)	DD	4	4	4	4	6	6	6	6	8	8	8	8
Blowdown-Front & Rear	EE	1.25	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2
Chemical Feed	FF	1	1	1	1	1	1	1	1	1	1	1	1
VENT STACK													
Vent Stack Diameter (Flanged)	AA	16	16	16	16	20	20	24	24	24	24	24	24
MINIMUM CLEARANCES													
Front Door Swing	W	62	62	67	67	78	78	89	89	97	97	104	104
Tube Removal - Front Only	X	89	96	101	120	142	142	160	169	172	187	196	203
MINIMUM BOILER ROOM LENGTH ALLOWING FOR DOOR SWING AND TUBE REMOVAL:													
Thru Window or Door		235.5	242.5	252	271	310	318	342.5	351.5	362	377	393	400
Front of Boiler		262.5	276.5	286	324	374	382	413.5	431.5	437	467	485	499
WEIGHTS IN LBS													
Normal Water Weight		6,550	6,890	8,010	9,060	11,620	12,190	19,340	19,650	20,060	21,620	25,050	25,870
Approx. Shipping Weight - (150psig)		10,650	11,180	12,520	13,900	17,960	18,540	23,970	24,710	29,300	30,900	38,500	39,450

NOTES:

Accompanying dimensions, while sufficiently accurate for layout purposes, must be confirmed for construction by certified dimension diagram/drawing. All connections are threaded unless otherwise indicated.

PERFORMANCE DATA

Efficiency

Tables 5 and 6 show predicted fuel-to-steam efficiencies (including radiation and convection losses) for CBEX-2W boilers (30 ppm). For specific efficiencies on firetube boiler offerings not listed here, contact your local Cleaver-Brooks authorized representative.

Cleaver-Brooks offers an industry leading fuel-to-steam boiler efficiency guarantee for CBEX-2W Firetube Boilers. The guarantee is based on the fuel-to-steam efficiencies shown in the efficiency tables and the following conditions. The efficiency percent number is only meaningful if the specific conditions of the efficiency calculations are clearly stated in the specification (see Cleaver-Brooks publication CB-7767 for a detailed description of efficiency calculations).

The boiler manufacturer shall guarantee that, at the time of startup, the boiler will achieve fuel-to-steam efficiency (as shown in the tables listed above) at 100% firing rate (add efficiency guarantees at 25%, 50%, and 75% of rating, if required). If the boiler(s) fail to achieve the corresponding guaranteed efficiency as published, the boiler manufacturer will rebate, to the ultimate boiler owner, twenty-five thousand dollars ($25,000) for every full efficiency point (1.0%) that the actual efficiency is below the guaranteed level. The specified boiler efficiency is based on the following conditions.

1. Fuel specification used to determine boiler efficiency:

• Natural Gas	• No. 2 Oil
Carbon,% (wt) = 69.98	Carbon,% (wt) = 85.8
Hydrogen,% (wt) = 22.31	Hydrogen,% (wt) = 12.7
Sulfur,% (wt) = 0.0	Sulfur,% (wt) = 0.2
Heating value, Btu/lb = 21,830	Heating value, Btu/lb = 19,420

2. Efficiencies are based on ambient air temperature of 80 °F, relative humidity of 30%, and 15% excess air in the exhaust flue gas.
3. Efficiencies are based on the following radiation and convection losses. Firing rate of 25% - 1.2%, 50% - 0.6%, 75% - 0.4%, and 100% - 0.3%.

Table 5: CBEX- 2W Fuel-to-Steam Efficiencies Nat. Gas

BHP	OPERATING PRESSURE = 125 psig			
	% OF LOAD			
	25%	50%	75%	100%
100	82.5	82.4	81.9	81.4
125	82.7	82.7	82.5	82.1
150	82.7	82.7	82.5	82.1
200	82.8	83.0	82.9	82.7
250	82.5	82.4	81.9	81.4
300	82.5	82.4	82.0	81.5
350	82.6	82.6	82.3	81.9
400	83.0	82.8	82.5	82.0
500	83.1	82.9	82.6	82.2
600	83.1	83.0	82.7	82.4
700	83.2	83.1	82.9	82.6
800	83.1	83.1	82.8	82.6

Table 6: CBEX-2W Fuel-to-Steam Efficiencies #2 Oil

BHP	OPERATING PRESSURE = 125 psig			
	% OF LOAD			
	25%	50%	75%	100%
100	85.8	85.7	85.3	84.7
125	86.0	86.1	85.8	85.4
150	86.0	86.1	85.8	85.4
200	86.1	86.3	86.2	86.0
250	85.8	85.7	85.2	84.7
300	85.8	85.7	85.3	84.8
350	85.9	85.9	85.6	85.2
400	86.3	86.2	85.8	85.3
500	86.4	86.2	85.9	85.5
600	86.4	86.3	86.0	85.7
700	86.5	86.4	86.2	85.9
800	86.5	86.4	86.2	85.9

Emissions

Table 7: CBEX-2W Estimated Emission Levels

POLLUTANT	UNITS	NATURAL GAS			#2 OIL[C]		
		60 PPM SYSTEM	30 PPM SYSTEM	9 PPM SYSTEM	60 PPM SYSTEM	30 PPM SYSTEM	9 PPM SYSTEM
CO	ppm[A]	10[B]	10[B]	25	10	10	10
	lb/MMBtu	0.0075	0.0075	0.018	0.008	0.008	0.008
NOx	ppm[A]	60	30	9	140	90	70
	lb/MMBtu	0.07	0.035	0.0105	0.16	0.12	0.093
SOx	ppm[A]	1	1	1	55	55	55
	lb/MMBtu	0.001	0.001	0.001	0.1	0.1	0.1
HC/VOCs	ppm[A]	8	8	4	4	4	4
	lb/MMBtu	0.0032	0.0032	0.0016	0.002	0.002	0.002
PM	ppm[A]	-	-	-	-	-	-
	lb/MMBtu	0.01	0.01	0.01	0.025	0.025	0.025

A. ppm levels are given on a dry volume basis and corrected to 3% oxygen (15% excess air)
B. 50 ppm CO at low fire up to 300 HP and 10 ppm CO at low fire 350 HP and above
C. BASED ON THE FOLLOWING FUEL OIL CONSTITUENT LEVELS:
Fuel-bound Nitrogen content = 0.015% or less by weight.
Sulfur content = 0.1% by weight.
Ash content = 0.01% by weight.

Table 8: Predicted sound levels (30ppm systems) at high fire

BHP	Sound Level-dbA
100	79
125	83
150	83
200	84
250	83
300	84
350	84
400	85
500	85
600	87
700	88
800	90

Attachment 2:

EU-Boiler7A Specifications and Detailed Description

Emission Unit ID:	EU-Boiler7A
Date of Manufacture:	2020
Replacing Existing EU:	EU-Boiler5
Existing Unit Installation Date:	1970
Fuel Types:	Natural Gas and #2 Fuel Oil
Heat Input Rating:	29.3 MMBtu/hr
Horsepower:	700 HP
Model #:	CB-200-700-150st
Emission Controls:	Low NOx burner
NOx Emissions:	30 ppm
Typical Operations:	3% excess O_2 and 15% excess air
Using Existing Stack or New:	New
Stack ID:	SVBoiler7A

Stack Information:

Stack ID	Locations (decimal degrees)	Minimum Height (above ground)	Maximum Exhaust Diameter (inches)	Roof Height (feet)	Temp Range (deg F)	Maximum Air Flow Rate (cfm, high-fire)
SVBoiler7A	42.59577, -84.46649	44	24	24	250 -350	5370

Please see the attached submittal documents from PROFESIONALES ESPECIALISTAS EN CALDERAS (original delivery was to Tijuana, Mexico) for this boiler and Dean Boiler for the low NOx burner assembly, to be installed prior to installation. A total of 16 pages.

PECSA S.A. DE C.V.

PROFESIONALES ESPECIALISTAS EN CALDERAS, S.A. DE C.V.

CALDERAS * SERVICIO * REFACCIONES

Mexico City, Thursday, July 7, 2022

Cleaver Brooks

DART DE TIJUANA S. DE RL DE CV

Quote No.:07/22/808/796

Attn: Eng. Alejandro López F.

In response to your kind request, we are pleased to present you our offer for the following concept:

Cleaver Brooks

1) Brand Steam Boiler	
Quoted Equipment Model	CB-200-700-150st
Nominal Evaporative Capacity from already 100 ° C	10,954 Kg v / hr
Nominal Boiler Horses	700 C.C.
Boiler Package Type	Horizontal Fire Tubes
Operating Altitude	20 meters above sea level
Location of Operation	Tijuana, Baja California
Fuels	**Natural Gas and Diesel**
Voltage	440 V
Heating Surface	325.15 m²
Design pressure	10.5 kg/cm²
Maximum Operating Pressure	9.49 kg/cm²
Safety Valve Adjustment	10.5 kg/cm²
Burner Brand	CLEAVER BROOKS
Type	4 Steps, Fire Tubes

Accessories Installed in the Boilers:

- Main Steam Pressure Gauge
- Safety Valves
- 3 Column Level McD & M, Main, Auxiliary, A. Level
- Sight for Flame and Pilot Observation
- Flame Detector (Photoelectric Cell)
- Fireplace Thermometer
- CB-780 Programmer
- Mechanical Modulation System with linkage
- Modutroll Interconnected to column for water inlet to boiler.
- Low Level Alarm
- Home Placement (Below Center Line)
- Safety Switches
- Exterior Insulating Coating
- Automatic Operation
- **11 Gauge flux tube**
- **Corrugated Home**
- **Low Fire Sustaining Control**

ALL OUR EQUIPMENT ARE MANUFACTURED WITH ASME STAMPING

2) CONTROL BOARD INTEGRATED TO THE BOILER

Includes: Integrated Programmer, Starter for fan motor, Low Level Audible Alarm Water, Audible alarm for flame failure. Steam Pressure Limit Control and Indicator Lights Functioning.

Note: Any pipes and purge valves and steam outlets are not included.
The Ignition transformer is installed on the front cover of the boiler.

3) DOCUMENTS:

1.- Boiler Construction Plan, CB-15 General Operation and Maintenance Manual hp to CB-700 CC. Electrical Diagrams, Equipment Certificates with ASME code.

COMMERCIAL TERMS

DESCRIPTION	UNIT PRICE
CLEAVER BROOKS CB-200-700-150ST boiler. Fully automatic With modulation and linkage system to burn Gas/Diesel	$ 5,268,343.00
Freight to your facilities in Tijuana. Does not include crane or insurance.	$ 251,210.00
Open boiler to perform hydrostatic test, perform general inspection, seal and close boiler. Carry out the start-up.	$ 285.650.00
Travel expenses for boiler startup: Hotel, Food, v. Transportation plant round trip Mexico-	$ 97,350.00
Tijuana. Tijuana Mexico.	$ 48,630.00
TOTAL AMOUNT IN NATIONAL CURRENCY (INSTALLATION NOT INCLUDED)	**$ 5,951,183.00**

ALL AMOUNTS DO NOT INCLUDE VAT AND ARE LAB. IN ITS FACILITIES IN TIJUANA, BAJA CALIFORNIA

NOT INCLUDED: Exchanger, Chimney, Condensate tank, Purge tank, pump to feed water to boiler, Valves and pipes

Offer Validity:	15 days due to the constant rise in steel
Payment conditions:	70% advance payment, balance upon notice of equipment ready for shipment.
Best Delivery time:	**11 Weeks** (from receipt of advance payment).
Warranty:	One year from receipt of the equipment.

The boiler transportation insurance is the responsibility of the client.


PATENTE No.65214
DE MAYO 3,1957
118-501
ADVERTENCIA.
El funcionamiento seguro de esta caldera pide Inspecciòn y mantenimiento periòdico de todos los dispositivos de control por bajo nivel de agua. Inspeccionelos al menos una vez al mes.Verifique su funcionamiento diariamente, cerrando la vàlvula de alimentaciòn de agua con la caldera en operaciòn y permitiendo que descienda el nivel de agua a un règimen normal. Si los controles no interrumpen el funcionamiento del quemador al llegar el nivel a la parte inferior del cristal o se observa que no estàn en buenas condiciones, deberàn repararse o reemplazarse inmediatamente. La acumulaciòn de lodos y sedimientos en cristal de nivel, columna de nivel, y controles de nivel auxiliares seràn eliminados con un procedimiento de purga adecuado
118-10146
CLEAVER BROOKS DE MEXICO. S.A. DE C.V.
CleaverBrooks
CALDERA PAQUETE
MODELO CB 200 700
No. SERIE MX— 8643
PRESION DE DISEÑO 10.5 Kg/cm2 FECHA 25/10/2022
ENTRADA 7381500 Kcal/hr GAS NAT
ACEITE No. 2 791 LPH
PRESION ENTRADA MINIMA DE GAS 147 cm H2O
CLEAVER BROOKS DE MEXICO S.A. DE C.V.
PONIENTE 148 No. 973 COLONIA INDUSTRIAL VALLEJO
MEXICO D.F. C.P 02300 TEL. 5567-3182
118-200M-0
HECHO EN MEXICO

Termiz Soluciones Térmicas

CleaverBrooks

DATASHEET	CBLE-700 BHP

Table 1 Steam boiler Model: CBLE - General data

Nominal evaporation capacity:	24150	[lb/hr @212°F]	10955.00	[Kg/hr @100°C]
output power:	23432.5	[1000 Btu/hr] [ft²]	24725.97	[MJ/hr]
Nominal heating surface1 :	3500	[ft³]	325.15	[mts²]
Steam volume2 :	134.00		38.03	[mts³]

1 Fire Side
2 Based on design pressure: 150 [psi]

Table 2 Design pressures.

Use:	ASME code section:	[lb/in²]	[Kg/cm²]
Saturated steam “STM”		150, 200, 250 and 300 10.5,	14.1,17.6 and 21.1
High temperature hot water “HTHW”		150 10.5	
Hot water (250°F ; 121°C) “HW”	IV	30 and 125 2.1 and 8	8
Low pressure steam (15 lb/in² ; 1.05 Kg/cm²)	IV	15 1.05	

Table 3 Electrical Requirements.

Operating altitude1 : Motor-	0	[7427]2264 50	[ft] MSNM 2
fan: Motor-	30	10	[hp]
Motocompressor3 : Motor-	10	1	[hp]
Diesel fuel pump: Motor-fuel oil pump:			[hp]
Preheater –Fuel oil: 1 For higher altitudes, consult			[hp]
your sales advisor.	1 1 7.5	1 7.5	[KW]

2 MSNM: Meters above sea level.

3 Applies to diesel and fuel oil. For Model 100 the Motor is 7.5HP
4 Altitude to Mexico City.

Table 4 Safety Valves 1,2

Model:	Size [in]:	Orifice:	Area [in²]	Capacity [lb/hr] 10808	Calibration1 :
KUNKLE 6010JHE	2" X 2-1/2"	J	1.41	10808	150 [psi]
KUNKLE 6010JHE	2" X 2-1/2"	J	1.41	6596	150 [psi]
KUNKLE 6010HGE	1-1/2" X 2"	H	0.863		150 [psi]

1 Based on valve calibration.
2 For other unspecified calibrations, consult your sales advisor.

Table 5 Fuel Consumption1 Natural Gas. 829.78 DieselA . 791.07 FuelOilB . 739.97 Notes:

		[m³/hr]	29300	[ft³/hr]
		[lt/hr]	209.00	[gph]
		[lt/hr]	195.5	[gph]

A. Based on 140,000 Btu/gal
B. Based on 150,000 Btu/gal

Table 6 Minimum Gas Pressures1

Kind of train	Diameter		pressures			
	[in]	[mm]		[mbar]	[in WC]	[Oz/in²]
FM	3	76.2	Min. Pressure	144.49	58	33.58
IT IS	3	76.2	min pressure	144.49	58	33.58
Pilot	1/2	13	Min. Pressure	12.5		2.89
			Max. Pressure	12.5	5 5	2.89

Grades:
1.-Sin HTD.

Table 6a Correction factor for minimum gas pressure1 .					
Altitude: Correction Factor 1.04 1.07 1.11 1.16			Altitude:		Factor of Correction
[ft]	[mts]		[ft]	[mts]	
1000	309		6000	1524	1.21
2000	610		7000	2134	1.3
3000	914		8000	2438	1.35
5000	1219		9000	2743	1.4

Grades:

1.-With the correction factor you can adjust the minimum pressure of gas to be supplied, if the altitude is different from the one shown, it must be interpolated to obtain the appropriate value, then multiply it by the minimum pressure listed in Table 6 with the value obtained . , depending on the type of train **(FM, IRI).**

Table 7 Fuel-Steam Efficiencies.				
700 [hp]	Operating Pressure125[psi]			
Cargo:	25%	50% 75% 83.60 83.60 86.90 87.00		100%
Natural Gas [%]:	83.00	87.30 87.40		83.60
Diesel [%]:	86.30			86.90
Fuel Oil [%]:	86.80			87.40

Grades:

1.- The efficiencies are based on the calorific value shown in Table 8

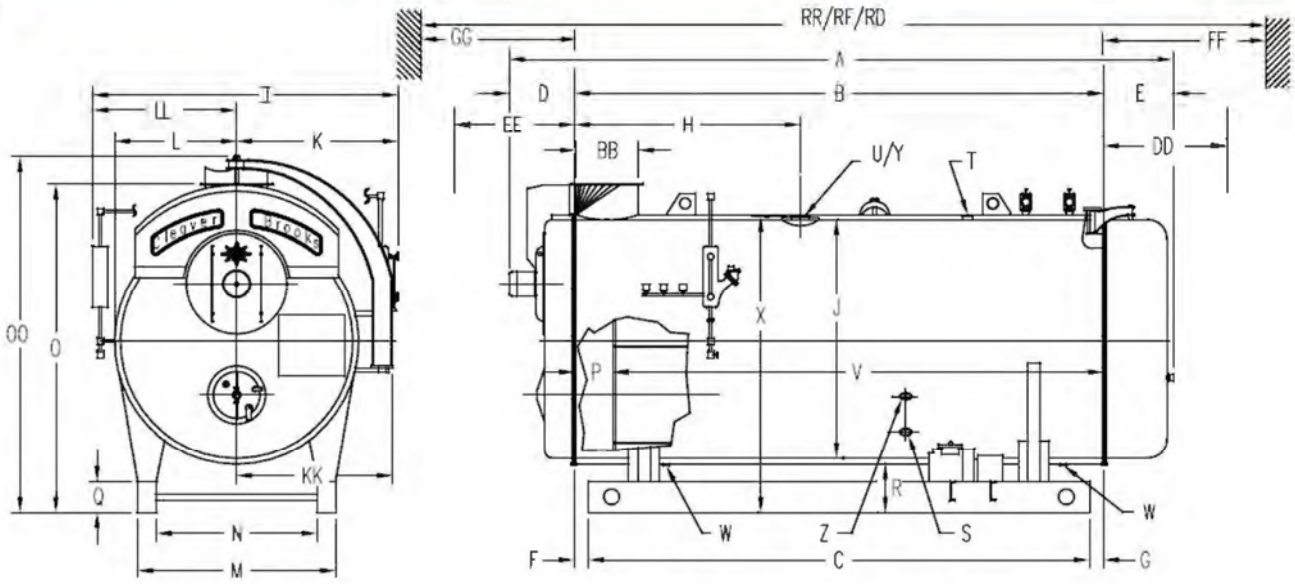
Table 8 Superior calorific value.						
Natural Gas: 8898 Diesel: 9321		[Kcal/m³]	1000	[Btu/ft³]		
Fuel Oil: 9987		[Kcal/lt]	140,000	[Btu/gal]		
		[Kcal/lt]	150,000	[Btu/gal]		

Table 9 Emissions to the atmosphere.					
Diesel Pollutant Emissions Estimate: 90 185				sound level	
Poisoning:	Gas Natural:	278.00	Fuel: 95 502 278	Modulation:	Dba
CO ppm1	200	50	70	High fire (gas):	85
NOx ppm1	100			Low fire (gas):	82
SOx ppm1				High fire (diesel):	85
HV/VOCs ppm1	1 40			Low fire (diesel):	82

Grades:

1.- Emission levels are corrected to 3% O2.
2.-Sound levels are based on standard engines and altitude at sea level.
3.-The methods of measurement and verification of sound levels are handled in relation to the ABMA and comply with the ANSI SI.4 Type I Standard.
4.-The values of the contaminants are approximate and may vary depending on the content of nitrogen, sulfur, ash, etc.

Table 10 General Dimensions.



700 [HP]

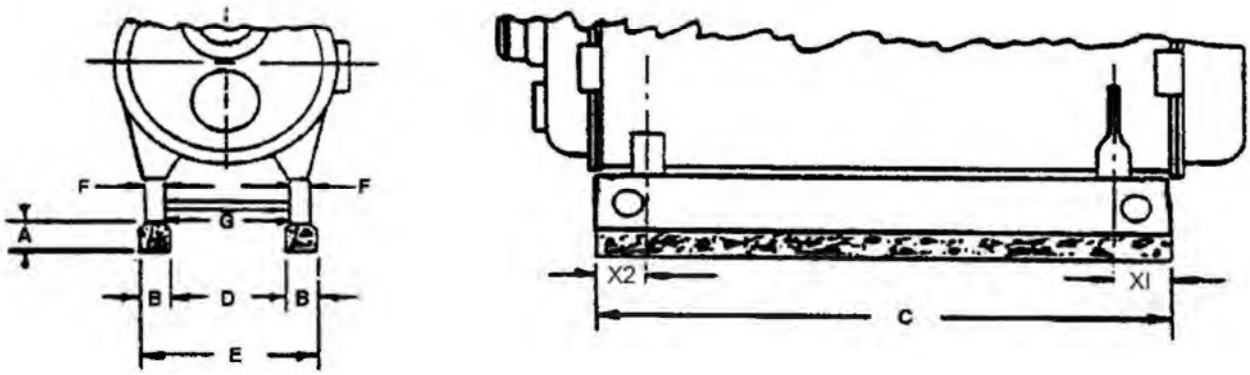
Longitudes			
Description	Match	Dimension	
		[in]	[mm]
Total length 1	A	294	7467.60
Pressure Vessel Length (Exterior): Base-Rail Length:	B	232.75	5911.85
Front Cover Extension	C	219.75	5581.65
Length: Rear Cover Extension Length:	D	31.25	793.75
Length. Vessel Front Flange-Rim to Nozzle	AND	30	762.00
Center: Vessel Front Flange-Rim Length to Base-Rail: Vessel Rear Flange-	H	112.75	2863.85
Rim to Base-Rail Length: Mirror-Mirror Exterior Length: Enclosure	F	0.5	12.70
Extension Length	G	12.5	323
	IN	216	5486.40
	P	16.75	425.45
widths			
Overall width:		123	3124.20
Inner diameter of casing:	J	96	2438.40
Boiler center to column level:	K	64	1625.60
Boiler center to outer front arm:	KK	60	1524.00
Boiler center to lined:	L	51	1295.40
Center of boiler to auxiliary column:	LL	59	1498.60
External width of bases:	M	72	1828.80
Internal width of bases:	N	56	1422.40
heights			
Base height to steam outlet nozzle:	X	121.5	3086.10
Total height:	OO	134	3403.60
Base height to combustion gas outlet duct:	O	126	3200.40
Base-rail height:	Q	12	304.80
Base height to the inside of the boiler:	R	19	482.60

Boiler connections			
Description	Match	Dimension	
		[in]	[mm]
Water Feed (Right and Left): Chemical Feed: Nozzle	S	2.5	63.50
Steam Outlet (15 [psi] steam	WITH		25.40
only)2 : Front and Rear Drain (15 [psi] steam only)	IN	1	304.80
	IN		50.80
Surface Bleed (150 [psi] steam only): Nozzle Steam Outlet	T		25.40
(150 [psi] steam only)2 : Front and Rear Bottom Bleed (150 [psi]	AND		203.20
steam only)	IN	12 2 1 8 2	50.80
Flue gas outlet duct.			
Diameter (Flange connection):	BB	24	609.60
Minimum clearances.			
Back cover twist:	DD	53	1346.20
Giro tapa frontal:	EE	108	2743.20
Remove tubes, Back:	FF	217	5511.80
Remove Tubes, Front:	GG	200	5080.00
Minimum allowable length of boiler room for head turning and tube removal.			
Back of the boiler:	RR	558	14173.20
Boiler front:	RF	486	12344.40
Through window or door:	RD	394	10007.60
Pesos		Lb	tons
Normal water capacity: Weight		23000	10.43
Approx. Shipping -15 [psi]: Weight		49500	22.45
Approx. Shipping -150 [psi]: Weight		52050	23.61
Approx. Shipping -200 [psi]: Weight		57315	26.00
Approx. Shipping -250 [psi]5 :			
Weight Approx. Ship -300 [psi] 5 :			

Grades:

1.-The dimension may vary according to the FGR 60ppm, 30ppm, altitude
2.- For 15#ST Use flange class 150, for larger 150. #ST, use flange, class 300
3-Approximate dimensions
4.-The drawing is for reference.
5.- For other unspecified weights, consult your sales advisor.

Table 11 Dimensions Foundation bases.



		Caldera:	700 [HP]
Description	Match	Dimension	
		[in]	[mm]
Foundation base height:	A		152.40
Foundation Base Width:	B	6	355.60
Foundation base length:	C	14	5581.65
Internal length of foundation base:	D		1270.00
Foundation base external length:	AND		1981.20
Boiler Base-Rail Width:	F		203.20
Internal length Boiler bases:	G		1422.40
Foundation Base Length to Center of Support (rear side):	X1	219.75 50 78 8 56 12	304.80
Foundation base length to support center (front side):	X2	22.75	577.85

Grades:

1.-6 [in] (152.4 [mm]) height of the foundation bases is recommended for use under the boiler base-rails.

Table 12 Pressure vessel dimensions.

Engaging							
Inside diameter:					96	[in]	2438.40 [mm]
Overall length:					219.75	[in]	5581.65 [mm]
Pressure D.	150#ST		200#ST				
	[in]	[mm]	[in]	[mm]			
Thickness:	0.5	12.70	0.625	15.88			
Home:							
Outer diameter: Total					47	[in]	1193.80 [mm]
length: Pressure					217	[in]	5511.80 [mm]
D.	150#ST		200#ST				
Type:	Seeds						
Thickness:	0.75 [in] 19.05 [mm]		0.00	0.00			

Grades

1.- For other unspecified design pressures, consult your sales advisor.

Mirrors:				
Thickness	5/8	[in]	15.875	[mm]
of flux tubes:				
Outside Diameter:	2.5	[in]	63.50	[mm]
Total Length:	217.5	[in]	5524.50	[mm]
Thickness (13 Cal.) Alternative.:	0.095	[in]	2.413	[mm]
Thickness (12 Cal.) Std.:	0.105	[in]	2.667	[mm]
Thickness (11 Cal.) Alternative.: No.	0.120	[in]	3.048	[mm]
of Tubes Total:	304			[pcs]

The information recorded in this document is based on the Boiler Book 2005 edition.
Rev.01, May 17, 2016, Dimensions of rail bases, safety valves, and compressor motor were changed.
Rev.02, November 01, 2017, Dimensions “A”, “D”, “E”, “KK” were reviewed and changed and “G” from table 10 was added.
Rev.03, January 10,2019, Logo change, era: SELMEC; I review and change the profile of the base for 48” and 60” Dia. boilers, it was: 12”x 4”; and boiler of 78” Dia., was: 10”x 6”; They changed some engine sizes; change dimensions “OO, O, X” in 78” Dia boilers and “M, N, G, F, D, B, E” in 60” and 48” Dia boilers.
Rev. 04 April 23, 2019, A general revision was made. Some values were corrected.
Rev. 05 Jun 07,2019, Some values were corrected.

CleaverBrooks®

Business Proposal

Dart Container: Low NOx Conversion

To: Jim Robeson / Chris Wihelm
Dart Container Corporation
P O Box 6
Mason, MI 48854
USA

From: Joel Peterson
Dean Boiler & Burner Service
1824 Three Mile Rd NW
Grand Rapids, MI 49544
United States
(616) 784-2696
jpeterson@deanboiler.com

September 28, 2023

Through a steadfast commitment to research, development, strategic acquisitions, and a focus on providing boiler room solutions for more than 80 years, Cleaver-Brooks is the sole provider of integrated boiler, burner, and controls solutions. With the #1 market share in North America, Cleaver-Brooks is the global leader in designing and manufacturing integrated boiler room systems, and the Cleaver-Brooks brand is globally synonymous with the highest quality, best reliability, and creative innovation in boiler room solutions. Industry-leading proprietary burners, controls, components, and accessories engineered by Cleaver-Brooks perform together seamlessly at peak energy and emissions efficiency.

Cleaver-Brooks offers the broadest range of integrated boiler room systems, subsystems, components, and accessories in the market, giving it a distinct competitive advantage as a complete solutions provider across commercial, industrial, and institutional markets. A principal component of the Cleaver-Brooks strategy is to offer the most advanced and completely integrated boiler room systems that satisfy diverse energy demands, high-efficiency performance, ultra-low emissions, safety, reliability, and convenience from utilizing a single-source manufacturer.

From the Power of Total Integration, Cleaver-Brooks offers boiler room systems including mission-critical subsystems performing water treatment, heat recovery, integrated system controls, and maintained by a worldwide dedicated sales and service representative network. All sales and service representatives employ trained technicians to provide first-class routine maintenance and repair services in accordance with national, state/provincial, and local codes and standards.

As a Cleaver-Brooks Representative Association (CBRA) member near you, Dean Boiler & Burner Service has produced this proposal from your system requirements and equipment specifications. At your convenience, please review this proposal, and contact me regarding any questions or comments.

Sincerely,

Joel Peterson
Dean Boiler & Burner Service
1824 Three Mile Rd NW
Grand Rapids, MI 49544
United States
(616) 784-2696
jpeterson@deanboiler.com

Quote Summary

Proposal Number: 21290776 / Proposal Date: 09/28/23
Job Name: Dart Container / Project Name: Dart Container

Product Model: CONV-LOW NOX-30 PPM NG-CB-200-700-150# ST-FROM-UNCONTROLLED-TO-30 PPM NG-460/3/60-CSTM/CFG [Unit#:CB 200 700 MX-8643]

Item	Qty.	Description
#1	1	**Low Nox Conversion:** *Internal IFGR for 30PPM on CB-200-700-150# ST* Current Boiler Information: Current NOx: Uncontrolled Standard Blower Size: 30 HP (700' Elevation) Current Turndown: 4 to 1 Current FSG: CB780E New Boiler Information: New NOx: 30 PPM NG New Blower Size: 50 HP (700' Elevation) Replacement FSG: Reuse Existing Controls Parallel Positioning: Estimated Emission Levels for Natural Gas: CO = 50/150 PPM NOx = 30PPM SOx 1PPM HC/VOC = 10PPM PM = N/A PPM PPM levels are given on a dry volume basis and corrected to 3% oxygen (15% excess air) CO emission is 50PPM when boiler is operating above 50% rated capacity. CO emission is 150PPM when boiler is operating below 50% rated capacity **REQUIRED GAS PRESSURE:** Minimum Gas Pressure at Entrance to Standard 4 in. Gas Train (Downstream of Gas Pressure Regulator) is 50.0 IN WC. **WARNING:** 400HP-800HP CB Boilers built prior to 1972 cannot be converted to Low NOx without a complete front head replacement. Boiler manufacture date MUST be confirmed before quoting. If built before 1972 please contact Conversions for a custom quotation.
#2	1	Conversions Scorecard Level: Bronze Promotional Discount Percent: 0.00 Promotional Discount Amount: 0.00
#3	1	Product Pricing Basis: Jul23 Price Book in use based on 2023/09/20 effective date for this product configuration. (1.3580 exchange rate in effect for USD/CAD conversions.) Pricing valid for 30 days. Expiration: 10/20/2023.
#4	3	Conversion Manuals (1):(/FGR Field Retrofit Manual)
#5	1	Blower Motor -50 HP,208/230/460/3/60/3600
#6	1	IMPELLER,27-1/2 "DIA, 1.625"BORE
#7	1	Impeller Mounting Hardware and Spacers: 96 in. Boiler
#8	1	Damper Size: 6-3/4" IFGR Damper
#9	1	Fireside Gasket Kit
#10	1	Internal IFGR - Baffle Rework Materials
#11	1	Internal IFGR - Inner Door Rework Parts
#12	1	Internal IFGR - Air Duct Rework Components
#13	1	Insulation Kit for Front Head Interior
#14	1	Burner Housing Gas Spuds
#15	1	IFGR Damper Linkage Assembly - Combination Gas and Oil (with proximity switch)
#16	1	Motor Mounting Bracket for Larger Blower Motor
#17	1	Burner Drawer Assembly: New High Turndown Burner Drawer
#18	1	Burner Housing: New High Turndown Burner Housing
#19	1	Flame Safeguard Upgrade: Not Included, Reuse Existing Controls
#20	1	Yes
#21	1	IFGR act. for existing PP
#22	1	Fuel Pressure Switches for Gas and Oil
#23	1	Blower Motor Starter for 50HP: Yes - Ship Loose with fusing shipped loose
#24	1	Boiler Nameplate
#25	1	Revised Wiring Diagram: Yes. Submittals Based on Latest C-B Revision on File
#26	1	Conversions List Quote ID 1: GD 09-25-2023 Dart Container 21290776;Dart Container Dean Boiler (418400) Configurator Quote: 21290776 (REQ-23-09-18613-QR) IFS Quote: MX-8643 CB200X – 700HP, 150# Steam All Firetube Boilers built today are of the LE Type, whether its Uncontrolled, 60PPM or 30PPM. The quote worked up on the Configurator appears to be fine for the Conversion you're looking to do. Uncontrolled to 30PPM.

Quote Summary

Proposal Number: 21290776 / Proposal Date: 09/28/23
Job Name: Dart Container / Project Name: Dart Container

CLEAVER-BROOKS OFFERING

Cleaver-Brooks offers to furnish the Equipment described herein for the purchase price noted, exclusive of all taxes. Prices quoted are firm for 30 days from the date of the Cleaver-Brooks Proposal subject to adjustment as noted. Standard Cleaver-Brooks **payment terms** are *unconditional net 30 from the date of readiness for shipment or unless otherwise specified in this Proposal*. Cleaver-Brooks will review your order prior to acceptance (and acknowledgment) and order entry. Until acceptance and order entry, the Equipment is **subject to prior sale**. Incorporation of technical specifications or requirements different from or additional to the Cleaver-Brooks Proposal and not previously reviewed by Cleaver-Brooks will extend the order review process and may postpone or prevent acceptance of your order and order entry. Cleaver-Brooks does not agree and will not agree to **INCIDENTAL, CONSEQUENTIAL AND LIQUIDATED DAMAGES OR IMPLIED WARRANTIES**. Cleaver-Brooks does not agree and will not agree to, unless specifically set forth in an agreement in writing having an authorized Cleaver-Brooks signature: (1) **terms and conditions** in your order that are different from or additional to those of the Cleaver-Brooks Proposal; (2) **technical specifications**, technical requirements or descriptions of the goods and services ordered that are different from or additional to those of the Cleaver-Brooks Proposal; or (3) **generalized expressions** such as "per plans and specifications."

CLEAVER-BROOKS PRICE ADJUSTMENT POLICY

The price quoted in the Cleaver-Brooks Proposal is firm for thirty (30) days from the Proposal date if shipment of the Equipment is made within six (6) months from the date of the Cleaver-Brooks Proposal or contract document if no Proposal was issued. If the Equipment is not shipped within such six (6) months, the contract price shall be increased by one percent (1%) for each thirty (30) days or fraction thereof that shipment is deferred beyond six (6) months from the date of the Cleaver-Brooks Proposal or contract document.

PROPOSED PAYMENT TERMS

Amount At or Exceeds $250,000: No
Payment Terms:
Terms Description:
Note: May require Cleaver-Brooks review if other than 20%/30%/50% referenced in ¶ 1(a).

PROPOSED SHIPPING TERMS

[x] EXW – Ex Works Factory
[ ] CIP – Carriage and Insurance Paid to
[ ] OTHER:_____
Freight Allowed To Location:_____
Note: Freight unloading by others.

BUYER OF CLEAVER-BROOKS EQUIPMENT

Buyer Representative - Printed First and Last Name

Buyer Representative - Company Name

Buyer Representative - Company Address, State/Province, Postal Code, and Country

Buyer Representative - Phone Number

Buyer Representative - Email Address

Buyer Representative - Signature

Buyer Representative - Date Accepted (MM/DD/YYYY)

CLEAVER-BROOKS SALES REPRESENTATIVE

Joel Peterson
Sales Representative - Printed First and Last Name

Dean Boiler & Burner Service
Sales Representative - Company Name

1824 Three Mile Road NW
Grand Rapids, MI 49544
US
Sales Representative - Company Address, State/Province, Postal Code, and Country

(616) 784-2696
Sales Representative - Phone Number

jpeterson@deanboiler.com
Sales Representative - Email Address

Sales Representative - Signature

09/28/23
Sales Representative - Date Offered

CLEAVER-BROOKS TERMS AND CONDITIONS OF SALE ON NEXT PAGE

Terms and Conditions of Sale

Date Revised: July 23, 2021

THE CLEAVER-BROOKS COMPANY, INC. GENERAL TERMS AND CONDITIONS OF SALE

1. OFFER AND CONTRACT

(a) Through its proposal (the "Proposal") The Cleaver-Brooks Company, Inc. (the "Company") offers to sell its products, systems or parts (the "Equipment") for the purchase price (the "Purchase Price") on these terms and conditions of sale.

(b) UPON WRITTEN ACCEPTANCE OF THE PROPOSAL BY THE BUYER, THE PROPOSAL AND THESE TERMS CONSTITUTE THE COMPLETE AGREEMENT BETWEEN THE COMPANY AND THE BUYER ("THIS AGREEMENT"). ANY ADDITIONAL OR DIFFERENT TERMS ARE REJECTED UNLESS AGREED TO BY THE COMPANY IN A SIGNED AMENDMENT AFTER REVIEW AT THE PRODUCT GROUP HOME OFFICE.

(c) Except as indicated below, this **Proposal is valid for thirty (30) days** subject to written withdrawal by the Company at any time prior to receipt of written acceptance by the Buyer.

(d) The Purchase Price and any delivery dates of this Proposal are **subject to prior sales that occur before written acceptance by the Buyer and increased material costs**.

(e) Orders received are scheduled for production as proposals are accepted in writing by the Buyer.

(f) If at the time the Product Group home office receives a written acceptance of a proposal, and the then available production lead time at the Product Group manufacturing location does not allow for shipment within the number of weeks offered in the Proposal, then the Purchase Price and any delivery dates shall be adjusted based upon the next available production and delivery dates.

2. TERMS AND PRICES

(a) Standard terms of payment are thirty (30) days net from the date of invoice for completion of performance milestones for payment, including readiness of the Equipment for shipment. Partial shipments of units under multiple unit orders shall be invoiced and paid separately. The Company will waive lien rights and release payment claims to the extent of payments received. The Company may require a letter of credit from the Buyer.

(b) Any excise, sales, privilege, use or any other local, state, or federal taxes which the Company may be required to pay, arising from the sale, delivery, or use of the Equipment and any applicable prepaid freight, will be added to the Purchase Price and invoiced separately.

(c) If the Buyer requests changes in scope or schedule, or if the Buyer delays production or shipment of the Equipment, the Purchase Price and any delivery dates shall be equitably adjusted to reflect changes caused thereby.

(d) Availability and costs of any proposed surety bonding (or other financial securities) are determined by providers thereof at the time of award and the costs of such surety bonding shall be added to the Purchase Price. The Company does not commit to provide a particular financial security. All financial securities issued will be subject to agreed expiration dates, and reduce in amount as performance milestones are accomplished.

(e) The Buyer shall pay **interest on all late payments** at the lesser rate of 1.5% per month or the highest rate permissible under applicable law, calculated daily and compounded monthly.

(f) The Buyer shall reimburse the Company for all costs incurred in collecting any late payments, including, without limitation, attorney's fees.

(g) The Buyer shall not withhold payment of any amounts due and payable by reason of any set-off of any claim or dispute with the Company, whether relating to the Company's breach, bankruptcy, or otherwise. The Company shall not be liable for any claim by the Buyer unless and until such claim is finally adjudicated through the dispute resolution process.

(h) The Purchase Price is subject to increase before written acceptance of the Proposal by the Buyer based upon an increase of the CRU USA Midwest FOB Mill index.

(i) In addition to all other remedies available under this Agreement or at law (which the Company does not waive by the exercise of any rights hereunder), the Company shall be entitled to suspend the manufacture and/or delivery of any Equipment if the Buyer fails to pay any Company invoice within thirty (30) days of the date of the invoice.

3. DELIVERY

(a) Unless otherwise offered in this Proposal, delivery is Ex Works (INCOTERMS® (most recent version)), at the Product Group manufacturing location ("the Delivery Point").

(b) The estimated shipment date is based upon timely receipt by the Company of **Buyer's applicable information**, and of **Buyer's written approval**, or detailed exceptions to, the Company's general arrangement drawings within ten (10) business days of receipt.

(c) If the **Buyer requests to defer delivery** dates by a written request adequate to support GAAP requirements for revenue recognition by the Company, or if the Buyer fails to promptly accept the Equipment tendered for delivery, or shipment of the Equipment is otherwise delayed by causes beyond the Company's reasonable control, the following conditions shall apply: (i) payments due upon shipment (or "delivery") shall be invoiced, due and payable upon "readiness to ship;" (ii) all financial securities required of the Company shall be released based upon "readiness to ship", (iii) the Buyer shall pay reasonable storage and handling charges incurred by the Company on the Buyer's behalf in the circumstances; (iv) risk of loss shall transfer to the Buyer upon "readiness to ship," (v) the Buyer shall be responsible for insuring the Equipment, and (vi) the Buyer shall inspect at delivery and give notice as soon as practical of any loss, damage or shortage evident by visual inspection and quantity count.

4. TITLE AND RISK OF LOSS

(a) Title and risk of loss passes to the Buyer upon the Company's delivery of the Equipment to the Delivery Point. If for any reason the Buyer (or the Buyer's transporting carrier) fails to accept delivery of the Equipment on the date on which the Equipment has been delivered to the Delivery Point or if the Company is unable to ship the Equipment because the Buyer (or the Buyer's transporting carrier) has not provided appropriate instructions, documents, licenses or authorizations: (i) risk of loss to the Equipment shall pass to the Buyer; (ii) the Equipment shall be deemed to have been delivered.

(b) As collateral security for the payment of the Purchase Price of the Equipment, the Buyer hereby grants to the Company a lien on and security interest in and to all of the right, title and interest of the Buyer in, to and under the Equipment, wherever located, and whether now existing or hereafter arising or acquired from time to time, and in all accessions thereto and replacements or modifications thereof, as well as all proceeds (including insurance proceeds) of the foregoing. The security interest granted under this provision constitutes a purchase money security interest under the Georgia Uniform Commercial Code.

5. LIMITATION OF LIABILITY; LIMITED WARRANTY; WARRANTY DISCLAIMER

(a) THE COMPANY SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMIT LOST PROFITS, PRODUCTIVITY LOSSES, ECONOMIC LOSSES, OR BUSINESS DOWNTIME) OR FOR ANY SUCH LOSS, DAMAGE, EXPENSE, DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF THE EQUIPMENT, SERVICES, SPARE OR REPLACEMENT PARTS, OR FROM ANY OTHER CAUSE WHETHER BASED IN WARRANTY, NEGLIGENCE, TORT, CONTRACT OR OTHERWISE, AND REGARDLESS OF ANY ADVICE OR RECOMMENDATION THAT MAY HAVE BEEN RENDERED CONCERNING THE PURCHASE, INSTALLATION OR USE OF THE EQUIPMENT, SERVICES, SPARE OR REPLACEMENT PARTS WHETHER OR NOT HAVING BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

(b) THE BUYER HEREBY RELEASES THE COMPANY OF ANY SUCH LIABILITY AND COVENANTS NOT TO SUE THE COMPANY FOR ANY SUCH DAMAGES.

(c) IN NO EVENT SHALL THE COMPANY'S AGGREGATE LIABILITY UNDER ANY CIRCUMSTANCES EXCEED AN AMOUNT EQUAL TO THE PURCHASE PRICE OF THE EQUIPMENT.

(d) The Company warrants that at the time of delivery the Equipment will conform to the Company's applicable specifications and to such contract specifications as are agreed to by the Company.

(e) The warranty runs for a period of twelve (12) months from the **date of initial operation** but no more than eighteen (18) months from **date of shipment** for any part or parts of the Equipment, or within one (1) year of shipment for any spare parts shipped under an Equipment order.

(f) The **Buyer must make any warranty claim by written notice** to the Product Group home office within thirty (30) days of the discovery of any defect or the claim is deemed waived.

(g) The Company reserves the right to analyze claimed defects (including return to the manufacturing location, transportation prepaid, for inspection, if required by the Company). The Company, at its option, shall repair or replace defective parts which the Company deems to be defective, Ex Works (INCOTERMS® (most recent version)) at the Product Group manufacturing location, **but shall not install or be liable for the installation of such parts**.

(h) Expenses incurred by the Buyer in replacement, repair or return of the Equipment, or of any parts, will only be reimbursed if preauthorized by the Company.

(i) This warranty is the **Buyer's exclusive remedy** and the extent of the Company's liability for breach of warranties, representations, instructions, or for defects in connection with the sale or use of the Equipment.

(j) **Warranty adjustments or replacements shall not extend the initial warranty period**.

(k) THE WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATIONS, ORAL, EXPRESS, OR IMPLIED, INCLUDING WITHOUT LIMIT WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION OF THE EQUIPMENT. THERE ARE NO EXPRESS WARRANTIES OTHER THAN THOSE CONTAINED IN PARAGRAPH 5 ("LIMITATION OF LIABILITY; LIMITED WARRANTY; WARRANTY DISCLAIMER") AND TO THE EXTENT PERMITTED BY LAW THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

(l) **The warranty does not apply to**: expendable items; ordinary wear and tear; altered units; units repaired by persons not expressly approved by the Company; or, to damage caused by accident, the elements, abuse, misuse, temporary heat, overloading, erosive or corrosive substances, or the alien presence of oil, grease, scale, deposits or other contaminants.

(m) The warranty is conditioned upon the Equipment being properly installed, maintained and operated within its capacity, under normal load and service conditions, with competent, supervised operators and, if the Equipment uses water, with proper water conditioning.

(n) **Excluded from warranty** is damage resulting from any of: foaming caused by chemical conditions of the water; corrosion or caustic embrittlement; or improper or inadequate treatment of feedwater or conditioning of boiler water or the supply of improper or inadequate fuel. Preauthorized freight and/or labor for defective items will be reimbursed (exclusive of tasks normally performed as manufacturing location maintenance).

(o) **Warranty may be voided** by the Buyer's modifications or repairs if the Buyer proceeds without receiving the Company's technical advice. **Refractory** is inherently vulnerable to conditions of service and is warranted only to be installed as specified and the refractory is specifically excluded from any other warranty.

(p) The Equipment, accessories and other parts and components not manufactured by the Company are warranted only to the extent of and by the original manufacturer's warranty to the Company; in no event shall such other manufacturer's warranty create any more extensive warranty obligations of the Company to the Buyer than the Company's warranty covering the Equipment manufactured by the Company.

6. TERMINATION

(a) **Orders are not cancelable**.

(b) In the event of termination prior to completion, the Buyer shall pay the Company's direct and indirect costs, expenses, overhead and reasonable profit for work performed and materials purchased. Materials paid for will be available "As Is" to the Buyer without warranty; however, partially completed products are not available for completion by others.

(c) If performance by the Company of this Agreement is prohibited or significantly restricted by any governmental agencies, or by laws, rules or regulations of any government, the Company, at its option, may cancel this Agreement without liability.

Terms and Conditions of Sale

Date Revised: July 23, 2021

THE CLEAVER-BROOKS COMPANY, INC. GENERAL TERMS AND CONDITIONS OF SALE (continued)

7. EXCUSED DELAY ("FORCE MAJEURE")

(a) The Company shall not be liable for loss, damage, or failure to perform resulting from causes beyond the Company's reasonable control, or from strikes, labor difficulties, lockouts, acts or omissions of any governmental authority or the Buyer, insurrection, riot, war, fires, floods, Acts of God, breakdown of essential machinery, accidents, priorities or embargoes, tariffs, car and material shortages, delays in transportation or inability to obtain labor, materials or parts from usual sources. Any such delay shall be excused for the time reasonably necessary to compensate for the delay.

(b) If performance by the Company of this Agreement is prohibited or significantly restricted by any governmental agencies, or by laws, rules or regulations of any government, the Company, at its option, may cancel this Agreement without liability.

8. INSURANCE

(a) The Company provides certificates of insurance as required for work performed at the Product Group manufacturing location (workers compensation, commercial general liability, property). After the risk of loss of and damage to the Equipment passes to the Buyer and the Owner, until the Equipment is finally accepted and the Purchase Price is paid in full, and all obligations of the Company are concluded, the Buyer shall provide and maintain property, boiler and machinery and builders risk insurance in the names of the Buyer, the Owner and the Company, as their interests may appear, for the total value of the Equipment and for all work performed in the erection thereof, against risk of fire, lightning, windstorm, aircraft and explosion, including inherent dangers and boiler explosion. The proceeds of such insurance shall be applied first to the cost of repairing and replacing the Equipment and work destroyed or damaged.

9. BACKCHARGES

(a) Items delivered by the Company may require work or revision after shipment, whether for repair of damage (transit, unloading, handling, or damage by other contractors), adaptation to site interface conditions with existing facilities or work of other contractors, or otherwise. If the Buyer notifies and informs the Company, the Company shall promptly advise the Buyer of the applicable standards or technical guidelines for such work, and the extent of the Company's other obligations, if any, with respect to such work. The Company will use its best efforts in the circumstances to assist the Buyer to obtain resources suitable for such work. Any work the Buyer intends to be done at the Company's expense requires the Company's prior approval as to: scope; identification of who will perform such work; applicable quality standards; arrangements for the time, place and urgency of such work; an agreed price or estimate of cost; and, the opportunity for the Company to have a representative in attendance. Costs claimed for work done without prior approval shall not be accepted as backcharges.

10. TECHNICAL SUPPORT

(a) Start-up technical support, if provided by the Company, is technical advice only, and excludes on-site labor. Care, custody, control, and compliance on-site during installation and start up are the responsibility of the Buyer. Representatives of the Company are authorized only to advise and consult with the Buyer. No representative of the Company is authorized or licensed to operate the Equipment. All **preliminary operations** and demonstration of capacity and performance guarantees, if required, prior to final acceptance, shall be performed by the Buyer.

11. WORK BY OTHERS: ACCESSORY AND SAFETY DEVICES; USE BEFORE START UP

(a) The Company is a supplier of the Equipment, and shall have no responsibility for labor or work of any nature relating to the installation or operation or use of the Equipment, all of which shall be performed by the Buyer or others. The Buyer shall furnish accessory and safety devices desired by it and/or required by law or OSHA standards for the Buyer's use of the Equipment. The Buyer shall install and operate the Equipment in accordance with all code requirements and other applicable laws, rules, regulations, ordinances, and Company's specifications, operating instructions, and manuals. If damage to the Equipment or other property or injury to persons is caused by use or operation of the Equipment prior to its being placed in normal operation ("Start up"), then the Buyer shall indemnify, defend, and hold the Company harmless from all resulting claims, damages, liability, costs and expenses.

12. COMPLIANCE WITH THE LAW

(a) The Buyer shall comply with all applicable laws, regulations and ordinances.

(b) The Buyer shall maintain in effect all the licenses, permissions, authorizations, consents and permits that it needs to carry out its obligations under this Agreement.

(c) The Buyer shall comply with all export and import laws of all countries involved in the sale of the Equipment under this Agreement or any resale of the Equipment by the Buyer.

(d) The Buyer assumes all responsibility for shipments of the Equipment requiring any government import clearance.

(e) The Company may cancel this Agreement if any governmental authority imposes antidumping or countervailing duties or any other penalties on the Equipment.

(f) If any changes are required in the Equipment to meet the approval of applicable authorities, the Buyer shall inform the Company of such changes and shall reimburse it for changes made to comply.

13. LIMITED LICENSE

(a) The Buyer agrees that the Company has spent considerable time and money developing proprietary hardware and software components that are incorporated into the Equipment. Nothing in this Agreement is intended to grant or create any right or license to the Buyer to copy, reverse engineer, disclose, publish, distribute or alter any pre-existing software, patent rights, copyrights, trademarks or other intellectual property rights owned or controlled by the Company, except as necessary for the Buyer to use the Equipment in accordance with this Agreement.

14. CONFIDENTIAL INFORMATION

(a) All non-public, confidential or proprietary information of the Company, including, but not limited to, specifications, samples, patterns, software, designs, patented and unpatented intellectual property, plans, drawings, documents, data, business operations, customer lists, pricing, discounts or rebates, disclosed by the Company to the Buyer, whether disclosed orally or disclosed or accessed in written, electronic or other form or media, and whether or not marked, designated or otherwise identified as "confidential," in connection with this Agreement is confidential, solely for the use of performing under this Agreement and may not be disclosed or copied unless authorized in advance by the Company in writing.

(b) Upon the Company's request, the Buyer shall promptly return all documents and other materials received from the Company.

(c) This Paragraph ("CONFIDENTIAL INFORMATION") does not apply to information that is: (i) in the public domain; (ii) known to the Buyer at the time of disclosure; or (iii) rightfully obtained by the Buyer on a non-confidential basis from a third party.

(d) The Company shall be entitled to injunctive relief for any violation of this Paragraph ("CONFIDENTIAL INFORMATION").

15. INTELLECTUAL PROPERTY

(a) The Company shall defend the Buyer in any suits instituted against the Buyer for infringement of any claim of any United States Patent covering solely the structure of the Equipment as originally manufactured by the Company per the Company's specifications, exclusive of combination or modification by the Buyer. This obligation applies, provided that the Buyer (i) gives the Company immediate notice in writing of any such claim or institution or threat of such suit; (ii) authorizes the Company to control settlement of the same, and (iii) gives all needed information, assistance and authority to enable the Company to do so. If the Company elects to defend any such suit and the structure of the said Equipment is held to infringe any such United States Patent, and if the Buyer's use thereof is enjoined, the Company shall, at its expense and at its option: (i) obtain for the Buyer the right to continue using the Equipment, (ii) supply non-infringing Equipment for installation by the Buyer, (iii) modify the Equipment so that it becomes non-infringing, or (iv) refund the then market value of the Equipment.

(b) To the extent arising from the Company incorporating a design or modification requested by the Buyer, the Buyer shall defend and indemnify the Company against all expenses, costs, and loss by reason of any real or alleged infringement.

(c) The Company's proposal, the resultant contract, and all **proprietary or confidential information** exchanged between the Company and the Buyer in connection therewith, shall be treated as confidential and be used only for performance of the contract.

16. RELATIONSHIP OF THE PARTIES

(a) The relationship between the parties is that of independent contractors. Nothing contained in this Agreement shall be construed as creating any agency, partnership, joint venture or other form of joint enterprise, employment or fiduciary relationship between the parties and neither party shall have authority to contract for or bind the other party in any manner whatsoever. This Agreement is for the sole benefit of the parties hereto and their respective successors and permitted assigns and nothing herein, express or implied, is intended to or shall confer upon any other person or entity any legal or equitable right, benefit or remedy of any nature whatsoever under or by reason of this Agreement.

17. RESOLUTION OF DISPUTES

(a) Any waiver by a party of any right shall not be considered a continuing waiver in any other instance.

(b) Any controversy or claim arising out of or relating to this contract, or the breach thereof, and not amicably resolved within thirty (30) days from referral to senior executives of each party, or to non-binding mediation, shall be settled by arbitration administered by the **American Arbitration Association** ("AAA") under its **Commercial Arbitration Rules** (with **Expedited Procedures**), with proceedings to be held by one (1) arbitrator at a locale to be determined by an AAA Case Management Center, unless otherwise agreed, and judgement on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.

(c) This Agreement shall be construed under the internal laws of the State in which is located the Product Group home office, without regard to conflict of law principles. Except as otherwise provided in Paragraph 5 ("LIMITATION OF LIABILITY; LIMITED WARRANTY; WARRANTY DISCLAIMER"), any claim arising under or in connection with this Agreement shall be asserted under this provision within two (2) years after the claim arises or be forever waived and barred. Invalidity or unenforceability of one (1) or more provisions of this Agreement shall not affect any other provision of this Agreement.

18. RECOVERY OF FEES AND EXPENSES

(a) In the event arbitration or suit is brought or an attorney is retained by the Company to enforce these Terms and Conditions or to collect any money hereunder, or to collect any money damages for breach thereof, the Company shall be entitled to recover, in addition to other remedy, reimbursement for reasonable attorney's fee, court costs, costs of investigation and other related expenses incurred in connection therewith.

19. BUY AMERICAN

(a) If this purchase is subject to a mandatory "Buy American" clause, the applicable clause must be provided for review by the company before compliance may be affirmed.

(b) Products of the Company may originate in the USA, Canada, or Liechtenstein.

20. INTERNATIONAL CONVENTION

(a) The United Nations Convention on Contracts for the International Sale of Goods (1980) shall not apply to international, cross border sales of the Company.

THE CLEAVER-BROOKS COMPANY, INC. GENERAL TERMS AND CONDITIONS OF SALE (continued)

21. MISCELLANEOUS

(a) THIS AGREEMENT IS THE COMPLETE AGREEMENT BETWEEN THE COMPANY AND THE BUYER AND NO ADDITIONAL OR DIFFERENT TERM OR CONDITION STATED BY THE BUYER SHALL BE BINDING UNLESS AGREED BY THE COMPANY IN WRITING.

(b) No course of prior dealings and no usage of the trade shall be relevant to supplement or explain any terms used herein.

(c) This Agreement may be modified only by a writing signed by both the Company and the Buyer and shall be governed by and construed in accordance with the internal laws of the State of Georgia without giving effect to any choice or conflict of law provision or rule (whether of the State of Georgia or any other jurisdiction) that would cause the application of the laws of any jurisdiction other than those of the State of Georgia.

(d) The failure of the Company to insist upon strict performance of any of the terms and conditions stated herein shall not be considered a continuing waiver of any such term or condition or any of the Company's rights. If any term or provision of this Agreement is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction.

22. PRODUCT GROUP CONDITIONS

(a) Supplemental conditions (below) also apply for The Cleaver-Brooks Company, Inc. Product Groups.

SUPPLEMENTAL CONDITIONS for the PACKAGED BOILER SYSTEMS PRODUCT GROUP

These provisions amend the indicated articles of THE CLEAVER-BROOKS COMPANY, INC. GENERAL TERMS AND CONDITIONS OF SALE (above)

[Add to **2. TERMS AND PRICES**]

[Add to 2.a] The **performance milestones for payment** for projects valued at or above $250,000 are as follows unless otherwise indicated in the Proposal to which these conditions are attached:

(i) Upon Issuance of Submittals: ..... **20%** of the Contract Price (Net 30 Days)
(ii) Upon Release for Production: ..... **30%** of the Contract Price (Net 30 Days)
(iii) Upon Readiness for Shipment: ..... **50%** of the Contract Price (Net 30 Days)

[Add to **6. TERMINATION**]

(d) If the Buyer's circumstances change after an order is accepted, and the Buyer is unable to use ordered items or similar items, then subject to the Company's express written consent, the buyer may **return for credit** such unneeded items as have been delivered under the order, which will be accepted as returns if they are unused, undamaged, and current inventory, subject to the normal restocking charge.

23. CANCELLATION SCHEDULE

(a) The cancellation schedule for projects is as follows unless otherwise indicated in the Proposal to which these conditions are attached:

(i) After Receipt of Purchase Order: ..... Up to **25%** of the Contract Price based on Costs and Conditions of Sale (Net 30 Days)
(ii) 1-30 Days After Drawing Approval: ..... Up to **50%** of the Contract Price based on Costs and Conditions of Sale (Net 30 Days)
(iii) Over 30 Days After Drawing Approval: ..... Up to **75%** of the Contract Price based on Costs and Conditions of Sale (Net 30 Days)
(iv) After Final Assembly: ..... Up to **100%** of the Contract Price based on Costs and Conditions of Sale (Net 30 Days)

SUPPLEMENTAL CONDITIONS for the ENGINEERED BOILER SYSTEMS PRODUCT GROUP

These provisions amend the indicated articles of THE CLEAVER-BROOKS COMPANY, INC. GENERAL TERMS AND CONDITIONS OF SALE (above)

[Add to **2. TERMS AND PRICES**]

[Add to 2.a] The **performance milestones for payment** for projects valued at or above $250,000 are as follows unless otherwise indicated in the Proposal to which these conditions are attached:

(i) Upon Receipt of Purchase Order: ..... **10%** of the Contract Price (Net 30 Days)
(ii) Upon Issuance of Drawing Submittals (Mechanical GA and P&ID Drawings): ..... **30%** of the Contract Price (Net 30 Days)
(iii) Upon Completion of Hydrostatic Test: ..... **35%** of the Contract Price (Net 30 Days)
(iv) Upon Readiness for Shipment: ..... **25%** of the Contract Price (Net 30 Days)

[Add to 2.b] If the price includes **allowed transportation or other shipping charges**, then increases in transportation rates, demurrage, special detention, or other shipping charges, occurring after the date of quotation shall be added to the Purchase Price.

[Add to 2.c] The Company may, but shall not be obligated to, incorporate into the Equipment any **upgrades or applicable changes in the Company's standard specifications**, design, construction, arrangement or components.

[Add to **3. DELIVERY**]

[Add to 2.b] The Company will endeavor to make shipment of orders as scheduled; however, all shipment dates are approximate only, and the Company reserves the right to readjust shipment schedules.

24. CANCELLATION SCHEDULE

(a) The cancellation schedule for projects is as follows unless otherwise indicated in the Proposal to which these conditions are attached:

(i) Up to 14 Days After Receipt of Purchase Order: ..... **0%** of the Contract Price (Net 30 Days)
(ii) Over 14 Days After Receipt of Purchase Order: ..... **25%** of the Contract Price (Net 30 Days)
(iii) Up to 30 Days After Drawing Approval: ..... **45%** of the Contract Price (Net 30 Days)
(iv) 31-60 Days After Drawing Approval: ..... **55%** of the Contract Price (Net 30 Days)
(v) 61-90 Days After Drawing Approval: ..... **75%** of the Contract Price (Net 30 Days)
(vi) Over 90 Days After Drawing Approval: ..... **100%** of the Contract Price (Net 30 Days)

25. FOUNDATIONS

(a) The Company shall provide the Buyer with General Arrangement drawings showing the Equipment with reference to foundations, including loading diagrams.

(b) The Company shall not be responsible for the depth of the footings, size or accuracy of the foundations or anchor bolts, or the character of the materials selected for their construction.

(c) Adequate foundations, having plan measurements in accordance with such drawings including foundation bolts and plates, concrete work, all grouting, and excavation, shall be furnished in place in due time by the Buyer.

(d) The Company shall not be responsible for any damages, or repairs necessary to the Equipment furnished by it, caused by or resulting from defects in or settlement of the foundations.

26. SUPPORTING STEEL

(a) Unless otherwise stated, any supporting steel to be furnished by the Company as specified in this Proposal will be designed to support the Equipment which the Company proposes to furnish and will be designed in accordance with the latest Rules of the American Institute of Steel Construction.

(b) If the Company is required to increase the size or weight of its supporting structures to conform to other than the Rules of the American Institute of Steel Construction or because of additional loadings imposed by the Buyer, the Buyer shall reimburse the Company for the additional steel and work required.

Attachment 3:

Project Potential to Emit Calculations and Supporting Documents

Emission Unit	Fuel Type	VOC PTE (lbs/yr)	VOC PTE (tons/yr)	NOx PTE (lbs/yr)	NOx PTE (tons/yr)	CO PTE (lbs/yr)	CO PTE (tons/yr)	CO_{2e} PTE (lbs/yr)	CO_{2e} PTE (tons/yr)	PM (lbs/yr)	PM (tons/yr)	SO_2 (lbs/yr)	SO_2 (tons/yr)	HAPs (lbs/yr)	HAPs (tons/yr)
EU-BOILER7A	NG	1,380	0.69	12,580	6.29	21140	10.57	30196240	15098.12	1920	0.96	160	0.08	480	0.24
EU-BOILER7A	FO	366	0.18	36,660	18.33	9166	4.58	0		16848.4	8.42	13016.8	6.51	87.66	0.04
EU-BOILER6	NG	1,180	0.59	6,900	3.45	18100	9.05	25867760	12933.88	400	0.2	120	0.06	400	0.2
[1]PTE for New Boilers:		2,560	1.28	43,560	21.78	39,240	19.62	56,064,000	28,032.00	17,248	8.62	13,137	6.57	880	0.44
Significance Levels:			40.00		40.00		100		N/A		25		40		N/A

[1] For the dual-fuel boiler (EU-Boiler7A), the highest PTE emissions value was used to calculate the PTE. These values/cells are highlighted light green in the table above.

Facility: Dart Container Boiler Upgrade - Boiler 6					Application:	
Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]						
Heat Input:		25.1	MMBtu/hr	HHV:	1020	Btu/scf
			scf/hr	Hours:	8760	hrs/yr
Combustor Type (MMBtu/hr Heat Input) [SCC]			**NO_x[b]**		**CO**	
		Foot-note	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]						
	Uncontrolled (Pre-NSPS)	c	280.0	A	84	B
	Uncontrolled (Post-NSPS)	c	190.0	A	84	B
	Controlled -Low NO_X burners		140.0	A	84	B
	Controlled - Flue gas recirculation		100.0	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]						
	Uncontrolled		100.0	B	84	B
	Controlled - Low NO_x burners		50.0	D	84	B
	Controlled - Low NO_x burners/Flue gas recirculation		32.0	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]						
	Uncontrolled		170.0	A	24	C
	Controlled - Flue gas recirculation		76.0	D	98	D
Residential Furnaces (<0.3) [No SCC]						
	Uncontrolled		94.0	B	40	B

a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. SCC = Source Classification Code. ND = no data. NA = not applicable. (*AP 42 5th Edition,. Updated 1998)*

b Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. Fortangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

c NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

Facility: Dart Container Boiler Upgrade - Boiler 6	**Application:**

EMISSION FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]						
Combustor Type (MMBtu/hr Heat Input) [SCC]			NO_x[b]		CO	
		Foot-note	**Emissions (lb/hr)**	**Emissions (tpy)**	**Emissions (lb/hr)**	**Emissions (tpy)**
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]						
	Uncontrolled (Pre-NSPS)	c	6.89E+00	3.02E+01	2.07E+00	9.05E+00
	Uncontrolled (Post-NSPS)	c	4.68E+00	2.05E+01	2.07E+00	9.05E+00
	Controlled -Low NO_x burners		3.45E+00	1.51E+01	2.07E+00	9.05E+00
	Controlled - Flue gas recirculation		2.46E+00	1.08E+01	2.07E+00	9.05E+00
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]						
	Uncontrolled		2.46	10.78	2.07	9.05
	Controlled - Low NO_x burners		1.23E+00	5.39E+00	2.07E+00	9.05E+00
	Controlled - Low NO_x burners/Flue gas recirculation		0.79	3.45	2.07	9.05
Tangential-Fired Boilers (All Sizes) [1-01-006-04]						
	Uncontrolled		4.18E+00	1.83E+01	5.91E-01	2.59E+00
	Controlled - Flue gas recirculation		1.87E+00	8.19E+00	2.41E+00	1.06E+01
Residential Furnaces (<0.3) [No SCC]						
	Uncontrolled		2.31E+00	1.01E+01	9.84E-01	4.31E+00

EU-Boiler6 PTE Calculations for Natural Gas

Facility:	Dart Container Boiler Upgrade - Boiler 6			Application:		
TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]						
Heat Input:	25.1	MMBtu/hr	Only One Heat Input	**HHV:**	1020	Btu/scf
		scf/hr		**Hours:**	8760	hrs/yr
Pollutant		**Footnote**	**Emission Factor ($lb/10^6$ scf)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**
CO_2		b	120,000	A	2952.94	12933.88
Lead			0.0005	D	0.00	0.00
N_2O (Uncontrolled)			2	E	0.05	0.24
N_2O (Controlled- low-NO_x burner)			0.64	E	0.02	0.07
PM (Total)		c	7.6	D	0.19	0.82
PM (Condensable)		c	5.7	D	0.14	0.61
PM (Filterable)		c	1.9	B	0.05	0.20
SO_2		d	0.6	A	0.01	0.06
TOC			11	B	0.27	1.19
Methane			2.3	B	0.06	0.25
VOC			5.5	C	0.14	0.59

EU-Boiler6 PTE Calculations for Natural Gas

Facility: Dart Container Boiler Upgrade - Boiler 6					Application:			
TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION[a]								
Heat Input:	25.1	MMBtu/hr	Only one heat input	HHV:	1020	Btu/scf		
		scf/hr		Hours:	8760	hrs/yr		
Pollutant	**CAS No.**	**Footnote***	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**	**Pollutant**	**CAS No.**
2-Methylnaphthalene	91-57-6	b, c	2.40E-05	D	5.91E-07	2.59E-06	2-Methylnaphthalene	91576
3-Methylchloranthrene	56-49-5	b, c	1.80E-06	E	4.43E-08	1.94E-07	3-Methylchloranthrene	56495
7,12-Dimethyl	57-97-6	b, c	1.60E-05	E	3.94E-07	1.72E-06	7,12-Dimethyl benz(a)anthracene	57976
Acenaphthene	83-32-9	b, c	1.80E-06	E	4.43E-08	1.94E-07	Acenaphthene	83329
Acenaphthylene	208-96-8	b, c	1.80E-06	E	4.43E-08	1.94E-07	Acenaphthylene	208968
Anthracene	120-12-7	b, c	2.40E-06	E	5.91E-08	2.59E-07	Anthracene	120127
Benz(a)anthracene	56-55-3	b, c	1.80E-06	E	4.43E-08	1.94E-07	Benz(a)anthracene	56553
Benzene	71-43-2	b	2.10E-03	B	5.17E-05	2.26E-04	Benzene	71432
Benzo(a)pyrene	50-32-8	b, c	1.20E-06	E	2.95E-08	1.29E-07	Benzo(a)pyrene	50328
Benzo(b)fluoranthene	205-99-2	b, c	1.80E-06	E	4.43E-08	1.94E-07	Benzo(b)fluoranthene	205992
Benzo(g,h,i)perylene	191-24-2	b, c	1.20E-06	E	2.95E-08	1.29E-07	Benzo(g,h,i)perylene	191242
Benzo(k)fluoranthene	207-08-9	b, c	1.80E-06	E	4.43E-08	1.94E-07	Benzo(k)fluoranthene	207089
Butane	106-97-8		2.10E+00	E	5.17E-02	2.26E-01	Butane	106978
Chrysene	218-01-9	b, c	1.80E-06	E	4.43E-08	1.94E-07	Chrysene	218019
Dibenzo(a,h)anthracene	53-70-3	b, c	1.20E-06	E	2.95E-08	1.29E-07	Dibenzo(a,h)anthracene	53703
Dichlorobenzene	25321-22-6	b	1.20E-03	E	2.95E-05	1.29E-04	Dichlorobenzene	25321226
Ethane	74-84-0		3.10E+00	E	7.63E-02	3.34E-01	Ethane	74840
Fluoranthene	206-44-0	b, c	3.00E-06	E	7.38E-08	3.23E-07	Fluoranthene	206440
Fluorene	86-73-7	b, c	2.80E-06	E	6.89E-08	3.02E-07	Fluorene	86737
Formaldehyde	50-00-0	b	7.50E-02	B	1.85E-03	8.08E-03	Formaldehyde	50000
Hexane	110-54-3	b	1.80E+00	E	4.43E-02	1.94E-01	Hexane	110543
Indeno(1,2,3-cd)pyrene	193-39-5	b, c	1.80E-06	E	4.43E-08	1.94E-07	Indeno(1,2,3-cd)pyrene	193395
Naphthalene	91-20-3	b	6.10E-04	E	1.50E-05	6.57E-05	Naphthalene	91203
Pentane	109-66-0		2.60E+00	E	6.40E-02	2.80E-01	Pentane	109660
Phenanathrene	85-01-8	b, c	1.70E-05	D	4.18E-07	1.83E-06	Phenanathrene	85018
Propane	74-98-6		1.60E+00	E	3.94E-02	1.72E-01	Propane	74986
Pyrene	129-00-0	b, c	5.00E-06	E	1.23E-07	5.39E-07	Pyrene	129000
Toluene	108-88-3	b	3.40E-03	C	8.37E-05	3.66E-04	Toluene	108883

TABLE 1.4-4. EMISSION FACTORS FOR METALS FROM NATURAL GAS COMBUSTION[a]								
Pollutant	**CAS No.**	**Foot-note**	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**	Pollutant	**CAS No.**
Arsenic	7440-38-2	b	2.00E-04	E	4.92E-06	2.16E-05	Arsenic	7440382
Barium	7440-39-3		4.40E-03	D	1.08E-04	4.74E-04	Barium	7440393
Beryllium	7440-41-7	b	1.20E-05	E	2.95E-07	1.29E-06	Beryllium	7440417
Cadmium	7440-43-9	b	1.10E-03	D	2.71E-05	1.19E-04	Cadmium	7440439
Chromium	7440-47-3	b	1.40E-03	D	3.45E-05	1.51E-04	Chromium	7440473
Cobalt	7440-48-4	b	8.40E-05	D	2.07E-06	9.05E-06	Cobalt	7440484
Copper	7440-50-8		8.50E-04	C	2.09E-05	9.16E-05	Copper	7440508
Manganese	7439-96-5	b	3.80E-04	D	9.35E-06	4.10E-05	Manganese	7439965
Mercury	7439-97-6	b	2.60E-04	D	6.40E-06	2.80E-05	Mercury	7439976
Molybdenum	7439-98-7		1.10E-03	D	2.71E-05	1.19E-04	Molybdenum	7439987
Nickel	7440-02-0	b	2.10E-03	C	5.17E-05	2.26E-04	Nickel	7440020
Selenium	7782-49-2	b	2.40E-05	E	5.91E-07	2.59E-06	Selenium	7782492
Vanadium	7440-62-2		2.30E-03	D	5.66E-05	2.48E-04	Vanadium	7440622
Zinc	7440-66-6		2.90E-02	E	7.14E-04	3.13E-03	Zinc	7440666

EU-Boiler6 PTE Calculations for Natural Gas

Facility:	Dart Container Boiler Upgrade - Boiler 6	Application:

Total HAPS (tpy)	Largest HAP (tpy)
0.20	1.94E-01
	Hexane

Facility: Dart Container Boiler Upgrade - Boiler 7A					Application:	
Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]						
Heat Input:		29.3	MMBtu/hr	HHV:	1020	Btu/scf
			scf/hr	Hours:	8760	hrs/yr
Combustor Type (MMBtu/hr Heat Input) [SCC]			**NO_x[b]**		**CO**	
		Foot-note	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]						
	Uncontrolled (Pre-NSPS)	c	280.0	A	84	B
	Uncontrolled (Post-NSPS)	c	190.0	A	84	B
	Controlled -Low NO_X burners		140.0	A	84	B
	Controlled - Flue gas recirculation		100.0	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]						
	Uncontrolled		100.0	B	84	B
	Controlled - Low NO_x burners		50.0	D	84	B
	Controlled - Low NO_x burners/Flue gas recirculation		32.0	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]						
	Uncontrolled		170.0	A	24	C
	Controlled - Flue gas recirculation		76.0	D	98	D
Residential Furnaces (<0.3) [No SCC]						
	Uncontrolled		94.0	B	40	B

a Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. SCC = Source Classification Code. ND = no data. NA = not applicable. (*AP 42 5th Edition,. Updated 1998)*

b Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. Fortangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

c NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

Facility: Dart Container Boiler Upgrade - Boiler 7A	**Application:**

EMISSION FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]						
Combustor Type (MMBtu/hr Heat Input) [SCC]			NO_x[b]		CO	
		Foot-note	**Emissions (lb/hr)**	**Emissions (tpy)**	**Emissions (lb/hr)**	**Emissions (tpy)**
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]						
	Uncontrolled (Pre-NSPS)	c	8.04E+00	3.52E+01	2.41E+00	1.06E+01
	Uncontrolled (Post-NSPS)	c	5.46E+00	2.39E+01	2.41E+00	1.06E+01
	Controlled -Low NO_x burners		4.02E+00	1.76E+01	2.41E+00	1.06E+01
	Controlled - Flue gas recirculation		2.87E+00	1.26E+01	2.41E+00	1.06E+01
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]						
	Uncontrolled		2.87	12.58	2.41	10.57
	Controlled - Low NO_x burners		1.44	6.29	2.41	10.57
	Controlled - Low NO_x burners/Flue gas recirculation		9.19E-01	4.03E+00	2.41E+00	1.06E+01
Tangential-Fired Boilers (All Sizes) [1-01-006-04]						
	Uncontrolled		4.88E+00	2.14E+01	6.89E-01	3.02E+00
	Controlled - Flue gas recirculation		2.18E+00	9.56E+00	2.82E+00	1.23E+01
Residential Furnaces (<0.3) [No SCC]						
	Uncontrolled		2.70E+00	1.18E+01	1.15E+00	5.03E+00

Equations

Facility:	Dart Container Boiler Upgrade - Boiler 7A			Application:		
TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]						
Heat Input:	29.3	MMBtu/hr	Only One Heat Input	**HHV:**	1020	Btu/scf
		scf/hr		**Hours:**	8760	hrs/yr
Pollutant		**Footnote**	**Emission Factor ($lb/10^6$ scf)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**
CO_2		b	120,000	A	3447.06	15098.12
Lead			0.0005	D	0.00	0.00
N_2O (Uncontrolled)			2	E	0.06	0.28
N_2O (Controlled- low-NO_x burner)			0.64	E	0.02	0.08
PM (Total)		c	7.6	D	0.22	0.96
PM (Condensable)		c	5.7	D	0.16	0.72
PM (Filterable)		c	1.9	B	0.05	0.24
SO_2		d	0.6	A	0.02	0.08
TOC			11	B	0.32	1.38
Methane			2.3	B	0.07	0.29
VOC			5.5	C	0.16	0.69

Facility: Dart Container Boiler Upgrade - Boiler 7A					Application:			
TABLE 1.4-3. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM NATURAL GAS COMBUSTION[a]								
Heat Input:	29.3	MMBtu/hr	Only one heat input	HHV:	1020	Btu/scf		
		scf/hr		Hours:	8760	hrs/yr		
Pollutant	**CAS No.**	**Footnote***	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**	**Pollutant**	**CAS No.**
2-Methylnaphthalene	91-57-6	b, c	2.40E-05	D	6.89E-07	3.02E-06	2-Methylnaphthalene	91576
3-Methylchloranthrene	56-49-5	b, c	1.80E-06	E	5.17E-08	2.26E-07	3-Methylchloranthrene	56495
7,12-Dimethyl	57-97-6	b, c	1.60E-05	E	4.60E-07	2.01E-06	7,12-Dimethyl benz(a)anthracene	57976
Acenaphthene	83-32-9	b, c	1.80E-06	E	5.17E-08	2.26E-07	Acenaphthene	83329
Acenaphthylene	208-96-8	b, c	1.80E-06	E	5.17E-08	2.26E-07	Acenaphthylene	208968
Anthracene	120-12-7	b, c	2.40E-06	E	6.89E-08	3.02E-07	Anthracene	120127
Benz(a)anthracene	56-55-3	b, c	1.80E-06	E	5.17E-08	2.26E-07	Benz(a)anthracene	56553
Benzene	71-43-2	b	2.10E-03	B	6.03E-05	2.64E-04	Benzene	71432
Benzo(a)pyrene	50-32-8	b, c	1.20E-06	E	3.45E-08	1.51E-07	Benzo(a)pyrene	50328
Benzo(b)fluoranthene	205-99-2	b, c	1.80E-06	E	5.17E-08	2.26E-07	Benzo(b)fluoranthene	205992
Benzo(g,h,i)perylene	191-24-2	b, c	1.20E-06	E	3.45E-08	1.51E-07	Benzo(g,h,i)perylene	191242
Benzo(k)fluoranthene	207-08-9	b, c	1.80E-06	E	5.17E-08	2.26E-07	Benzo(k)fluoranthene	207089
Butane	106-97-8		2.10E+00	E	6.03E-02	2.64E-01	Butane	106978
Chrysene	218-01-9	b, c	1.80E-06	E	5.17E-08	2.26E-07	Chrysene	218019
Dibenzo(a,h)anthracene	53-70-3	b, c	1.20E-06	E	3.45E-08	1.51E-07	Dibenzo(a,h)anthracene	53703
Dichlorobenzene	25321-22-6	b	1.20E-03	E	3.45E-05	1.51E-04	Dichlorobenzene	25321226
Ethane	74-84-0		3.10E+00	E	8.90E-02	3.90E-01	Ethane	74840
Fluoranthene	206-44-0	b, c	3.00E-06	E	8.62E-08	3.77E-07	Fluoranthene	206440
Fluorene	86-73-7	b, c	2.80E-06	E	8.04E-08	3.52E-07	Fluorene	86737
Formaldehyde	50-00-0	b	7.50E-02	B	2.15E-03	9.44E-03	Formaldehyde	50000
Hexane	110-54-3	b	1.80E+00	E	5.17E-02	2.26E-01	Hexane	110543
Indeno(1,2,3-cd)pyrene	193-39-5	b, c	1.80E-06	E	5.17E-08	2.26E-07	Indeno(1,2,3-cd)pyrene	193395
Naphthalene	91-20-3	b	6.10E-04	E	1.75E-05	7.67E-05	Naphthalene	91203
Pentane	109-66-0		2.60E+00	E	7.47E-02	3.27E-01	Pentane	109660
Phenanathrene	85-01-8	b, c	1.70E-05	D	4.88E-07	2.14E-06	Phenanathrene	85018
Propane	74-98-6		1.60E+00	E	4.60E-02	2.01E-01	Propane	74986
Pyrene	129-00-0	b, c	5.00E-06	E	1.44E-07	6.29E-07	Pyrene	129000
Toluene	108-88-3	b	3.40E-03	C	9.77E-05	4.28E-04	Toluene	108883

TABLE 1.4-4. EMISSION FACTORS FOR METALS FROM NATURAL GAS COMBUSTION[a]								
Pollutant	**CAS No.**	**Foot-note**	**Emission Factor (lb/10^6 scf)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**	Pollutant	**CAS No.**
Arsenic	7440-38-2	b	2.00E-04	E	5.75E-06	2.52E-05	Arsenic	7440382
Barium	7440-39-3		4.40E-03	D	1.26E-04	5.54E-04	Barium	7440393
Beryllium	7440-41-7	b	1.20E-05	E	3.45E-07	1.51E-06	Beryllium	7440417
Cadmium	7440-43-9	b	1.10E-03	D	3.16E-05	1.38E-04	Cadmium	7440439
Chromium	7440-47-3	b	1.40E-03	D	4.02E-05	1.76E-04	Chromium	7440473
Cobalt	7440-48-4	b	8.40E-05	D	2.41E-06	1.06E-05	Cobalt	7440484
Copper	7440-50-8		8.50E-04	C	2.44E-05	1.07E-04	Copper	7440508
Manganese	7439-96-5	b	3.80E-04	D	1.09E-05	4.78E-05	Manganese	7439965
Mercury	7439-97-6	b	2.60E-04	D	7.47E-06	3.27E-05	Mercury	7439976
Molybdenum	7439-98-7		1.10E-03	D	3.16E-05	1.38E-04	Molybdenum	7439987
Nickel	7440-02-0	b	2.10E-03	C	6.03E-05	2.64E-04	Nickel	7440020
Selenium	7782-49-2	b	2.40E-05	E	6.89E-07	3.02E-06	Selenium	7782492
Vanadium	7440-62-2		2.30E-03	D	6.61E-05	2.89E-04	Vanadium	7440622
Zinc	7440-66-6		2.90E-02	E	8.33E-04	3.65E-03	Zinc	7440666

Facility:	Dart Container Boiler Upgrade - Boiler 7A	Application:

Total HAPS (tpy)	Largest HAP (tpy)
0.24	2.26E-01
	Hexane

Table 1.3-1. CRITERIA POLLUTANT EMISSION FACTORS FOR FUEL OIL COMBUSTION										
	SO_2[b]		SO_3[c]		NO_x[d]		CO[e]		Filterable PM[f]	
Firing Configuration (SCC)a	Emission Factor (lb/Mgal)	Emission Factor Rating	Emission Factor ($lb/10^3$gal)	Emission Factor Rating	Emission Factor ($lb/10^3$gal)	Emission Factor Rating	Emission Factor ($lb/10^3$gal)	Emission Factor Rating	Emission Factor ($lb/10^3$gal)	Emission Factor Rating
Boilers > 100 Million Btu/hr										
No. 6 oil fired, normal firing (1-01-004-01), (1-02-004-01), (1-03-004-01)	157 S	A	5.7 S	C	47	A	5	A	9.19 S + 3.22	A
No. 6 oil fired, normal firing, low NOx burner (1-01-004-01), (1-02-004-01)	157 S	A	5.7 S	C	40	B	5	A	9.19 S + 3.22	A
No. 6 oil fired, tangential firing, (1-01-004-04)	157 S	A	5.7 S	C	32	A	5	A	9.19 S + 3.22	A
No. 6 oil fired, tangential firing, low NOx burner (1-01-004-04)	157 S	A	5.7 S	C	26	E	5	A	9.19 S + 3.22	A
No. 5 oil fired, normal firing (1-01-004-05), (1-02-004-04)	157 S	A	5.7 S	C	47	B	5	A	10	B
No. 5 oil fired, tangential firing (1-01-004-06)	157 S	A	5.7 S	C	32	B	5	A	10	B
No. 4 oil fired, normal firing (1-01-005-04), (1-02-005-04)	150 S	A	5.7 S	C	47	B	5	A	7	B
No. 4 oil fired, tangential firing (1-01-005-05)	150 S	A	5.7 S	C	32	B	5	A	7	B
No. 2 oil fired (1-01-005-01), (1-02-005-01), (1-03-005-01)	142 S[h]	A	5.7 S	C	24	D	5	A	2	A
No.2 oil fired, LNB/FGR, (1-01-005-01), (1-02-005-01), (1-03-005-01)	142 S[h]	A	5.7 S	A	10	D	5	A	2	A
Boilers > 100 Million Btu/hr										
No. 6 oil fired (1-02-004-02/03) (1-03-004-02/03)	157 S	A	2 S	A	55	A	5	A	9.19 S + 3.22	B
No. 5 oil fired (1-03-004-04)	157 S	A	2 S	A	55	A	5	A	10	A

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	No. 4 oil fired (1-03-005-04)	150 S	A	2 S	A	20	A	5	A	7	B
	Distillate oil fired (1-02-005-02/03) (1-03-005-02/03)	142 S	A	2 S	A	20	A	5	A	2	A
	Residential furnace (A2104004/A2104011)	142 S	A	2 S	A	18	A	5	A	0.4[g]	B

Table 1.3-1. CRITERIA POLLUTANT EMISSION Calculations FOR FUEL OIL COMBUSTION										
Heat Input:	MMBtu/hr	29.3	Only One Heat Input		**Hours:**	hrs/yr	8760			
	gal/hr				**Sulfur Content (%)**		0.05			
	SO_2[b]		SO_3[c]		NO_x[d]		CO[e]		Filterable PM[f]	
Firing Configuration (SCC)a	Emissions (lb/hr)	Emissions (tpy)	Emissions (lb/hr)	Emissions (tpy)	Emissions (lb/hr)	Emissions (tpy)	Emissions (lb/hr)	Emissions (tpy)	Emissions (lb/hr)	Emissions (tpy)
Distillate oil fired (1-02-005-02/03) (1-03-005-02/03)	1.48592857	6.5084	0.02093	0.0917	4.18571	18.333	1.04643	4.5834	1.92334	8.4242
Residential furnace (A2104004/A2104011)	1.48592857	6.5084	0.02093	0.0917	3.76714	16.5	1.04643	4.5834	2.09286	9.1667

Table 1.3-2. CONDENSABLE PARTICULATE MATTER EMISSION FACTORS FOR OIL COMBUSTION[a]							
		CPM - TOT[c, d]		CPM - IOR[c, d]		CPM - ORG[c, d]	
Firing Configuration[b] (SCC)	Controls	Emission Factor (lb/10^3 gal)	Emission Factor Rating	Emission Factor (lb/10^3 gal)	Emission Factor Rating	Emission Factor (lb/10^3 gal)	Emission Factor Rating
No. 2 oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	All controls, or uncontrolled	1.3[d, e]	D	65% of CPM-TOT emission factor[c]	D	35% of CPM-TOT emission factor[c]	D
No. 6 oil fired (1-01-004-01/04, 1-02-004-01, 1-03-004-01)	All controls, or uncontrolled	1.5[f]	D	85% of CPM-TOT emission factor[d]	E	15% of CPM-TOT emission factor[d]	E

Table 1.3-2. CONDENSABLE PARTICULATE MATTER EMISSION CALCULATIONS FOR OIL COMBUSTION[a]							
Heat Input:		MMBtu/hr gal/hr	29.3	Only One Heat Input	**Hours:**	hrs/yr	8760
		CPM - TOT[c, d]		CPM - IOR[c, d]		CPM - ORG[c, d]	
Firing Configuration[b] (SCC)	Controls	Emissions (lb/hr)	Emissions (tpy)	Emissions (lb/hr)	Emissions (tpy)	Emissions (lb/hr)	Emissions (tpy)
No. 2 oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	All controls, or uncontrolled	0.272071429	1.19167	0.176846429	0.774587357	0.095225	0.4170855
No. 6 oil fired (1-01-004-01/04, 1-02-004-01, 1-03-004-	All controls, or uncontrolled	0.293	1.28334	0.24905	1.090839	0.04395	0.192501

Table 1.3-3. EMISSION FACTORS FOR TOTAL ORGANIC COMPOUNDS (TOC), METHANE, AND NONMETHANE TOC (NMTOC) FROM UNCONTROLLED FUEL OIL COMBUSTION[a]			
Firing Configuration (SCC)	TOC[b] Emission Factor (lb/10^3 gal)	Methane[b] Emission Factor (lb/10^3 gal)	NMTOC[b] Emission Factor (lb/10^3 gal)
Utility boilers	EMISSION FACTOR RATING: A		
No. 6 oil fired, normal firing (1-01-004-01)	1.04	0.28	0.76
No. 6 oil fired, tangential firing (1-01-004-04)	1.04	0.28	0.76
No. 5 oil fired, normal firing (1-01-004-05)	1.04	0.28	0.76
No. 5 oil fired, tangential firing (1-01-004-06)	1.04	0.28	0.76
No. 4 oil fired, normal firing (1-01-005-04)	1.04	0.28	0.76
No. 4 oil fired, tangential firing (1-01-005-05)	1.04	0.28	0.76
Industrial boilers			
No. 6 oil fired (1-02-004-01/02/03)	1.28	1	0.28
No. 5 oil fired (1-02-004-04)	1.28	1	0.28
Distillate oil fired (1-02-005-01/02/03)	0.252	0.052	0.2
No. 4 oil fired (1-02-005-04)	0.252	0.052	0.2
Commercial/institutional/residential combustors			
No. 6 oil fired (1-03-004-01/02/03)	1.605	0.475	1.13
No. 5 oil fired (1-03-004-04)	1.605	0.475	1.13
Distillate oil fired (1-03-005-01/02/03)	0.556	0.216	0.34
No. 4 oil fired (1-03-005-04)	0.556	0.216	0.34
Residential furnace (A2104004/A2104011)	2.493	1.78	0.713

Table 1.3-3. EMISSION CALCULATIONS FOR TOCs, METHANE, AND NMTOC FROM UNCONTROLLED FUEL OIL COMBUSTION[a]							
Heat Input:	MMBtu/hr	29.3	Only One Heat Input		**Hours:**	hrs/yr	8760
	gal/hr						
Firing Configuration (SCC)		TOC[b] Emissions (lb/hr)	TOC[b] Emissions (tpy)	Methane[b] Emissions (lb/hr)	Methane[b] Emissions (tpy)	NMTOC[b] Emissions (lb/hr)	NMTOC[b] Emissions (tpy)
Utility boilers							
No. 6 oil fired, normal firing (1-01-004-01)		2.03E-01	8.90E-01	5.47E-02	2.40E-01	1.48E-01	6.50E-01
No. 6 oil fired, tangential firing (1-01-004-04)		2.03E-01	8.90E-01	5.47E-02	2.40E-01	1.48E-01	6.50E-01
No. 5 oil fired, normal firing (1-01-004-05)		2.03E-01	8.90E-01	5.47E-02	2.40E-01	1.48E-01	6.50E-01
No. 5 oil fired, tangential firing (1-01-004-06)		2.03E-01	8.90E-01	5.47E-02	2.40E-01	1.48E-01	6.50E-01
No. 4 oil fired, normal firing (1-01-005-04)		2.03E-01	8.90E-01	5.47E-02	2.40E-01	1.48E-01	6.50E-01
No. 4 oil fired, tangential firing (1-01-005-05)		2.03E-01	8.90E-01	5.47E-02	2.40E-01	1.48E-01	6.50E-01
Industrial boilers							
No. 6 oil fired (1-02-004-01/02/03)		2.50E-01	1.10E+00	1.95E-01	8.56E-01	5.47E-02	2.40E-01
No. 5 oil fired (1-02-004-04)		2.50E-01	1.10E+00	1.95E-01	8.56E-01	5.47E-02	2.40E-01
Distillate oil fired (1-02-005-01/02/03)		0.053	0.231	0.011	0.048	0.042	0.183
No. 4 oil fired (1-02-005-04)		4.92E-02	2.16E-01	1.02E-02	4.45E-02	3.91E-02	1.71E-01
Commercial/institutional/residential combustors							
No. 6 oil fired (1-03-004-01/02/03)		3.14E-01	1.37E+00	9.28E-02	4.06E-01	2.21E-01	9.67E-01
No. 5 oil fired (1-03-004-04)		3.14E-01	1.37E+00	9.28E-02	4.06E-01	2.21E-01	9.67E-01
Distillate oil fired (1-03-005-01/02/03)		1.16E-01	5.10E-01	4.52E-02	1.98E-01	7.12E-02	3.12E-01
No. 4 oil fired (1-03-005-04)		1.09E-01	4.76E-01	4.22E-02	1.85E-01	6.64E-02	2.91E-01

Table 1.3-6. CUMULATIVE PARTICLE SIZE DISTRIBUTION AND SIZE-SPECIFIC EMISSION FACTORS FOR UNCONTROLLED INDUSTRIAL BOILERS FIRING DISTILLATE OIL[a]						
Heat Input	MMBtu/hr	29.3	ONE HEAT INPUT ONLY	**Hours:**	hrs/yr	8760
	gal/hr					
	EMISSION FACTOR RATING: E					
Particle Size[b] (μm)	Cumulative Mass % Stated Size		Cumulative Emission Factor (lb/10^3 gal)	Emissions (lb/hr)	Emissions (tpy	
15	68		1.33	0.278	1.219	
10	50		1	0.209	0.917	
6	30		0.58	0.121	0.532	
2.5	12		0.25	0.052	0.229	
1.25	9		0.17	0.036	0.156	
1	8		0.17	0.036	0.156	
0.625	2		0.04	0.008	0.037	
TOTAL	100		2	0.419	1.833	

Table 1.3-8. EMISSION FACTORS FOR NITROUS OXIDE (N_2O), AND FORMALDEHYDE (HCOH) FROM FUEL OIL COMBUSTION[a]				
Firing Configuration (SCC)	N_2O[b]		HCOH[c]	
Utility/industrial/commercial boilers	Emission Factor (lb/1000 gal)	EMISSION FACTOR RATING	Emission Factor (lb/1000 gal)	EMISSION FACTOR RATING
No. 6 oil fired (1-01-004-01, 1-02-004-01, 1-03-004-01)	0.53	B	0.061	E[d]
Distillate oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	0.26	B	0.061	E[e]
Residential furnaces (A2104004/A2104011)	0.05	B	ND	E

Table 1.3-8. EMISSION FACTORS FOR NITROUS OXIDE (N_2O), POLYCYCLIC ORGANIC MATTER (POM), AND FORMALDEHYDE (HCOH) FROM FUEL OIL COMBUSTION[a]						
Heat Input:	MMBtu/hr	29.3	Only One Heat Input	Hours	hrs/yr	8760
	gal/hr					
Firing Configuration (SCC)			N_2O[b]		HCOH[c]	
Utility/industrial/commercial boilers			Emissions (lb/hr)	Emissions (tpy)	Emissions (lb/hr)	Emissions (tpy)
No. 6 oil fired (1-01-004-01, 1-02-004-01, 1-03-004-01)			1.04E-01	4.53E-01	1.19E-02	5.22E-02
Distillate oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)			5.44E-02	2.38E-01	1.28E-02	5.59E-02
Residential furnaces (A2104004/A2104011)			1.05E-02	4.58E-02	#VALUE!	#VALUE!

Table 1.3-9. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM FUEL OIL COMBUSTION[a]							
Maximum Heat Input:	29.3	MMBtu/hr	Only One Heat Input	HHV:	140		
Maximum Fuel Usage:		gal/hr		Hours (hr/yr)	8760		
Organic Compound	**CAS No.**	**Average Emission Factor[b] (lb/1,000 gal)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**	**HAP**	**Emissions (tpy)**
Benzene	71432	2.14E-04	C	4.48E-05	1.96E-04	yes	0.000196
Ethylbenzene	100414	6.36E-05	E	1.33E-05	5.83E-05	yes	5.83E-05
Formaldehyde[d]	50000	3.30E-02	C	6.91E-03	3.03E-02	yes	0.03025
Naphthalene	91203	1.13E-03	C	2.36E-04	1.04E-03	yes	0.001036
1,1,1-Trichloroethane	108883	2.36E-04	E	4.94E-05	2.16E-04	yes	0.000216
Toluene	108883	6.20E-03	D	1.30E-03	5.68E-03	yes	0.005683
o-Xylene	95476	1.09E-04	E	2.28E-05	9.99E-05	yes	9.99E-05
Acenaphthene	83329	2.11E-05	C	4.42E-06	1.93E-05	no	
Acenaphthylene	203968	2.53E-07	D	5.29E-08	2.32E-07	no	
Anthracene	120127	1.22E-06	C	2.55E-07	1.12E-06	no	
Benz(a)anthracene	56553	4.01E-06	C	8.39E-07	3.68E-06	no	
Benzo(b,k)fluoranthene	207089	1.48E-06	C	3.10E-07	1.36E-06	no	
Benzo(g,h,i)perylene	191242	2.26E-06	C	4.73E-07	2.07E-06	no	
Chrysene	218019	2.38E-06	C	4.98E-07	2.18E-06	no	
Dibenzo(a,h) anthracene	53703	1.67E-06	D	3.50E-07	1.53E-06	no	
Fluoranthene	206440	4.84E-06	C	1.01E-06	4.44E-06	no	
Fluorene	86737	4.47E-06	C	9.36E-07	4.10E-06	no	
Indo(1,2,3-cd)pyrene	193395	2.14E-06	C	4.48E-07	1.96E-06	no	
Phenanthrene	85018	1.05E-05	C	2.20E-06	9.63E-06	no	
Pyrene	129000	4.25E-06	C	8.89E-07	3.90E-06	no	
OCDD		3.10E-09	E	6.49E-10	2.84E-09	no	
Total HAPS (tpy)		**Largest HAP (tpy)**					
0.03754		Formaldehyded					
		3.03E-02					

EU-Boiler7A PTE Calculations - Fuel Oil

Table 1.3-10. EMISSION FACTORS FOR TRACE ELEMENTS FROM DISTILLATE FUEL OIL COMBUSTION SOURCES[a]

FUEL OIL COMBUSTION SOURCES[a]

Max Heat Input:	MMBtu/hr	29.3	Only One Heat Input	Hours (hrs/yr)	8760		
Max Fuel Usage:	gal/hr						
Trace Element	**CAS No.**	**Average Emission Factor[b] ($lb/10^{12}$ Btu)**	**Emission Factor Rating**	**Emissions (lb/hr)**	**Emissions (tpy)**	**HAP**	**Emissions (tpy)**
Arsenic	7440382	4	E	1.17E-04	5.13E-04	yes	0.000513
Beryllium	7440417	3	E	8.79E-05	3.85E-04	yes	0.000385
Cadmium	7440439	3	E	8.79E-05	3.85E-04	yes	0.000385
Chromium	7440473	3	E	8.79E-05	3.85E-04	yes	0.000385
Copper	7440508	6	E	1.76E-04	7.70E-04	no	
Lead		9	E	2.64E-04	1.16E-03	yes	0.001155
Mercury		3	E	8.79E-05	3.85E-04	yes	0.000385
Manganese	7439965	6	E	1.76E-04	7.70E-04	yes	0.00077
Nickel	7440020	3	E	8.79E-05	3.85E-04	yes	0.000385
Selenium	7782492	15	E	4.40E-04	1.93E-03	yes	0.001925
Zinc	7440666	4	E	1.17E-04	5.13E-04	no	

Total HAPS (tpy)	**Largest HAP (tpy)**
0.00629	Selenium
	1.93E-03

Attachment 4:

Prevention of Significant Deterioration (PSD) Evaluation
Actual to Projected Actual Test

Baseline Emissions: As calculated in the MAERS report for the 24 months of operation; 1/1/2014 - 12/31/2015

[1]Year	Emission Unit	SCC Code	Fuel Type	Total Fuel Use (E3Gal)	Total Fuel Use (MMCF)	Total MMBTU Consumed	Ammonia	CO	Lead	Nox	PM10	PM2.5	SO2	TNMOC	VOC
2014	EU-Boiler5	10300501	#2 FO	0.189	-	26.46	0.15	0.95	0.00	3.78	0.45	0.40	6.98	0.06	
	EU-Boiler5	10200602	NG	-	10.99	11211.84	35.17	923.33	0.01	1099.20	83.54	83.54	6.60	95.63	60.46
	EU-Boiler7	10300501	#2 FO	0.147	-	20.58	0.12	0.74	0.00	3.53	0.35	0.31	5.43	0.05	
	EU-Boiler7	10200602	NG	-	87.09	88834.86	278.70	7315.81	0.04	8709.30	661.91	661.91	52.26	757.71	479.01
2015	EU-Boiler5	10300501	#2 FO	6.35	-	889.00	5.08	31.75	0.01	152.40	15.11	13.53	1.35	2.16	
	EU-Boiler5	10200602	NG	-	3.98	4057.56	12.73	334.15	0.00	397.80	30.23	30.23	2.39	34.61	21.88
	EU-Boiler7	10300501	#2 FO	1.64	-	229.60	1.31	8.20	0.00	39.36	3.90	3.49	0.35	0.56	
	EU-Boiler7	10200602	NG	-	76.90	78439.02	246.08	6459.68	0.04	7690.10	584.45	584.45	46.14	669.04	422.96
Total Emissions over 24 month period:				8.326	178.964	91854.46	579.34	15074.61	0.10	18095.47	1379.94	1377.86	121.50	1559.82	984.31
Annual Average Emissions for Baseline (lbs):							289.67	7537.31	0.05	9047.74	689.97	688.93	60.75	779.91	492.16
Annual Average Emissions for Baseline (tons):							0.14	3.77	0.00	4.52	0.34	0.34	0.03	0.39	0.25
Avg Annual Fuel Use over Baseline period:							**FO (E3Gal):**	**4.16**	**NG (MMCF):**	**89.48**	**Used to calculate projected emissions**				
Avg Annual Fuel Use over Baseline period (%):							FO:	4.45%	NG:	95.55%					

[1] The two highest years of total fuel usage were selected from the 10 year look back period; for the baseline emissions assessment.

[2]Projected Fuel Use: Assumes 1% growth	2024	2025	2026	2027	2028
FO (E3Gal):	4.20	4.25	4.29	4.33	4.38
NG (MMCF):	90.38	91.28	92.19	93.12	94.05

[2] Due to other parameters being highly variable, fuel use was selected to determine the projected emissions. Although overall production totals have been declining over the last several years, a growth factor of 1% was used for the projected emissions.

Pollutant	Ammonia	CO	Lead	NO_x	PM10	PM2.5	SO_2	TNMOC	VOC
Emission Factor (EF) - FO	8.00E-01	5.00E+00	1.26E-03	2.00E+01	1.00E+00	2.50E-01	7.10E-03	2.00E-01	
EF Units	lb/E3Gal	lb/E3Gal	lb/E3Gal	lb/E3Gal	lb/E3Gal	lb/E3Gal	lb/E3Gal	lb/E3Gal	
EF - NG (low NOx)	3.20E+00	8.40E+01	5.00E-04	5.00E+01	7.60E+00	7.60E+00	6.00E-01	8.70E+00	5.50E+00
EF - NG (low Nox & FGR)				3.20E+01					
EF Units	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF	lb/MMCF

Projected Actual Emissions: by Fuel Type: Using AP-42 ef	SCC Code	Fuel Type	Total Fuel Use (E3Gal)	Total Fuel Use (MMCF)	Total MMBTU Consumed	Ammonia	CO	Lead	[3]NO_x	PM10	PM2.5	SO_2	TNMOC	VOC
	10300501	#2 FO	4.38	-	612.55	3.50	21.88	0.006	87.51	4.38	1.09	0.03	0.88	0.00
	10200602	NG	-	94.05	95927.41	300.95	7899.90	0.05	3855.91	714.75	714.75	56.43	818.20	517.26
Annual Projected Emissions (lbs):						304.45	7921.78	0.05	3943.41	719.13	715.85	56.46	819.08	517.26
Annual Projected Emissions (tons):						0.15	3.96	0.00	1.97	0.36	0.36	0.03	0.41	0.26
Projected Emission Increase:						**0.01**	**0.19**	**0.00**	**-2.55**	**0.01**	**0.01**	**0.00**	**0.02**	**0.01**
Significance Level for Contaminant:						N/A	100.00	0.60	40.00	15.00	10.00	40.00	N/A	40.00

[3] Projected Emissions for NOx were calculated as equally split between the low NOx and low NOx with FGR boilers.

Baseline Emissions

Look Back Years	NG usage	FO Usage
2013	209711	0
2014	193908	336
2015	186236	7988
2016	190789	0
2017	183506	29
2018	192060	0
2019	167299	5100
2020	138258	0
2021	146364	100
2022	150819	104

Emissions Comparison - SCC Details

AQD Source ID (SRN): D8065 **Reporting Year:** 2014

Source Name: Dart Container

Source Locations: 432 Hogsback Rd , MASON, MI, 48854

AQD Emission Unit ID	EU0016	Emission Unit ID	EU-BOILER5-S1	Dismantle Date			Remove Date		
SCC Code	**SCC Reference Description**	**Remove Date**	**Material Code**	**Material Throughput**	**Unit Code**	**VOC Wt%**	**Sulfur Wt%**	**Ash Wt%**	**Density**
10300501	Grades 1 and 2 Oil		DISTILLATE	0.189	E3 GAL		0.260	0.010	

SOURCE REPORTED EMISSIONS								AQD CALCULATED EMISSIONS						
Pollutant	**Amount**	**Unit**	**Emiss Basis**	**Factor**	**Exp**	**Factor Unit**	**Cntl%**	**Tier**	**Pollutant**	**Amount**	**Unit**	**Factor**	**Exp**	**Factor Unit**
AMMONIA	0.15	LB	MAERS EF	8.00	-1	LB/E3 GAL			AMMONIA	0.15	LB	8	-1	LB/E3 GAL
CO	0.95	LB	MAERS EF	5.00	0	LB/E3 GAL			CO	0.95	LB	5	0	LB/E3 GAL
LEAD	0.00	LB	MAERS EF	1.26	-3	LB/E3 GAL			LEAD	0	LB	1.26	-3	LB/E3 GAL
NOX	4.54	LB	MAERS EF	2.40	1	LB/E3 GAL			NOX	4.54	LB	2.4	1	LB/E3 GAL
PM10,PRIMARY	0.45	LB	MAERS EF	2.38	0	LB/E3 GAL			PM10,PRIMARY	0.45	LB	2.38	0	LB/E3 GAL
PM2.5,PRIMRY	0.40	LB	MAERS EF	2.13	0	LB/E3 GAL			PM2.5,PRIMRY	0.4	LB	2.13	0	LB/E3 GAL
SO2	6.98	LB	MAERS EF	1.42	2	LB/KGAL-S%			SO2	6.98	LB	1.42	2	LB/KGAL-
TNMOC	0.06	LB	MAERS EF	3.40	-1	LB/E3 GAL			TNMOC	0.06	LB	3.4	-1	LB/E3 GAL
ARSENIC		LB							ARSENIC	0.0001058	LB	5.6	-4	LB/TON
BENZENE		LB							BENZENE	0.0005198	LB	2.75	-3	LB/TON
BENZO(A)PYRE		LB							BENZO(A)PYRE	2.533E-07	LB	1.34	-6	LB/TON
BERYLLIUM		LB							BERYLLIUM	7.938E-05	LB	4.2	-4	LB/TON
CADMIUM		LB							CADMIUM	7.938E-05	LB	4.2	-4	LB/TON
CHROMIUM		LB							CHROMIUM	7.938E-05	LB	4.2	-4	LB/TON
COPPER		LB							COPPER	0.0001588	LB	8.4	-4	LB/TON
FLUORANTHENE		LB							FLUORANTHENE	5.953E-07	LB	3.15	-6	LB/TON
FORMALDEHYDE		LB							FORMALDEHYDE	0.009072	LB	4.8	-2	LB/TON
MANGANESE		LB							MANGANESE	0.0001588	LB	8.4	-4	LB/TON
MERCURY		LB							MERCURY	7.938E-05	LB	4.2	-4	LB/TON
METHANE		LB							METHANE	0.040824	LB	2.16	-1	LB/TON
NICKEL		LB							NICKEL	7.938E-05	LB	4.2	-4	LB/TON
NITROUS OXID		LB							NITROUS OXID	0.02079	LB	1.1	-1	LB/TON
POM		LB							POM	0.0006237	LB	3.3	-3	LB/TON
SELENIUM		LB							SELENIUM	0.0003969	LB	2.1	-3	LB/TON

AQD Emission Unit ID	EU0016	Emission Unit ID	EU-BOILER5-S1	Dismantle Date			Remove Date		
SCC Code	**SCC Reference Description**	**Remove Date**	**Material Code**	**Material Throughput**	**Unit Code**	**VOC Wt%**	**Sulfur Wt%**	**Ash Wt%**	**Density**
10200602	10-100 Million Btu/hr		NATURAL GAS	10.992	MMCF		0.000	0.000	

SOURCE REPORTED EMISSIONS								AQD CALCULATED EMISSIONS						
Pollutant	**Amount**	**Unit**	**Emiss Basis**	**Factor**	**Exp**	**Factor Unit**	**Cntl%**	**Tier**	**Pollutant**	**Amount**	**Unit**	**Factor**	**Exp**	**Factor Unit**
AMMONIA	35.17	LB	MAERS EF	3.20	0	LB/MMCF			AMMONIA	35.17	LB	3.2	0	LB/MMCF
CO	923.33	LB	MAERS EF	8.40	1	LB/MMCF			CO	923.33	LB	8.4	1	LB/MMCF
LEAD	0.01	LB	MAERS EF	5.00	-4	LB/MMCF			LEAD	0.01	LB	5	-4	LB/MMCF

Emissions Comparison - SCC Details

AQD Source ID (SRN): D8065 **Reporting Year:** 2014

Source Name: Dart Container

Source Locations: 432 Hogsback Rd , MASON, MI, 48854

NOX	1099.20	LB	MAERS EF	1.00	2	LB/MMCF
PM10,PRIMARY	83.54	LB	MAERS EF	7.60	0	LB/MMCF
PM2.5,PRIMRY	83.54	LB	MAERS EF	7.60	0	LB/MMCF
SO2	6.60	LB	MAERS EF	6.00	-1	LB/MMCF
VOC	60.46	LB	MAERS EF	5.50	0	LB/MMCF
ACENAPHTHEN		LB				
ACENAPHTHYL		LB				
ANTHRACENE		LB				
ARSENIC		LB				
BENZ(A)ANTHR		LB				
BENZ(GHI)PE		LB				
BENZENE		LB				
BENZO(A)PYRE		LB				
BENZO(B)FLUO		LB				
BENZO(K)FLUO		LB				
BERYLLIUM		LB				
CADMIUM		LB				
CHROMIUM		LB				
CHRYSENE		LB				
CO2		LB				
COBALT		LB				
COPPER		LB				
DIBENZAHAN		LB				
FLUORANTHENE		LB				
FLUORENE		LB				
FORMALDEHYDE		LB				
HEXANE		LB				
INDN(123CDPY		LB				
MANGANESE		LB				
MERCURY		LB				
METHANE		LB				
METHYLCHOLA3		LB				
METHYLNAPHT2		LB				
NAPHTHALENE		LB				
NICKEL		LB				
NITROUS OXID		LB				
PHENANTHRENE		LB				
PYRENE		LB				
SELENIUM		LB				

NOX	1099.2	LB	1	2	LB/MMCF
PM10,PRIMARY	83.54	LB	7.6	0	LB/MMCF
PM2.5,PRIMRY	83.54	LB	7.6	0	LB/MMCF
SO2	6.6	LB	6	-1	LB/MMCF
VOC	60.46	LB	5.5	0	LB/MMCF
ACENAPHTHEN	1.979E-05	LB	1.8	-6	LB/TON
ACENAPHTHYL	1.979E-05	LB	1.8	-6	LB/TON
ANTHRACENE	2.638E-05	LB	2.4	-6	LB/TON
ARSENIC	0.0021984	LB	2	-4	LB/TON
BENZ(A)ANTHR	1.979E-05	LB	1.8	-6	LB/TON
BENZ(GHI)PE	1.319E-05	LB	1.2	-6	LB/TON
BENZENE	0.0230832	LB	2.1	-3	LB/TON
BENZO(A)PYRE	1.319E-05	LB	1.2	-6	LB/TON
BENZO(B)FLUO	1.979E-05	LB	1.8	-6	LB/TON
BENZO(K)FLUO	1.979E-05	LB	1.8	-6	LB/TON
BERYLLIUM	0.0001319	LB	1.2	-5	LB/TON
CADMIUM	0.0120912	LB	1.1	-3	LB/TON
CHROMIUM	0.0153888	LB	1.4	-3	LB/TON
CHRYSENE	1.979E-05	LB	1.8	-6	LB/TON
CO2	1319040	LB	1.2	5	LB/TON
COBALT	0.0009233	LB	8.4	-5	LB/TON
COPPER	0.0093432	LB	8.5	-4	LB/TON
DIBENZAHAN	1.319E-05	LB	1.2	-6	LB/TON
FLUORANTHENE	3.298E-05	LB	3	-6	LB/TON
FLUORENE	3.078E-05	LB	2.8	-6	LB/TON
FORMALDEHYDE	0.8244	LB	7.5	-2	LB/TON
HEXANE	19.7856	LB	1.8	0	LB/TON
INDN(123CDPY	1.979E-05	LB	1.8	-6	LB/TON
MANGANESE	0.004177	LB	3.8	-4	LB/TON
MERCURY	0.0028579	LB	2.6	-4	LB/TON
METHANE	25.2816	LB	2.3	0	LB/TON
METHYLCHOLA3	1.979E-05	LB	1.8	-6	LB/TON
METHYLNAPHT2	0.0002638	LB	2.4	-5	LB/TON
NAPHTHALENE	0.0067051	LB	6.1	-4	LB/TON
NICKEL	0.0230832	LB	2.1	-3	LB/TON
NITROUS OXID	24.1824	LB	2.2	0	LB/TON
PHENANTHRENE	0.0001869	LB	1.7	-5	LB/TON
PYRENE	5.496E-05	LB	5	-6	LB/TON
SELENIUM	0.0002638	LB	2.4	-5	LB/TON

Emissions Comparison - SCC Details

AQD Source ID (SRN): D8065 **Reporting Year:** 2014

Source Name: Dart Container

Source Locations: 432 Hogsback Rd , MASON, MI, 48854

TOLUENE		LB							TOLUENE	0.0373728	LB	3.4	-3	LB/TON	

AQD Emission Unit ID	EU0020	Emission Unit ID	EU-BOILER7-S1	Dismantle Date			Remove Date		
SCC Code	**SCC Reference Description**	**Remove Date**	**Material Code**	**Material Throughput**	**Unit Code**	**VOC Wt%**	**Sulfur Wt%**	**Ash Wt%**	**Density**
10300501	Grades 1 and 2 Oil		DISTILLATE	0.147	E3 GAL		0.260	0.010	

SOURCE REPORTED EMISSIONS								AQD CALCULATED EMISSIONS						
Pollutant	**Amount**	**Unit**	**Emiss Basis**	**Factor**	**Exp**	**Factor Unit**	**Cntl%**	**Tier**	**Pollutant**	**Amount**	**Unit**	**Factor**	**Exp**	**Factor Unit**
AMMONIA	0.12	LB	MAERS EF	8.00	-1	LB/E3 GAL			AMMONIA	0.12	LB	8	-1	LB/E3 GAL
CO	0.74	LB	MAERS EF	5.00	0	LB/E3 GAL			CO	0.74	LB	5	0	LB/E3 GAL
LEAD	0.00	LB	MAERS EF	1.26	-3	LB/E3 GAL			LEAD	0	LB	1.26	-3	LB/E3 GAL
NOX	3.53	LB	MAERS EF	2.40	1	LB/E3 GAL			NOX	3.53	LB	2.4	1	LB/E3 GAL
PM10,PRIMARY	0.35	LB	MAERS EF	2.38	0	LB/E3 GAL			PM10,PRIMARY	0.35	LB	2.38	0	LB/E3 GAL
PM2.5,PRIMRY	0.31	LB	MAERS EF	2.13	0	LB/E3 GAL			PM2.5,PRIMRY	0.31	LB	2.13	0	LB/E3 GAL
SO2	5.43	LB	MAERS EF	1.42	2	LB/KGAL-S%			SO2	5.43	LB	1.42	2	LB/KGAL-
TNMOC	0.05	LB	MAERS EF	3.40	-1	LB/E3 GAL			TNMOC	0.05	LB	3.4	-1	LB/E3 GAL
ARSENIC		LB							ARSENIC	8.232E-05	LB	5.6	-4	LB/TON
BENZENE		LB							BENZENE	0.0004043	LB	2.75	-3	LB/TON
BENZO(A)PYRE		LB							BENZO(A)PYRE	1.97E-07	LB	1.34	-6	LB/TON
BERYLLIUM		LB							BERYLLIUM	6.174E-05	LB	4.2	-4	LB/TON
CADMIUM		LB							CADMIUM	6.174E-05	LB	4.2	-4	LB/TON
CHROMIUM		LB							CHROMIUM	6.174E-05	LB	4.2	-4	LB/TON
COPPER		LB							COPPER	0.0001235	LB	8.4	-4	LB/TON
FLUORANTHENE		LB							FLUORANTHENE	4.63E-07	LB	3.15	-6	LB/TON
FORMALDEHYDE		LB							FORMALDEHYDE	0.007056	LB	4.8	-2	LB/TON
MANGANESE		LB							MANGANESE	0.0001235	LB	8.4	-4	LB/TON
MERCURY		LB							MERCURY	6.174E-05	LB	4.2	-4	LB/TON
METHANE		LB							METHANE	0.031752	LB	2.16	-1	LB/TON
NICKEL		LB							NICKEL	6.174E-05	LB	4.2	-4	LB/TON
NITROUS OXID		LB							NITROUS OXID	0.01617	LB	1.1	-1	LB/TON
POM		LB							POM	0.0004851	LB	3.3	-3	LB/TON
SELENIUM		LB							SELENIUM	0.0003087	LB	2.1	-3	LB/TON

AQD Emission Unit ID	EU0020	Emission Unit ID	EU-BOILER7-S1	Dismantle Date			Remove Date		
SCC Code	**SCC Reference Description**	**Remove Date**	**Material Code**	**Material Throughput**	**Unit Code**	**VOC Wt%**	**Sulfur Wt%**	**Ash Wt%**	**Density**
10200602	10-100 Million Btu/hr		NATURAL GAS	87.093	MMCF		0.000	0.000	

SOURCE REPORTED EMISSIONS								AQD CALCULATED EMISSIONS						
Pollutant	**Amount**	**Unit**	**Emiss Basis**	**Factor**	**Exp**	**Factor Unit**	**Cntl%**	**Tier**	**Pollutant**	**Amount**	**Unit**	**Factor**	**Exp**	**Factor Unit**
AMMONIA	278.70	LB	MAERS EF	3.20	0	LB/MMCF			AMMONIA	278.7	LB	3.2	0	LB/MMCF
CO	7315.81	LB	MAERS EF	8.40	1	LB/MMCF			CO	7315.81	LB	8.4	1	LB/MMCF

Emissions Comparison - SCC Details

AQD Source ID (SRN): D8065 **Reporting Year:** 2014

Source Name: Dart Container

Source Locations: 432 Hogsback Rd , MASON, MI, 48854

LEAD	0.04	LB	MAERS EF	5.00	-4	LB/MMCF
NOX	8709.30	LB	MAERS EF	1.00	2	LB/MMCF
PM10,PRIMARY	661.91	LB	MAERS EF	7.60	0	LB/MMCF
PM2.5,PRIMRY	661.91	LB	MAERS EF	7.60	0	LB/MMCF
SO2	52.26	LB	MAERS EF	6.00	-1	LB/MMCF
VOC	479.01	LB	MAERS EF	5.50	0	LB/MMCF
ACENAPHTHEN		LB				
ACENAPHTHYL		LB				
ANTHRACENE		LB				
ARSENIC		LB				
BENZ(A)ANTHR		LB				
BENZ(GHI)PE		LB				
BENZENE		LB				
BENZO(A)PYRE		LB				
BENZO(B)FLUO		LB				
BENZO(K)FLUO		LB				
BERYLLIUM		LB				
CADMIUM		LB				
CHROMIUM		LB				
CHRYSENE		LB				
CO2		LB				
COBALT		LB				
COPPER		LB				
DIBENZAHAN		LB				
FLUORANTHENE		LB				
FLUORENE		LB				
FORMALDEHYDE		LB				
HEXANE		LB				
INDN(123CDPY		LB				
MANGANESE		LB				
MERCURY		LB				
METHANE		LB				
METHYLCHOLA3		LB				
METHYLNAPHT2		LB				
NAPHTHALENE		LB				
NICKEL		LB				
NITROUS OXID		LB				
PHENANTHRENE		LB				
PYRENE		LB				

LEAD	0.04	LB	5	-4	LB/MMCF
NOX	8709.3	LB	1	2	LB/MMCF
PM10,PRIMARY	661.91	LB	7.6	0	LB/MMCF
PM2.5,PRIMRY	661.91	LB	7.6	0	LB/MMCF
SO2	52.26	LB	6	-1	LB/MMCF
VOC	479.01	LB	5.5	0	LB/MMCF
ACENAPHTHEN	0.0001568	LB	1.8	-6	LB/TON
ACENAPHTHYL	0.0001568	LB	1.8	-6	LB/TON
ANTHRACENE	0.000209	LB	2.4	-6	LB/TON
ARSENIC	0.0174186	LB	2	-4	LB/TON
BENZ(A)ANTHR	0.0001568	LB	1.8	-6	LB/TON
BENZ(GHI)PE	0.0001045	LB	1.2	-6	LB/TON
BENZENE	0.1828953	LB	2.1	-3	LB/TON
BENZO(A)PYRE	0.0001045	LB	1.2	-6	LB/TON
BENZO(B)FLUO	0.0001568	LB	1.8	-6	LB/TON
BENZO(K)FLUO	0.0001568	LB	1.8	-6	LB/TON
BERYLLIUM	0.0010451	LB	1.2	-5	LB/TON
CADMIUM	0.0958023	LB	1.1	-3	LB/TON
CHROMIUM	0.1219302	LB	1.4	-3	LB/TON
CHRYSENE	0.0001568	LB	1.8	-6	LB/TON
CO2	10451160	LB	1.2	5	LB/TON
COBALT	0.0073158	LB	8.4	-5	LB/TON
COPPER	0.074029	LB	8.5	-4	LB/TON
DIBENZAHAN	0.0001045	LB	1.2	-6	LB/TON
FLUORANTHENE	0.0002613	LB	3	-6	LB/TON
FLUORENE	0.0002439	LB	2.8	-6	LB/TON
FORMALDEHYDE	6.531975	LB	7.5	-2	LB/TON
HEXANE	156.7674	LB	1.8	0	LB/TON
INDN(123CDPY	0.0001568	LB	1.8	-6	LB/TON
MANGANESE	0.0330953	LB	3.8	-4	LB/TON
MERCURY	0.0226442	LB	2.6	-4	LB/TON
METHANE	200.3139	LB	2.3	0	LB/TON
METHYLCHOLA3	0.0001568	LB	1.8	-6	LB/TON
METHYLNAPHT2	0.0020902	LB	2.4	-5	LB/TON
NAPHTHALENE	0.0531267	LB	6.1	-4	LB/TON
NICKEL	0.1828953	LB	2.1	-3	LB/TON
NITROUS OXID	191.6046	LB	2.2	0	LB/TON
PHENANTHRENE	0.0014806	LB	1.7	-5	LB/TON
PYRENE	0.0004355	LB	5	-6	LB/TON

Emissions Comparison - SCC Details

AQD Source ID (SRN): D8065 **Reporting Year:** 2014

Source Name: Dart Container

Source Locations: 432 Hogsback Rd , MASON, MI, 48854

SELENIUM		LB							SELENIUM	0.0020902	LB	2.4	-5	LB/TON
TOLUENE		LB							TOLUENE	0.2961162	LB	3.4	-3	LB/TON

AQD Emission Unit ID	EU0021	**Emission Unit ID**	EU-BOILER8-S1	**Dismantle Date**			**Remove Date**		
SCC Code	**SCC Reference Description**	**Remove Date**	**Material Code**	**Material Throughput**	**Unit Code**	**VOC Wt%**	**Sulfur Wt%**	**Ash Wt%**	**Density**
10200602	10-100 Million Btu/hr		NATURAL GAS	95.823	MMCF		0.000	0.000	

SOURCE REPORTED EMISSIONS								AQD CALCULATED EMISSIONS						
Pollutant	**Amount**	**Unit**	**Emiss Basis**	**Factor**	**Exp**	**Factor Unit**	**Cntl%**	**Tier**	**Pollutant**	**Amount**	**Unit**	**Factor**	**Exp**	**Factor Unit**
AMMONIA	306.63	LB	MAERS EF	3.20	0	LB/MMCF			AMMONIA	306.63	LB	3.2	0	LB/MMCF
CO	8049.13	LB	MAERS EF	8.40	1	LB/MMCF			CO	8049.13	LB	8.4	1	LB/MMCF
LEAD	0.05	LB	MAERS EF	5.00	-4	LB/MMCF			LEAD	0.05	LB	5	-4	LB/MMCF
NOX	9582.30	LB	MAERS EF	1.00	2	LB/MMCF			NOX	9582.3	LB	1	2	LB/MMCF
PM10,PRIMARY	728.25	LB	MAERS EF	7.60	0	LB/MMCF			PM10,PRIMARY	728.25	LB	7.6	0	LB/MMCF
PM2.5,PRIMRY	728.25	LB	MAERS EF	7.60	0	LB/MMCF			PM2.5,PRIMRY	728.25	LB	7.6	0	LB/MMCF
SO2	57.49	LB	MAERS EF	6.00	-1	LB/MMCF			SO2	57.49	LB	6	-1	LB/MMCF
VOC	527.03	LB	MAERS EF	5.50	0	LB/MMCF			VOC	527.03	LB	5.5	0	LB/MMCF
ACENAPHTHEN		LB							ACENAPHTHEN	0.0001725	LB	1.8	-6	LB/TON
ACENAPHTHYL		LB							ACENAPHTHYL	0.0001725	LB	1.8	-6	LB/TON
ANTHRACENE		LB							ANTHRACENE	0.00023	LB	2.4	-6	LB/TON
ARSENIC		LB							ARSENIC	0.0191646	LB	2	-4	LB/TON
BENZ(A)ANTHR		LB							BENZ(A)ANTHR	0.0001725	LB	1.8	-6	LB/TON
BENZ(GHI)PE		LB							BENZ(GHI)PE	0.000115	LB	1.2	-6	LB/TON
BENZENE		LB							BENZENE	0.2012283	LB	2.1	-3	LB/TON
BENZO(A)PYRE		LB							BENZO(A)PYRE	0.000115	LB	1.2	-6	LB/TON
BENZO(B)FLUO		LB							BENZO(B)FLUO	0.0001725	LB	1.8	-6	LB/TON
BENZO(K)FLUO		LB							BENZO(K)FLUO	0.0001725	LB	1.8	-6	LB/TON
BERYLLIUM		LB							BERYLLIUM	0.0011499	LB	1.2	-5	LB/TON
CADMIUM		LB							CADMIUM	0.1054053	LB	1.1	-3	LB/TON
CHROMIUM		LB							CHROMIUM	0.1341522	LB	1.4	-3	LB/TON
CHRYSENE		LB							CHRYSENE	0.0001725	LB	1.8	-6	LB/TON
CO2		LB							CO2	11498760	LB	1.2	5	LB/TON
COBALT		LB							COBALT	0.0080491	LB	8.4	-5	LB/TON
COPPER		LB							COPPER	0.0814495	LB	8.5	-4	LB/TON
DIBENZAHAN		LB							DIBENZAHAN	0.000115	LB	1.2	-6	LB/TON
FLUORANTHENE		LB							FLUORANTHENE	0.0002875	LB	3	-6	LB/TON
FLUORENE		LB							FLUORENE	0.0002683	LB	2.8	-6	LB/TON
FORMALDEHYDE		LB							FORMALDEHYDE	7.186725	LB	7.5	-2	LB/TON
HEXANE		LB							HEXANE	172.4814	LB	1.8	0	LB/TON
INDN(123CDPY		LB							INDN(123CDPY	0.0001725	LB	1.8	-6	LB/TON

Emissions Comparison - SCC Details

AQD Source ID (SRN): D8065 **Reporting Year:** 2014

Source Name: Dart Container

Source Locations: 432 Hogsback Rd , MASON, MI, 48854

MANGANESE	LB		MANGANESE	0.0364127	LB	3.8	-4	LB/TON
MERCURY	LB		MERCURY	0.024914	LB	2.6	-4	LB/TON
METHANE	LB		METHANE	220.3929	LB	2.3	0	LB/TON
METHYLCHOLA3	LB		METHYLCHOLA3	0.0001725	LB	1.8	-6	LB/TON
METHYLNAPHT2	LB		METHYLNAPHT2	0.0022998	LB	2.4	-5	LB/TON
NAPHTHALENE	LB		NAPHTHALENE	0.058452	LB	6.1	-4	LB/TON
NICKEL	LB		NICKEL	0.2012283	LB	2.1	-3	LB/TON
NITROUS OXID	LB		NITROUS OXID	210.8106	LB	2.2	0	LB/TON
PHENANTHRENE	LB		PHENANTHRENE	0.001629	LB	1.7	-5	LB/TON
PYRENE	LB		PYRENE	0.0004791	LB	5	-6	LB/TON
SELENIUM	LB		SELENIUM	0.0022998	LB	2.4	-5	LB/TON
TOLUENE	LB		TOLUENE	0.3257982	LB	3.4	-3	LB/TON

A-101 ACTIVITY INFORMATION EU/RG ID EU-CUP-S1

Source Classification Code (SCC)	Preparer's SCC Comment
3-08-008-01	Cup Production Process

SEASONAL MATERIAL USAGE SCHEDULE

IF THROUGHPUT IS >0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%

OPERATING SCHEDULE

Winter (Dec,Jan,Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)	Hours per Day	Days per Week	Days per Year	Hours/Year
22	25	27	26	24	7	300	7200

MATERIAL INFORMATION

Material Code	PRODUCT	Material Throughput	6862.5	Unit Code	TON (ENGLISH - 2000 U.S. LBS)
Preparer's material description		Expandable Polystyrene			

VOC Content	Density	BTUs (fuel)	Sulfur Content (fuel)	Ash Content (fuel)
0 weight percent				

E-101 EMISSION INFORMATION EU/RG ID EU-CUP-S1 SCC Code 3-08-008-01

Pollutant Code	Annual Emissions	Unit code	Emission Basis	List Emission Factor	Exponent	Emission Factor Unit Code	Control Efficiency %	Comment
VOC	255053.09	POUNDS	Mass Bal	2.67	-2		95	

ATTACHMENT FOR EU/RG ID EU-CUP-S1 SCC Code 3-08-008-01

Document Name: EU-CUP **File Name:** EU-CUP.xlsx

EU-101 EMISSION UNIT INFORMATION

AQD Emission Unit ID	Emission Unit ID	NAICS Code	Remove from MAERS	Installation Date	Dismantle Date
EU0016	EU-BOILER5-S1	326140	N	01/01/1970	

Preparer's Description Steam Boiler: Boiler #5 is a 600 hp steam boiler which is used to produce steam for the cup mfg process. The boilers primary fuel is natural gas with No.2 fuel oil as backup.

Design Capacity	Design Capacity Unit Numerator	Design Capacity Unit Denominator	Maximum Namplate Capacity	Rule 201 Grandfathered?	Rule 201 Exempted?
600	HP	HR		N	N

If Rule 201 exempt, Rule Number	If Rule 201 exempt, is throughput below reporting Thresholds?	Permit?	If Permitted, Permit Number	Is this Emission Unit required to report emissions to MAERS for this reporting year?
		Y	MI-ROP-D8065-2014	Y

EMISSION UNIT STACK(S)

Stack ID
SVBoiler5

A-101 ACTIVITY INFORMATION EU/RG ID EU-BOILER5-S1

Source Classification Code (SCC)	Preparer's SCC Comment
1-03-005-01	Boiler: No. 2 Fuel Oil

SEASONAL MATERIAL USAGE SCHEDULE

IF THROUGHPUT IS >0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%

OPERATING SCHEDULE

Winter (Dec,Jan,Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)	Hours per Day	Days per Week	Days per Year	Hours/Year
0	0	70	30	24	7	5	120

MATERIAL INFORMATION

Material Code	DISTILLATE	**Material Throughput**	6.35	**Unit Code**	1000 GALLONS
Preparer's material description		ULSD No. 2 Fuel Oil			

VOC Content	Density	BTUs (fuel)	Sulfur Content (fuel)	Ash Content (fuel)
		19500 BRITISH THERMAL UNITS PER POUND	0.0015 weight percent	0.01 weight percent

E-101 EMISSION INFORMATION EU/RG ID EU-BOILER5-S1 SCC Code 1-03-005-01

Pollutant Code	Annual Emissions	Unit code	Emission Basis	List Emission Factor	Exponent	Emission Factor Unit Code	Control Efficiency %	Comment
AMMONIA	5.08	POUNDS	MAERS EF	8	-1	1000 GALLONS		
CO	31.75	POUNDS	MAERS EF	5	0	1000 GALLONS		
LEAD	0.01	POUNDS	MAERS EF	1.26	-3	1000 GALLONS		
NOX	152.4	POUNDS	MAERS EF	2.4	1	1000 GALLONS		
PM10,PRIMARY	15.11	POUNDS	MAERS EF	2.38	0	1000 GALLONS		
PM2.5,PRIMRY	13.53	POUNDS	MAERS EF	2.13	0	1000 GALLONS		
SO2	1.35	POUNDS	MAERS EF	1.42	2	1000 GALLONS X SULFUR WT%		
TNMOC	2.16	POUNDS	MAERS EF	3.4	-1	1000 GALLONS		

A-101 ACTIVITY INFORMATION EU/RG ID EU-BOILER5-S1

Source Classification Code (SCC)	Preparer's SCC Comment
1-02-006-02	Boiler 10-100 MMBTU/Hr. Nat. Gas

SEASONAL MATERIAL USAGE SCHEDULE

IF THROUGHPUT IS >0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%

OPERATING SCHEDULE

Winter (Dec,Jan,Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)	Hours per Day	Days per Week	Days per Year	Hours/Year
1	1	46	52	24	7	17	408

MATERIAL INFORMATION

Material Code	NATURAL GAS	Material Throughput	3.978	Unit Code	MILLION CUBIC FEET
Preparer's material description		Natural Gas			

VOC Content	Density	BTUs (fuel)	Sulfur Content (fuel)	Ash Content (fuel)
		1050 BRITISH THERMAL UNITS PER CUBIC FOOT	0 weight percent	0 weight percent

E-101 EMISSION INFORMATION EU/RG ID EU-BOILER5-S1 SCC Code 1-02-006-02

Pollutant Code	Annual Emissions	Unit code	Emission Basis	List Emission Factor	Exponent	Emission Factor Unit Code	Control Efficiency %	Comment
AMMONIA	12.73	POUNDS	MAERS EF	3.2	0	MILLION CUBIC FEET		
CO	334.15	POUNDS	MAERS EF	8.4	1	MILLION CUBIC FEET		
LEAD	0	POUNDS	MAERS EF	5	-4	MILLION CUBIC FEET		
NOX	397.8	POUNDS	MAERS EF	1	2	MILLION CUBIC FEET		
PM10,PRIMARY	30.23	POUNDS	MAERS EF	7.6	0	MILLION CUBIC FEET		
PM2.5,PRIMRY	30.23	POUNDS	MAERS EF	7.6	0	MILLION CUBIC FEET		
SO2	2.39	POUNDS	MAERS EF	6	-1	MILLION CUBIC FEET		
VOC	21.88	POUNDS	MAERS EF	5.5	0	MILLION CUBIC FEET		

CONTROL DEVICE(S)

Control Device Code
SCRUBR,WET

EMISSION UNIT STACK(S)

Stack ID
SV-Chrome

A-101 ACTIVITY INFORMATION EU/RG ID EU-CHROMEPLATE

Source Classification Code (SCC)	Preparer's SCC Comment
3-09-010-06	Hard Chrome Electroplating

SEASONAL MATERIAL USAGE SCHEDULE

IF THROUGHPUT IS >0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%

Winter (Dec,Jan,Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
24	30	21	25

OPERATING SCHEDULE

Hours per Day	Days per Week	Days per Year	Hours/Year
16	5	185	2960

MATERIAL INFORMATION

Material Code	ELECT CHARGE	Material Throughput	1.40097e+006	Unit Code	AMPHERE HOURS
Preparer's material description		Chromium VI			

VOC Content	Density	BTUs (fuel)	Sulfur Content (fuel)	Ash Content (fuel)

E-101 EMISSION INFORMATION EU/RG ID EU-CHROMEPLATE SCC Code 3-09-010-06

Pollutant Code	Annual Emissions	Unit code	Emission Basis	List Emission Factor	Exponent	Emission Factor Unit Code	Control Efficiency %	Comment
CHROMIUM VI	0.07	POUNDS	MAERS EF					5. UNCONTROLLED EF (NO CE)

ATTACHMENT FOR EU/RG ID EU-CHROMEPLATE SCC Code 3-09-010-06

Document Name: EU-CHROMEPLATR **File Name:** EU-CHROMEPLATR.xlsx

EU-101 EMISSION UNIT INFORMATION

AQD Emission Unit ID	Emission Unit ID	NAICS Code	Remove from MAERS	Installation Date	Dismantle Date
EU0020	EU-BOILER7-S1	326140	N	01/01/1970	

Preparer's Description Steam Boiler: 700 hp boiler used to produce steam for cup mfg process. Primary fuel is natural gas with #2 fuel oil as backup.

Design Capacity	Design Capacity Unit Numerator	Design Capacity Unit Denominator	Maximum Nameplate Capacity	Rule 201 Grandfathered?	Rule 201 Exempted?
700	HP	HR		N	N

If Rule 201 exempt, Rule Number	If Rule 201 exempt, is throughput below reporting Thresholds?	Permit?	If Permitted, Permit Number	Is this Emission Unit required to report emissions to MAERS for this reporting year?
		Y	MI-ROP-D8065-2014	Y

EMISSION UNIT STACK(S)

Stack ID
SVBoiler7

A-101 ACTIVITY INFORMATION EU/RG ID EU-BOILER7-S1

Source Classification Code (SCC)	Preparer's SCC Comment
1-02-006-02	Boiler 10-100 MMBTU/Hr. Nat. Gas

SEASONAL MATERIAL USAGE SCHEDULE

IF THROUGHPUT IS >0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%

OPERATING SCHEDULE

Winter (Dec,Jan,Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)	Hours per Day	Days per Week	Days per Year	Hours/Year
24	24	23	29	24	7	286	6864

MATERIAL INFORMATION

Material Code	NATURAL GAS	**Material Throughput**	76.901	**Unit Code**	MILLION CUBIC FEET
Preparer's material description		Natural Gas			

VOC Content	Density	BTUs (fuel)	Sulfur Content (fuel)	Ash Content (fuel)
		1050 BRITISH THERMAL UNITS PER CUBIC FOOT	0 weight percent	0 weight percent

E-101 EMISSION INFORMATION EU/RG ID EU-BOILER7-S1 SCC Code 1-02-006-02

Pollutant Code	Annual Emissions	Unit code	Emission Basis	List Emission Factor	Exponent	Emission Factor Unit Code	Control Efficiency %	Comment
AMMONIA	246.08	POUNDS	MAERS EF	3.2	0	MILLION CUBIC FEET		
CO	6459.68	POUNDS	MAERS EF	8.4	1	MILLION CUBIC FEET		
LEAD	0.04	POUNDS	MAERS EF	5	-4	MILLION CUBIC FEET		
NOX	7690.1	POUNDS	MAERS EF	1	2	MILLION CUBIC FEET		
PM10,PRIMARY	584.45	POUNDS	MAERS EF	7.6	0	MILLION CUBIC FEET		
PM2.5,PRIMRY	584.45	POUNDS	MAERS EF	7.6	0	MILLION CUBIC FEET		
SO2	46.14	POUNDS	MAERS EF	6	-1	MILLION CUBIC FEET		
VOC	422.96	POUNDS	MAERS EF	5.5	0	MILLION CUBIC FEET		

A-101 ACTIVITY INFORMATION EU/RG ID EU-BOILER7-S1

Source Classification Code (SCC)	Preparer's SCC Comment
1-03-005-01	Boiler: No. 2 Fuel Oil

SEASONAL MATERIAL USAGE SCHEDULE

IF THROUGHPUT IS >0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%

Winter (Dec,Jan,Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
0	0	41	59

OPERATING SCHEDULE

Hours per Day	Days per Week	Days per Year	Hours/Year
24	7	1	24

MATERIAL INFORMATION

Material Code	DISTILLATE	Material Throughput	1.64	Unit Code	1000 GALLONS
Preparer's material description		ULSD #2 Fuel Oil			

VOC Content	Density	BTUs (fuel)	Sulfur Content (fuel)	Ash Content (fuel)
		19500 BRITISH THERMAL UNITS PER POUND	0.0015 weight percent	0.01 weight percent

E-101 EMISSION INFORMATION EU/RG ID EU-BOILER7-S1 SCC Code 1-03-005-01

Pollutant Code	Annual Emissions	Unit code	Emission Basis	List Emission Factor	Exponent	Emission Factor Unit Code	Control Efficiency %	Comment
AMMONIA	1.31	POUNDS	MAERS EF	8	-1	1000 GALLONS		
CO	8.2	POUNDS	MAERS EF	5	0	1000 GALLONS		
LEAD	0	POUNDS	MAERS EF	1.26	-3	1000 GALLONS		
NOX	39.36	POUNDS	MAERS EF	2.4	1	1000 GALLONS		
PM10,PRIMARY	3.9	POUNDS	MAERS EF	2.38	0	1000 GALLONS		
PM2.5,PRIMRY	3.49	POUNDS	MAERS EF	2.13	0	1000 GALLONS		
SO2	0.35	POUNDS	MAERS EF	1.42	2	1000 GALLONS X SULFUR WT%		
TNMOC	0.56	POUNDS	MAERS EF	3.4	-1	1000 GALLONS		

EU-101 EMISSION UNIT INFORMATION

AQD Emission Unit ID	Emission Unit ID	NAICS Code	Remove from MAERS	Installation Date	Dismantle Date
EU0021	EU-BOILER8-S1	326140	N	01/01/1970	

Preparer's Description	Steam Boiler: 800 hp boiler used for steam production for container mfg process. Primary fuel is natural gas; no backup fuel

Design Capacity	Design Capacity Unit Numerator	Design Capacity Unit Denominator	Maximum Namplate Capacity	Rule 201 Grandfathered?	Rule 201 Exempted?
800	HP	HR		N	N

If Rule 201 exempt, Rule Number	If Rule 201 exempt, is throughput below reporting Thresholds?	Permit?	If Permitted, Permit Number	Is this Emission Unit required to report emissions to MAERS for this reporting year?
		Y	MI-ROP-D8065-2014	Y

EMISSION UNIT STACK(S)

Stack ID
SVBoiler8

A-101 ACTIVITY INFORMATION EU/RG ID EU-BOILER8-S1

Source Classification Code (SCC)	Preparer's SCC Comment
1-02-006-02	Boiler 10-100 MMBTU/Hr. Nat. Gas

SEASONAL MATERIAL USAGE SCHEDULE

IF THROUGHPUT IS >0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%

OPERATING SCHEDULE

Winter (Dec,Jan,Feb)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)	Hours per Day	Days per Week	Days per Year	Hours/Year
25	27	26	22	24	7	344	8256

MATERIAL INFORMATION

Material Code	NATURAL GAS	Material Throughput	105.357	Unit Code	MILLION CUBIC FEET
Preparer's material description		Natural Gas			

VOC Content	Density	BTUs (fuel)	Sulfur Content (fuel)	Ash Content (fuel)
		1050 BRITISH THERMAL UNITS PER CUBIC FOOT	0 weight percent	0 weight percent

E-101 EMISSION INFORMATION EU/RG ID EU-BOILER8-S1 SCC Code 1-02-006-02

Pollutant Code	Annual Emissions	Unit code	Emission Basis	List Emission Factor	Exponent	Emission Factor Unit Code	Control Efficiency %	Comment
AMMONIA	337.14	POUNDS	MAERS EF	3.2	0	MILLION CUBIC FEET		
CO	8849.99	POUNDS	MAERS EF	8.4	1	MILLION CUBIC FEET		
LEAD	0.05	POUNDS	MAERS EF	5	-4	MILLION CUBIC FEET		
NOX	10535.7	POUNDS	MAERS EF	1	2	MILLION CUBIC FEET		
PM10,PRIMARY	800.71	POUNDS	MAERS EF	7.6	0	MILLION CUBIC FEET		
PM2.5,PRIMRY	800.71	POUNDS	MAERS EF	7.6	0	MILLION CUBIC FEET		
SO2	63.21	POUNDS	MAERS EF	6	-1	MILLION CUBIC FEET		
VOC	579.46	POUNDS	MAERS EF	5.5	0	MILLION CUBIC FEET		

Attachment 5:

Site Drawings and Maps

SYMBOL LEGEND

BUILDING MAIN ENTRANCE

A CAMPUS DRIVE ENTRANCE

BUILDING 1 432 HOGSBACK RD. (1)
Collection Team
Cup Plant
Engineering (Limited Presence):
Foam Cup Operations

BUILDING 2 500 HOGSBACK RD. (2)
Graphics - Procurement - Legal - Treasury - Risk Mgt. - Tax/Accounting - Regulatory Services - International Sales - Payroll

BUILDING 3 (3)
Recycle Center

BUILDING 4 3120 HOWELL RD. (4)
Molded Fiber - Pilot and Production Facility

BUILDING 5 3120 1/2 HOWELL RD. (5)
Dart Store - Samples - Information Technology IT - Cup Plant Warehouse - Facilities Engineering - Mail Services - Truck Maintenance - Machine and Tooling Manufacturing (MTM) - PTD - OST Team - Travel - HR Connect

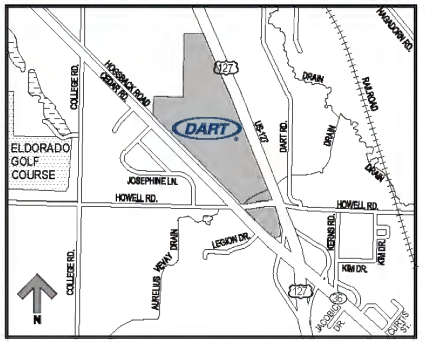
BUILDING 6 638 HOGSBACK RD. (6)
Human Resources - Management / Communications
PP&L - W&MC - Sales - Marketing - Training - Traffic - Dart Museum

BUILDING 7 706 HOGSBACK RD. (7)
Warehouse - Shipping and Receiving

BUILDING 8 706 HOGSBACK RD. (8)
Facilities Maintenance

THE VERTICAL 710 HOGSBACK RD. (9)
Engineering Technology and Innovation Center

SITE LOCATION MAP



Building 1
Cup Plant

US 127
TRIBUTE GARDEN
OTR Trucker Entrance
HOGSBACK ROAD
CEDAR STREET
HOWELL RD.
POND

MASON CAMPUS PLAN

SYMBOL LEGEND

AC	AIR COMPRESSOR INTAKE	MUA	MAKE UP AIR - SIDE EXHAUST
AU	AIR UNIT	EF	EXHAUST FAN
D	ROOF DRAIN	RV	ROOF VENT
SS	SMOKE STACKS - BOILERS	SL	SKYLIGHT
V	VENT	RTU	ROOF TOP UNIT
RH	ROOF HATCH		

NOTES

- FIRST FLOOR FINISHED FLOOR HEIGHT IS 900.44' ABOVE SEA LEVEL.
- DATUM HEIGHT MEASUREMENTS ARE TAKEN FROM THE FINISHED FLOOR TO THE BOTTOM OF ROOF STEEL. 6" WAS ADDED TO THE OVERALL HEIGHT TO COMPENSATE FOR ROOFING SYSTEM.
- THE DATUM MARKS REPRESENT ROOF HEIGHTS FROM THE FINISHED FLOOR.

Existing SVBoiler8 for EU-Boiler8

Stack height: 46' above ground & 24" diameter

Approximate Location of New SVBoiler7A; for EU-Boiler7A

Stack height: 44' above ground & 24" diameter

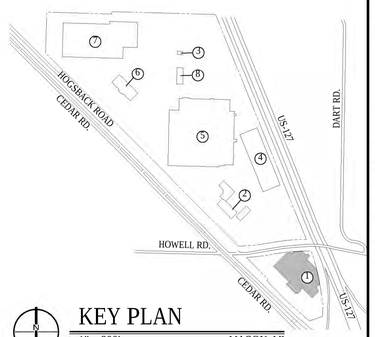
Existing SVBoiler7; to be used for EU-Boiler6

Stack height: 44' above ground & 24" diameter

COURTYARD

ARCHITECTURAL ROOF PLAN

SCALE: 1" = 20'-0"



KEY PLAN

1" = 800' MASON, MI

DRAWINGS ARE TO SCALE WHEN PLOTTED ON 'D' SIZE SHEETS (36"x24")

DART CONTAINER CORPORATION

FACILITIES ENGINEERING
3120 ½ HOWELL ROAD
MASON, MICHIGAN 48854
TEL 517 676-3803

ISSUES & REVISIONS

NO.	DATE	DESCRIPTION	BY
1	02/03/17	ISSUED	MB

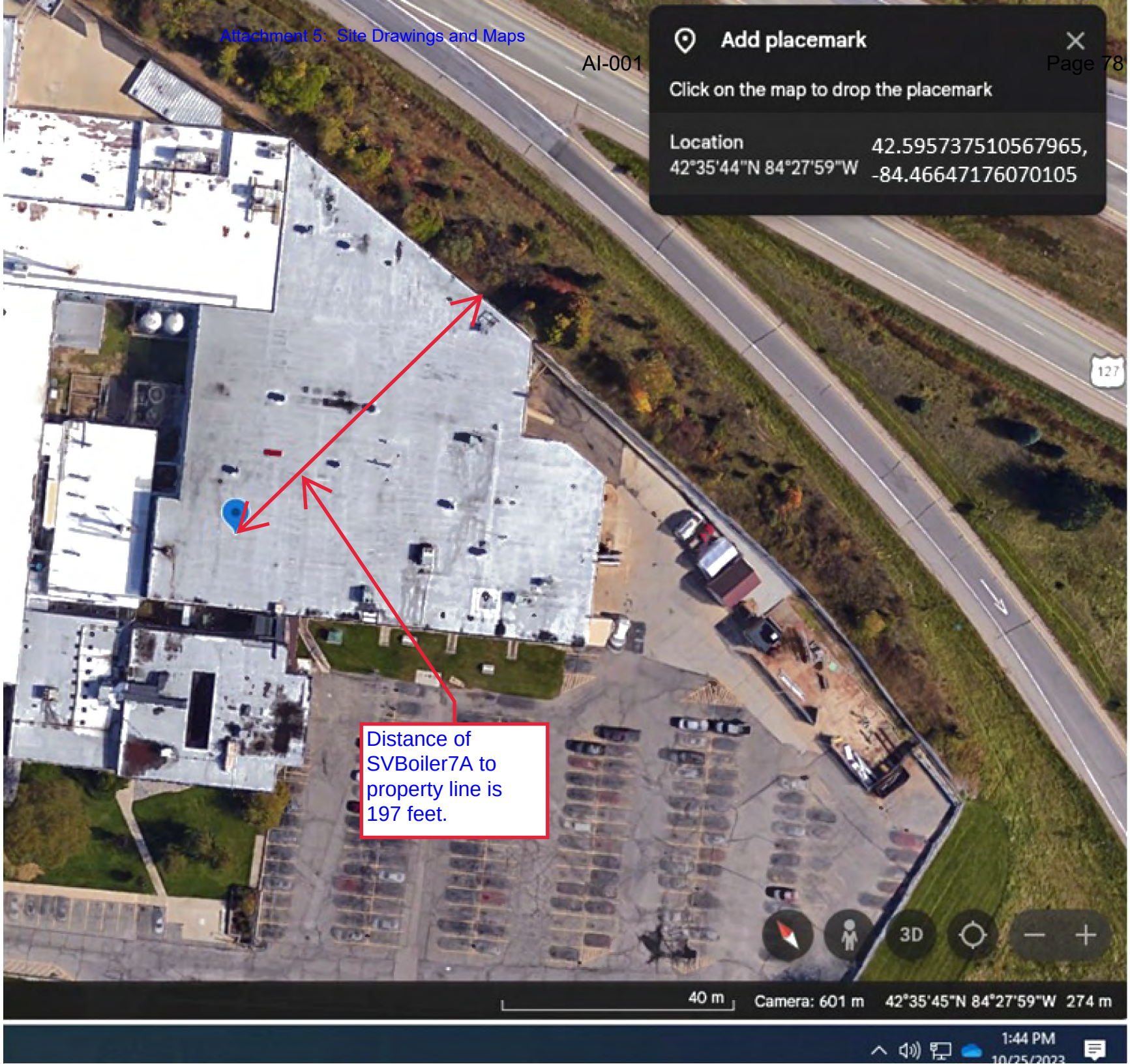
ARCHITECTURAL ROOF PLAN
MASON - SITE 71 - BUILDING 1
DART CONTAINER CORPORATION

INQUIRIES REGARDING THIS DRAWING AND ITS CONTENTS CONTACT FACILITIES PLANNING AND DESIGN 517-244-2514

LOCATION	
MASON	
500 HOGSBACK ROAD MASON, MI 48854	
PLANT NO. 1071	BUILDING NO. 01

PROJ. MGR.	SL
DESIGNED BY	MB
DRAWN BY	MB
CHECKED BY	SL

REVISED DATE	REVISION NO.
6/15/18	
FILE	7101BASE.DWG
SHEET NUMBER	A3-0


Add placemark
Click on the map to drop the placemark
Location
42°35'44"N 84°27'59"W
42.595737510567965,
-84.46647176070105
127
Distance of SVBoiler7A to property line is 197 feet.
3D
40 m
Camera: 601 m
42°35'45"N 84°27'59"W 274 m
1:44 PM
10/25/2023

Aerial View of Dart Container Building 1 and Surrounding Area

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

December 21, 2023

PERMIT TO INSTALL
149-23

ISSUED TO
Dart Container Corporation of Michigan, LLC

LOCATED AT
432 Hogsback Road
Mason, Michigan 48854

IN THE COUNTY OF
Ingham

STATE REGISTRATION NUMBER
D8065

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **December 7, 2023**	
DATE PERMIT TO INSTALL APPROVED: **December 21, 2023**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO_x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EU-CUP	The manufacturing of foam containers from expandable polystyrene (EPS) beads impregnated with pentane. Processes include pre-expanders, screens, material handling, and several steam chest molding processes.	04-01-1960 / 5-11-2018 / TBD	NA
EU-BOILER6	Boiler#6 is a 600 HP (approx. 25.1 MMBTU/hr) steam boiler fired on natural gas. Boiler also used to combust collected pentane.	TBD	NA
EU-BOILER7A	Boiler#7A is a 700 HP (approx. 29.3 MMBTU/hr) steam boiler fired on natural gas with #2 fuel oil backup. Boiler also used to combust collected pentane.	TBD	FG-MACTJJJJJJ

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EU-CUP
EMISSION UNIT CONDITIONS

DESCRIPTION

The manufacturing of foam containers from expandable polystyrene (EPS) beads impregnated with pentane. Processes include pre-expanders, screens, material handling, and several steam chest molding processes.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Three steam boilers (EU-BOILER6, EU-BOILER7A, EU-BOILER8) used to destroy emissions from a pentane collection system on the pre-expansion system and recycle extruder.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Pentane	75.33 pph	Actual hours operated per day	EU-CUP	SC V.2 SC VI.4	R 336.1225 R 336.1901
2. Pentane	219.95 tpy	12-month rolling time period as determined at the end of each month	EU-CUP	SC VI.4	R 336.1205 R 336.1702(a)

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Pentane	6.5% by weight	Instantaneous	Use of EPS beads in EU-CUP	SC V.1 SC VI.4	R 336.1702(a)

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste EPS beads (materials) for reuse, recycling, or appropriate disposal. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-CUP unless the sufficient boiler capacity is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the boilers includes a minimum pentane destruction efficiency of 95 percent (by weight) for the pentane emissions captured from Pre-expansion System. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901, R 336.1910)**

2. The permittee shall not operate EU-CUP unless a Pentane Control System is installed, calibrated, maintained and operated in a satisfactory manner. Satisfactory operation of the Pentane Control System includes a minimum pentane capture efficiency of 30 percent (by weight) for the pentane emissions captured from pre-expansion system and regular inspection and replacement of the main PCS blower filter. **(R 336.1225, R 336.1702, R 336.1901, R 336.1910)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device for the boiler exhaust stacks in the pentane control system to monitor and record the temperature on a continuous basis during operation. Temperature data recording shall consist of measurements made at equally spaced intervals at least once every 15 minutes. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall determine the pentane content of any material as applied and as received, using Test Method approved by the AQD. Upon prior approval by the AQD District Supervisor, the permittee may determine the pentane content from manufacturer's specification data sheet. If the test Method and the specification data sheet values should differ, the permittee shall use the test Method results to determine compliance. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

2. Within 180 days following installation of EU-BOILER6 and EU-BOILER7A, the permittee shall verify the capture efficiency of the pentane emissions from the Pre-expansion System as determined by the flow rate and concentration in the captured emission stream and destruction efficiency of three boilers under normal operating conditions and alternate operating conditions, by testing at owner's expense, in accordance with Department requirements for EU-CUP. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**.

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall continuously monitor flow rate (CFM) and pentane concentration of air into Pentane Control System in order to determine pounds per hour (lbs/hour) of pentane entering boilers. Operation of Pentane Control System shall be monitored on an hourly basis to ensure that the system is working properly. The monitor to measure pentane concentration shall be calibrated and operated according to manufacturer's specifications. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

2. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's specification data sheet, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1224, R 336.1225, R 336.1702, R 336.1901)**

4. The permittee shall keep the following information on a calendar day basis for the EU-CUP:
   a) Materials usage rate.
   b) Pentane content of each material as used.
   c) Pentane capture monitoring data system (flow and concentration).
   d) Hours of operation.
   e) Pentane mass emission calculations determining the hourly emission rate in pounds per hour (back calculated from calendar day emissions).
   f) Pentane mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

5. The permittee shall keep, in a satisfactory manner, records of the capture efficiency from the Pentane Control System calculated on a 12-month rolling average. Also, the permittee shall keep the hourly records of flow rate (CFM) and pentane concentration from the Pentane Control System. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

6. The permittee shall monitor and record the temperature of the flue gas from the pentane control system through boiler stacks in degrees Fahrenheit on a continuous basis, when being used as a control device for pentane emissions from EU-CUP. The temperature of the flue gas through the boiler stacks shall be measured below the stack economizer of each boiler. **(R 336.1910)**

7. An excursion from the proper destruction of pentane shall be considered any period when the measured temperature is less than 300° F. The permittee shall upon detecting the temperature of the flue gas through the boiler stacks of less than 300° F restore operation of the boiler to its normal or usual manner as expeditiously as practical. **(R 336.1910)**

8. The temperature monitor shall continuously monitor the boiler flue gas temperature as specified in SC VI.6. The averaging period is hourly. The monitor shall be calibrated as recommended by the manufacturer. **(R 336.1910)**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBoiler6	24	44	R 336.1225, R 336.1901, R 336.2803, R 336.2804
2. SVBoiler7A	24	44	R 336.1225, R 336.1901, R 336.2803, R 336.2804
3. SVBoiler8	24	46	R 336.1225, R 336.1901, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

NA

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EU-BOILER6
EMISSION UNIT CONDITIONS

DESCRIPTION

Boiler#6 is a 600 HP (approx. 25.1 MMBTU/hr) steam boiler fired on natural gas. Boiler also used to combust collected pentane.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Low NOx burner and flue gas recirculation

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas in boiler EU-BOILER6. **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The heat input capacity of EU-BOILER6 shall not exceed a maximum of 25.1 MM BTU per hour. **(40 CFR Part 60 Subpart Dc)**

2. The permittee shall not operate EU-BOILER6 unless the boiler is equipped with a low NOx burner and flue gas recirculation. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702)**

2. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the natural gas usage rate for EU-BOILER6 on a monthly basis. **(R 336.1225, R 336.1702, 40 CFR 60.48c(g))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-BOILER6. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBoiler6	24	44	R 336.1225, R 336.1901, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EU-BOILER6. **(40 CFR Part 60 Subparts A & Dc)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EU-BOILER7A
EMISSION UNIT CONDITIONS

DESCRIPTION

Boiler#7A is a 700 HP (approx. 29.3 MMBTU/hr) steam boiler fired on natural gas and No. 2 fuel oil. Boiler also used to combust collected pentane.

Flexible Group ID: FG-MACTJJJJJJ

POLLUTION CONTROL EQUIPMENT

Low NOx burner

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_x	15.54 tpy	12-month rolling time period as determined at the end of each calendar month	EU-BOILER7A	SC VI.3	R 336.1205

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas or No. 2 fuel oil in boiler EU-BOILER7A. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**

2. The permittee shall limit the amount of No. 2 fuel oil burned in EU-BOILER7A to 1,554,053 gallons per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (3))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The heat input capacity of EU-BOILER7A shall not exceed a maximum of 29.3 MM BTU per hour. **(R 336.1205, 40 CFR Part 60 Subpart Dc)**

2. The permittee shall not operate EU-BOILER7A unless the boiler is equipped with a low NOx burner. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702)**

2. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the types and amounts of fuels burned in EU-BOILER7A on a monthly and 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 60.48c(g))**

3. The permittee shall calculate the NO_x emission rates from EU-BOILER7A for each calendar month and 12-month rolling time period as determined at the end of each calendar month, using fuel usage records and an emission factor (AP-42, manufacturers or test data) that is approved by the AQD District Supervisor. **(R 336.1205)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-BOILER7A. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBoiler7A	24	44	R 336.1225, R 336.1901 R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EU-BOILER7A. **(40 CFR Part 60 Subparts A & Dc)**

2. This permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources as specified in 40 CFR Part 63 Subpart A and Subpart JJJJJJ, as they apply to EU-BOILER7A **(40 CFR Part 63 Subpart A and JJJJJJ)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

SRN: D8065	Section Number (if applicable): 1

1. Additional Information ID
AI-002

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

On subsequent pages, please find the marked up pages of D8065-MI-ROP-2020, showing the proposed incorporation of PTI 149-23.

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

EFFECTIVE DATE: December 2, 2020

ISSUED TO

Dart Container of Michigan LLC

State Registration Number (SRN): D8065

LOCATED AT

432 Hogsback Road, Mason, Ingham County, Michigan 48854

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-D8065-2020

Expiration Date: December 2, 2025

Administratively Complete ROP Renewal Application Due Between
June 2, 2024 and June 2, 2025

This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Rule 210(1) of the administrative rules promulgated under Act 451, this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-D8065-2020

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(1) of Act 451. Pursuant to Rule 214a of the administrative rules promulgated under Act 451, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environment, Great Lakes, and Energy

Brad Myott, Lansing District Supervisor

Section 1 – Mason Cup Plant

ROP No: MI-ROP-D8065-2020
Expiration Date: December 2, 2025
PTI No: MI-PTI-D8065-2020

C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-CUP	Cup manufacturing process- Dart produces foam containers made from expandable polystyrene (EPS) beads impregnated with pentane using a steam chest molding process and controlled by a pentane control system. Process equipment includes, but not limited to, dumpers, blenders, hoppers, pre-expanders, graders/screeners, bead storage bags, and molding machines. Blenders, hoppers, and pre-expanders hereinafter "Pre-expansion System." ~~The "Pentane Control System" consists of the ductwork, blower, pentane concentration monitoring device, flow measurement device, safety valves, flame arrestor, and three steam boilers (EUBOILER5, EUBOILER7, and EUBOILER 8) that controls the emissions from the EPS bead pre-expansion system.~~	04-01-1960/ 5-11-2018 / TBD	NA

Section 1 – Mason Cup Plant

ROP No: MI-ROP-D8065-2020
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Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-CUPSTORAGE	Finished containers are packaged into plastic film sleeves, boxed, and stacked. These containers are transported to a designated building for short-term storage. There are a minimal number of containers that, once produced, are stored in the cup plant as Work in Progress (WIP) and are the feedstock for UV Printing. Once printed (which typically occurs within a two-week period), these cases are transported to the designated building for short-term storage. A small percentage of these containers are stored at the cup plant in trailers at various docks, and/or in other buildings or locations, as business demands dictate. On average, the cup plant maintains a 30-day inventory of its products in short term storage.	04-01-1960	NA
EU-RECGRIND	Recycle grinder used in the recycle center to recycle both pre and post-consumer polystyrene foam.	10-01-2018	FG-RECYCLE
EU-RECDENSIFY	Recycle densifier used in the recycle center to recycle both pre and post-consumer polystyrene foam.	03-08-2019	FG-RECYLCE
~~EU-BOILER5~~	~~Boiler #5 is a 600 HP (approx.10 MMBTU/hr) steam boiler fired on natural gas with #2 fuel oil backup. Boiler also used to combust collected pentane.~~	~~01-01-1970~~	~~FG-MACT-JJJJJJ~~
~~EU-BOILER7~~	~~Boiler #7 is a 700 HP (approx.12 MMBTU/hr) steam boiler fired on natural gas with #2 fuel oil backup. Boiler also used to combust collected pentane.~~	~~01-01-1976~~	~~FG-MACT-JJJJJJ~~
EU-BOILER6	Boiler#6 is a 600 HP (approx. 25.1 MMBTU/hr) steam boiler fired on natural gas. Boiler also used to combust collected pentane.	2/22/2024	NA
EU-BOILER7A	Boiler#7A is a 700 HP (approx. 29.3 MMBTU/hr) steam boiler fired on natural gas with #2 fuel oil backup. Boiler also used to combust collected pentane.	TBD	FG-MACTJJJJJJ
EU-BOILER8	Boiler #8 is an 800 HP (approx.~~14~~ 32 MMBTU/hr) steam boiler fired on natural gas. Boiler also used to combust collected pentane.	01-01-1987	NA
EU-CUPLIGHTS	Small generator for Cup plant emergency lighting. The engine is a spark ignition natural gas fueled Tecumseh emergency stationary reciprocating internal combustion engine (RICE) rated at 5 HP.	Pre-1980	FG-RICE

Section 1 – Mason Cup Plant

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EU-UVPRINT&CLEAN	Cup printing processes utilizing UV curing ink and clean-up using isopropyl alcohol in the cup pant.	04-01-1960	FG-RULE290-1
EU-CUPCOLDCLNRS	Cold cleaners used in the cup plant building.	11-01-1989	FG-COLDCLEANERS-1

Section 1 – Mason Cup Plant

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EU-CUP
EMISSION UNIT CONDITIONS

DESCRIPTION

The manufacturing of foam containers from expandable polystyrene (EPS) beads impregnated with pentane. Processes include pre-expanders, screens, material handling, and several steam chest molding processes.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Three steam boilers (EU-BOILER~~5~~6, EU-BOILER7A, EU-BOILER8) used to destroy emissions from a pentane collection system on the pre-expansion system ~~and recycle extruder~~.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Pentane	75.33 pph[2]	Actual hours operated per day	EU-CUP	SC V.2 SC VI.4	**R 336.1225** **R 336.1901**
2. Pentane	219.95 tpy[2]	12-month rolling time period as determined at the end of each month	EU-CUP	SC VI.4	**R 336.1205** **R 336.1702(a)**

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Pentane	6.5% by weight[2]	Instantaneous	Use of EPS beads in EU-CUP	SC V.1 SC VI.4	**R 336.1702(a)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste EPS beads (materials) for reuse, recycling, or appropriate disposal. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations.[2] **(R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EU-CUP unless the sufficient boiler capacity is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the boilers includes a minimum pentane destruction efficiency of 95 percent (by weight) for the pentane emissions captured from Pre-expansion System.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1901, R 336.1910)**

2. The permittee shall not operate EU-CUP unless a Pentane Control System is installed, calibrated, maintained and operated in a satisfactory manner. Satisfactory operation of the Pentane Control System includes a minimum pentane capture efficiency of 30 percent (by weight) for the pentane emissions captured from pre-expansion system and regular inspection and replacement of the main PCS blower filter.[2] **(R 336.1225, R 336.1702, R 336.1901, R 336.1910, 40 CFR 64.7(b))**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device for the boiler exhaust stacks in the pentane control system to monitor and record the temperature on a

continuous basis during operation. Temperature data recording shall consist of measurements made at equally spaced intervals at least once every 15 minutes. **(40 CFR 64.6(c)(1)(i),(ii))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall determine the pentane content of any material as applied and as received, using Test Method approved by the AQD. Upon prior approval by the AQD District Supervisor, the permittee may determine the pentane content from manufacturer's specification data sheet. If the test Method and the specification data sheet values should differ, the permittee shall use the test Method results to determine compliance.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

2. Within 180 days following installation of EU-BOILER6 and EU-BOILER7A, the permittee shall verify the capture efficiency of the pentane emissions from the Pre-expansion System as determined by the flow rate and concentration in the captured emission stream and destruction efficiency of three boilers under normal operating conditions and alternate operating conditions, by testing at owner's expense, in accordance with Department requirements for EU-CUP. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004).**

~~2.~~3. The permittee shall verify the capture efficiency of the pentane emissions from the Pre-expansion System as determined by the flow rate and concentration in the captured emission stream and destruction efficiency of three boilers under normal operating conditions and alternate operating conditions, by testing at owner's expense, in accordance with Department requirements for EU-CUP-S1. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. Testing will be required once every five years and may be coordinated with this ROP renewal issuance. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21)**.[2]

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall continuously monitor flow rate (CFM) and pentane concentration of air into Pentane Control System in order to determine pounds per hour (lbs/hour) of pentane entering boilers. Operation of Pentane Control System shall be monitored on an hourly basis to ensure that the system is working properly. The monitor to measure pentane concentration shall be calibrated and operated according to manufacturer's specifications.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1901, 40 CFR 64.3(a)(2))**

2. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's specification data sheet, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request.[2] **(R 336.1224, R 336.1225, R 336.1702, R 336.1901)**

Section 1 – Mason Cup Plant

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4. The permittee shall keep the following information on a calendar day basis for the EU-CUP:
   a. Materials usage rate.
   b. Pentane content of each material as used.
   c. Pentane capture monitoring data system (flow and concentration).
   d. Hours of operation.
   e. Pentane mass emission calculations determining the hourly emission rate in pounds per hour (back calculated from calendar day emissions).
   f. Pentane mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1901)**

5. The permittee shall keep, in a satisfactory manner, records of the capture efficiency from the Pentane Control System calculated on a 12-month rolling average. Also, the permittee shall keep the hourly records of flow rate (CFM) and pentane concentration from the Pentane Control System. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request.[2] **(R 336.1205, R 336.1225, R 336.1702, R 336.1901, 40 CFR 64.3(a)(2))**

6. The permittee shall monitor and record the temperature of the flue gas from the pentane control system through boiler stacks in degrees Fahrenheit on a continuous basis, when being used as a control device for pentane emissions from EU-CUP. The temperature of the flue gas through the boiler stacks shall be measured below the stack economizer of each boiler.[2] **(R 336.1201(3), 40 CFR 64.6(c)(1)(i) and (ii))**

7. An excursion from the proper destruction of pentane shall be considered any period when the measured temperature is less than 300° F. The permittee shall upon detecting the temperature of the flue gas through the boiler stacks of less than 300° F restore operation of the boiler to its normal or usual manner as expeditiously as practical.[2] **(R 336.1201(3), 40 CFR 64.6(c)(2), 40 CFR 64.7(d))**

8. The temperature monitor shall continuously monitor the boiler flue gas temperature as specified in SC VI.6. The averaging period is hourly. The monitor shall be calibrated as recommended by the manufacturer. **(40 CFR 64.6(c)(1)(iii))**

9. 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). **(40 CFR 64.7(d))**

10. 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 64.6(c)(3), 40 CFR 64.7(c))**

11. The permittee shall properly maintain the monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**

12. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan and any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions. **(40 CFR 64.9(b)(1))**

13. The permittee shall promptly notify AQD for the need to modify the CAM Plan if the existing plan is found to be inadequate and shall submit a proposed modification to the ROP if necessary.[2] **(R 336.1201(3), 40 CFR 64.7(e))**

14. For each control device in operation, the permittee shall conduct bypass monitoring for each bypass line such that the valve or closure method cannot be opened without creating an alarm condition for which a record shall

be made. Records of the bypass line that was opened and the length of time the bypass line was opened shall be kept on file. **(40 CFR 64.3(a)(2))**

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. Each semi-annual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions and/or exceedances and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**

5. Each semi-annual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
~~1. SVBoiler5~~	~~30[2]~~	~~28[2]~~	~~**R 336.1225 R 336.1901 40 CFR 52.21(c) & (d)**~~
~~2. SVBoiler7~~	~~24[2]~~	~~44[2]~~	~~**R 336.1225 R 336.1901 40 CFR 52.21(c) & (d)**~~
1. SVBoiler6	24	44	R 336.1225, R 336.1901, R 336.2803, R 336.2804
2. SVBoiler7A	24	44	R 336.1225, R 336.1901, R 336.2803, R 336.2804
3. SVBoiler8	24[2]	46[2]	**R 336.1225 R 336.1901 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**

2. If the permittee 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 permittee shall promptly notify the AQD and if necessary, submit a proposed

Section 1 – Mason Cup Plant

modification of the ROP and CAM Plan 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 64.7(e))**

Footnotes:

[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

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Expiration Date: December 2, 2025
PTI No: MI-PTI-D8065-2020

EU-BOILER6
EMISSION UNIT CONDITIONS

DESCRIPTION

Boiler#6 is a 600 HP (approx. 25.1 MMBTU/hr) steam boiler fired on natural gas. Boiler also used to combust collected pentane.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Low NOx burner and flue gas recirculation

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas in boiler EU-BOILER6. **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The heat input capacity of EU-BOILER6 shall not exceed a maximum of 25.1 MM BTU per hour. **(40 CFR Part 60 Subpart Dc)**

2. The permittee shall not operate EU-BOILER6 unless the boiler is equipped with a low NOx burner and flue gas recirculation. **(R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702)**

2. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the natural gas usage rate for EU-BOILER6 on a monthly basis. **(R 336.1225, R 336.1702, 40 CFR 60.48c(g))**

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VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-BOILER6. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBoiler6	24	44	R 336.1225, R 336.1901, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EU-BOILER6. **(40 CFR Part 60 Subparts A & Dc)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

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D. FLEXIBLE GROUP SPECIAL CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-RECYCLE	EPS scrap recycling process. Includes existing EU-RECGRIND; and EU-RECDENSIFY.	EU-RECGRIND EU-RECDENSIFY
FG-RICE	Existing stationary reciprocating internal combustion engines that are used to generate power and lighting during an emergency.	EU-CUPLIGHTS
FG-MACTJJJJJJ	~~Two~~ high pressure steam boiler~~s~~ fired on natural gas and equipped with fuel oil as backup. Subject to National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources.	~~EU-BOILER5~~ EU-BOILER7A
FG-COLDCLEANERS-1	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	EU-CUPCOLDCLNRS
FG-RULE290-1	Cup printing processes utilizing UV curing ink and clean-up using isopropyl alcohol in the Cup Plant.	EU-UVPRINT&CLEAN

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FG-MACTJJJJJJ
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Conditions for any existing large (≥10 mmBtu/hr) oil-fired industrial, commercial or institutional boiler as defined in 40 CFR 63.11237 (excluding seasonal and limited-use boilers and boilers equipped with oxygen trim systems) that is located at, or is part of, an area source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, except as specified in 40 CFR 63.11195.

Emission Unit: ~~EU-BOILER5 and~~ EU-BOILER7A.

POLLUTION CONTROL EQUIPMENT

Low NOx burner ~~NA~~

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~
1. NO_x	15.54 tpy	12-month rolling time period as determined at the end of each calendar month	EU-BOILER7A	SC VI.3	R 336.1205

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas or No. 2 fuel oil in boiler EU-BOILER7A. **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a))**

~~1.~~ The permittee shall limit the amount of No. 2 fuel oil burned in EU-BOILER7A to 1,554,053 gallons per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(1)(a) & (3))**~~The boiler shall comply with the definition of the oil subcategory: the boiler burns any liquid fuel and is not in either the biomass or coal subcategories. **(40 CFR 63, 63.11200(c), 40 CFR 63.11237)**~~

III. PROCESS/OPERATIONAL RESTRICTION(S)

N/A

~~1. The permittee must comply with each work practice standard, emission reduction measure, and management practice specified in Table 2 to 40 CFR Part 63, Subpart JJJJJJ that applies to the permittee's boiler. An energy assessment completed on or after January 1, 2008 that meets or is amended to meet the energy assessment requirements in Table 2 of 40 CFR Part 63, Subpart JJJJJJ satisfies the energy assessment requirement. A facility that operates under an energy management program established through energy management systems compatible with ISO 50001, that includes the affected units, also satisfies the energy assessment requirement. **(40 CFR 63.11201(b))**~~

~~2. The permittee must conduct a performance tune-up according to 40 CFR 63.11223(b), stated in SC III.4, and the permittee must submit a signed statement in the Notification of Compliance Status report that indicates that the permittee conducted a tune-up of the boiler. **(40 CFR 63.11214(b))**~~

~~3. For affected sources subject to the work practice standard or the management practices of a tune-up, the permittee must conduct a performance tune-up according to paragraph (b) of 40 CFR 63.11223, stated in SC III.4,~~

~~and keep records as required in 40 CFR 63.11225(c), stated in SC VI.1, to demonstrate continuous compliance. The permittee must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.~~ **~~(40 CFR 63.11223(a))~~**

~~4. The permittee must conduct a tune-up of the boiler biennially to demonstrate continuous compliance as specified in paragraphs (b)(1) through (7) of 40 CFR 63.11223, as listed below. Each biennial tune-up must be conducted no more than 25 months after the previous tune-up.~~ **~~(40 CFR 63.11223(b))~~**

~~a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.~~ **~~(40 CFR 63.11223(b)(1))~~**

~~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.~~ **~~(40 CFR 63.11223(b)(2))~~**

~~c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.~~ **~~(40 CFR 63.11223(b)(3))~~**

~~d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.~~ **~~(40 CFR 63.11223(b)(4))~~**

~~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.~~ **~~(40 CFR 63.11223(b)(5))~~**

~~f. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (b)(6)(i) through (iii) of 40 CFR 63.11223, as listed below.~~ **~~(40 CFR 63.11223(b)(6))~~**

~~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.~~ **~~(40 CFR 63.11223(b)(6)(i))~~**

~~ii. A description of any corrective actions taken as a part of the tune-up of the boiler.~~ **~~(40 CFR 63.11223(b)(6)(ii))~~**

~~iii. The type and amount of fuel used over the 12 months prior to the tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.~~ **~~(40 CFR 63.11223(b)(6)(iii))~~**

~~g. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of startup.~~ **~~(40 CFR 63.11223(b)(7))~~**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The heat input capacity of EU-BOILER7A shall not exceed a maximum of 29.3 MM BTU per hour. **(R 336.1205, 40 CFR Part 60 Subpart Dc)**

2. The permittee shall not operate EU-BOILER7A unless the boiler is equipped with a low NOx burner. **(R 336.1910)**

~~1. The boiler shall have a heat input capacity of equal to or greater than 10 MMBtu per hour.~~ **~~(40 CFR 63, Subpart JJJJJJ)~~**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

NA

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VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702)**

2. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the types and amounts of fuels burned in EU-BOILER7A on a monthly and 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702, 40 CFR 60.48c(g))**

1. The permittee shall calculate the NO_x emission rates from EU-BOILER7A for each calendar month and 12-month rolling time period as determined at the end of each calendar month, using fuel usage records and an emission factor (AP-42, manufacturers or test data) that is approved by the AQD District Supervisor. **(R 336.1205)** The permittee must maintain the records specified in paragraphs (c)(1) through (7) of 40 CFR 63.11225, as listed below. **(40 CFR 63.11225(c))**
   a. As required in 40 CFR 63.10(b)(2)(xiv), the permittee must keep a copy of each notification and report that the permittee submitted to comply with 40 CFR Part 63, Subpart JJJJJJ and all documentation supporting any Initial Notification or Notification of Compliance Status that the permittee submitted. **(40 CFR 63.11225(c)(1))**
   b. The permittee must keep records to document conformance with the work practices, emission reduction measures, and management practices required by 40 CFR 63.11214 and 40 CFR 63.11223 as specified in paragraphs (c)(2)(i) through (vi) of 40 CFR 63.11225, as listed below. **(40 CFR 63.11225(c)(2))**
      i. Records must identify each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned. **(40 CFR 63.11225(c)(2)(i))**
      ii. For operating units that combust non-hazardous secondary materials that have been determined not to be solid waste pursuant to 40 CFR 241.3(b)(1), the permittee must keep a record which documents how the secondary material meets each of the legitimacy criteria under 40 CFR 241.3(d)(1). If the permittee combusts a fuel that has been processed from a discarded non-hazardous secondary material pursuant to 40 CFR 241.3(b)(4), the permittee must keep records as to how the operations that produced the fuel satisfies the definition of processing in 40 CFR 241.2 and each of the legitimacy criteria in 40 CFR 241.3(d)(1). If the fuel received a non-waste determination pursuant to the petition process submitted under 40 CFR 241.3(c), the permittee must keep a record that documents how the fuel satisfies the requirements of the petition process. For operating units that combust non-hazardous secondary materials as fuel per 40 CFR 241.4, the permittee must keep records documenting that the material is a listed non-waste under 40 CFR 241.4(a). **(40 CFR 63.11225(c)(2)(ii))**
      iii. For each boiler required to conduct an energy assessment, the permittee must keep a copy of the energy assessment report. **(40 CFR 63.11225(c)(2)(iii))**
   c. Records of the occurrence and duration of each malfunction of the boiler. **(40 CFR 63.11225(c)(4))**
   d. Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in 40 CFR 63.11205(a), stated in SC IX.4, including corrective actions to restore the malfunctioning boiler to its normal or usual manner of operation. **(40 CFR 63.11225(c)(5))**

2. The permittee shall record fuel oil usage and run time duration while utilizing fuel oil on a monthly and 12-month rolling time period. **(R 336.1213(2))**

3. The permittee's records must be in a form suitable and readily available for expeditious review. The permittee must keep each record for 5 years following the date of each recorded action. The permittee must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. The permittee may keep the records off site for the remaining 3 years. **(40 CFR 63.11225(d))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction,

reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EU-BOILER7A. **(R 336.1201(7)(a))**

~~1.~~2. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

~~2.~~3. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

~~3.~~4. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

~~4.~~5. The permittee must submit a signed certification in the Notification of Compliance Status report that an energy assessment of the boiler and its energy use systems was completed according to Table 2 to 40 CFR Part 63, Subpart JJJJJJ and is an accurate depiction of the permittee's facility. **(40 CFR 63.11214(c))**

~~5.~~6. The permittee must submit the notifications specified in paragraphs (a)(1) through (5) of 40 CFR 63.11225, as listed below, to the administrator. **(40 CFR 63.11225(a))**

a. The permittee must submit all of the notifications in 40 CFR 63.7(b); 63.8(e) and (f); and 63.9(b) through (e), (g), and (h) that apply to the permittee by the dates specified in paragraphs (a)(2) and (4) of 40 CFR 63.11225. **(40 CFR 63.11225(a)(1))**

b. The permittee must submit the Notification of Compliance Status no later than 120 days after the applicable compliance date specified in 40 CFR 63.11196, stated in SC IX.3. The permittee must submit the Notification of Compliance Status in accordance with paragraphs (a)(4)(i) and (vi) of 40 CFR 63.11225, as listed below. The Notification of Compliance Status must include the information and certification(s) of compliance in paragraphs (a)(4)(i) through (v) of 40 CFR 63.11225, as applicable, and signed by a responsible official. **(40 CFR 63.11225(a)(4))**

i. The permittee must submit the information required in 40 CFR 63.9(h)(2), except the information listed in 40 CFR 63.9(h)(2)(i)(B), (D), (E), and (F). **(40 CFR 63.11225(a)(4)(i))**

ii. "This facility complies with the requirements in 40 CFR 63.11214 to conduct an initial tune-up of the boiler." **(40 CFR 63.11225(a)(4)(ii))**

iii. "This facility has had an energy assessment performed according to 40 CFR 63.11214(c)." **(40 CFR 63.11225(a)(4)(iii))**

iv. For units that do not qualify for a statutory exemption as provided in 40 CFR 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit." **(40 CFR 63.11225(a)(4)(v))**

v. The notification must be submitted electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to 40 CFR Part 63, Subpart JJJJJJ is not available in CEDRI at the time that the report is due, the written Notification of Compliance Status must be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.11225(a)(4)(vi))**

~~6.~~7. The permittee must prepare, by March 1 of each year, and submit to the delegated authority upon request, an annual compliance certification report for the previous calendar year containing the information specified in paragraphs (b)(1) through (4) of 40 CFR 63.11225. For boilers that are subject only to a requirement to conduct a biennial tune-up according to 40 CFR 63.11223(a) and not subject to emission limits or operating limits, the permittee may prepare only a biennial compliance report as specified in paragraphs (b)(1) and (2) of 40 CFR 63.11225, as listed below. **(40 CFR 63.11225(b))**

a. Company name and address. **(40 CFR 63.11225(b)(1))**

b. Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of 40 CFR Part 63, Subpart JJJJJJ. The permittee's notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official: **(40 CFR 63.11225(b)(2))**

i. "This facility complies with the requirements in 40 CFR 63.11223 to conduct a biennial or 5-year

tune-up, as applicable, of each boiler." **(40 CFR 63.11225(b)(2)(i))**

ii. For units that do not qualify for a statutory exemption as provided in 40 CFR 129(g)(1) of the Clean Air Act: "No secondary materials that are solid waste were combusted in any affected unit." **(40 CFR 63.11225(b)(2)(ii))**

~~7.~~8. If the permittee has switched fuels or made a physical change to the boiler and the fuel switch or change resulted in the applicability of a different subcategory within 40 CFR Part 63, Subpart JJJJJJ, in the boiler becoming subject to 40 CFR Part 63, Subpart JJJJJJ, or in the boiler switching out of 40 CFR Part 63, Subpart JJJJJJ due to a change to 100 percent natural gas, or the permittee has taken a permit limit that resulted in the permittee being subject to 40 CFR Part 63, Subpart JJJJJJ, the permittee must provide notice of the date upon which the permittee switched fuels, made the physical change, or took a permit limit within 30 days of the change. The notification must identify: **(40 CFR 63.11225(g))**

a. The name of the owner or operator of the affected source, the location of the source, the boiler(s) that have switched fuels, were physically changed, or took a permit limit, and the date of the notice. **(40 CFR 63.11225(g)(1))**

b. The date upon which the fuel switch, physical change, or permit limit occurred. **(40 CFR 63.11225(g)(2))**

Commented [DW1]: Can this be deleted? Or does it need to stay?

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

~~NA~~

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBoiler7A	24	44	R 336.1225, R 336.1901 R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Dc, as they apply to EU-BOILER7A. **(40 CFR Part 60 Subparts A & Dc)**

2. This permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers Area Sources as specified in 40 CFR Part 63 Subpart A and Subpart JJJJJJ, as they apply to EU-BOILER7A **(40 CFR Part 63 Subpart A and JJJJJJ)**

Footnotes:

[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

~~1. At all times the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.11205(a))**~~

~~2. The permittee shall comply with all applicable provisions of the National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers Area Sources as specified in 40~~

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~~CFR Part 63, Subparts A and JJJJJJ.~~ **~~(40 CFR Part 63, Subparts A and JJJJJJ)~~**

~~Footnotes~~:
~~[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).~~
~~[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).~~

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The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. **(R 336.1213(4)(a), R 336.1119(a)(ii))**

Appendix 3-1. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 4-1. Recordkeeping

Specific recordkeeping requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 5-1. Testing Procedures

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6-1. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-D8065-2014. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-D8065-2008 is being reissued as Source-Wide PTI No. MI-PTI-D8065-2014A.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
149-23	NA	Installation of new boilers for process steam generation and pentane destruction.	EU-CUP EU-BOILER6 EU-BOILER7A
68-18	NA	Modification of conditions for cup manufacturing process. Foam containers made from expandable polystyrene (EPS) beads impregnated with pentane.	EU-CUP
205-18A	NA	Modification of SC V.1 and SC V.2	EU-RECGRIND EU-RECDENSIFY FG-RECYCLE

Appendix 7-1. Emission Calculations

1. The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in EU-CUP.

   Collected emissions from EU-CUP (lbs) = (Amt. from log data (lbs)) =Y

Pentane emissions from EU-CUP (tons) = [(EPS throughput(lbs) * 0.0267) - (Y * X)] / 2000 (lbs)

% Capture efficiency of EU-CUP-S1 = [Y/(EPS throughput (lbs)* 0.0267)] * 100

Note: The above calculations are needed for calendar time periods of daily, monthly, and yearly.

Variable List

X = .95 (This is the assumed boiler destruction efficiency)
Y = Collected Pentane emissions from EU-CUP
EPS = Expandable polystyrene in pounds
EU-CUP describes the foam cup production emission unit

Emission Factors:

The following list contains the amount of Pentane emitted per pound of EPS processed. This emission factor is based on testing that was done at Dart Container, 500 Hogsback Road, Mason, Michigan. The test results can be found in a report titled BACT Report For The Mason, Michigan Plant Of Dart Container Corporation Of Michigan, July 14, 1989.

0.0267 lbs. Pentane / 1 lb. EPS

Appendix 8-1. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.