



State of Ohio Environmental Protection Agency

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Columbus, OH 43216-1049

07/30/99

CERTIFIED MAIL

RE: Draft Title V Chapter 3745-77 permit

02-85-01-0001
The Quality Castings Company
Steve Steiner N/A
1200 North Main Street
Orrville, OH 44667-0058

Dear Steve Steiner:

You are hereby notified that the Ohio Environmental Protection Agency has prepared the enclosed draft of the Title V permit for the facility referenced above. The purpose of this draft is to solicit public comments. A public notice concerning the draft will appear in the Ohio EPA Weekly Review and the major newspaper in the county where the facility is located. Comments and/or a request for a public hearing from the public and any affected parties will be accepted by Northeast District Office within 30 days of the date of publication in the newspaper. You will be notified in writing if a public hearing is scheduled.

A decision on processing the Title V permit will be made after consideration of written public comments and oral testimony (if a public hearing is conducted). After the comment period, you will be provided with a Preliminary Proposed Title V permit and an opportunity to comment prior to the Proposed Title V permit submittal to USEPA.

If you have any questions or comments concerning this draft Title V permit, please contact Northeast District Office.

Very truly yours,

A handwritten signature in black ink that reads "Thomas G. Rigo". The signature is written in a cursive style with a large, stylized initial "T".

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA (electronic)
Jim Orlemann, DAPC Engineering
Michael Ahern, DAPC PMU
Northeast District Office



Ohio EPA

State of Ohio Environmental Protection Agency

TITLE V PERMIT

Issue Date: 07/30/99

DRAFT

Effective Date:

Expiration Date:

This document constitutes issuance to:

The Quality Castings Company
1200 North Main Street
Orrville, OH 44667-0058

of a Title V permit for Facility ID: 02-85-01-0001

Emissions Unit ID (Company ID)/

Emissions Unit Activity Description:

F002 (Scrap reclaimer)

Vibrating mechanical separator used to remove metal from sand

F003 (Furnace #1)

Coreless induction furnace 3750 KW

F004 (Furnace #2)

Coreless induction furnace 3750 KW

F005 (Furnace #3)

Coreless induction furnace 3750 KW

F006 (Roadways & parking)

Roadways and parking for employees

F008 (Nobake mold mixing & making line)

Phenolic Urethane nobake mold system

F010 (Nobake shakeout)

Shakeout of nobake molds

F012 (#7 #8 #9 pour/cool lines)

Pouring and cooling area for molds made on the #7 #8 #9 mold lines

F013 (Inliner mold line)

Green sand molding using the Osborn Inliner automatic molding machine

F015 (Hunter mold line)

Green sand molding using the Hunter molding machine

F016 (Hunter pour/cool line)

Pouring and cooling area for molds made on the Hunter molding machine

F017 (722 mold line)

Green sand molding using the Osborn 722 cope and drag style of molding

F018 (722 pour/cool line)

Pouring and cooling area for the molds made on the Osborn 722 molding machine

F019 (Nobake core line including mixer)

Phenolic Urethane nobake core production

F020 (Ductile Iron Inoculation I)

Ladle treatment style ductile iron production

F021 (Ductile Iron Inoculation II)

Ladle treatment style ductile iron production

F022 (Core sand receiving and transfer)

Loading and unloading sand for core making

F023 (Mold sand receiving and transfer)

Loading and unloading sand and core making with the equipment described below

P002 (Pre-74' - 30" snag grinders)

Seven 30" snag grinders used to grind iron castings

P011 (Holding/Melting furnaces #4 & #5)

Two furnaces - each 5 ton capacity used for "holding iron"

P012 (Two-pangborn tumblast machines)

Tumblast machines used to remove sand from the castings

P013 (South Wheelabrator)

Shot blast machine used to remove sand from castings

P017 (East end Shakeout)

Shakeout system serving the 722, Hunter and #7 #8 #9 mold lines

P021 (Tabor cut-off Saws)

Three saws used to remove the gating system from the actual casting

P023 (East end muller)

Green sand muller which makes mold sand for the 722, Hunter and #7 #8 #9 molding systems

P025 (Scrap preheater)

Gas fired heater used to dry the scrap before it enters the melt furnaces-10 million BTU/hr

P026 (North Wheelabrator)

Shot blast machine used to remove sand from castings

P027 (Simpson Muller)

Green sand muller which makes mold sand for the Osborn Inliner molding system

P029 (Furnace #6)

20 ton graphite rod "holding furnace"

P030 (Leampe LL-5)

Resin based core making operation controlled with an acid scrubber.

P032 (L-40)

Sand cores are made using an L-40 size laempe core machine

P033 (East L-20)

Sand cores are made using an L-20 size laempe core machine

P034 (West L-20)

Sand cores are made using an L-20 size laempe core machine

P036 (Inliner pour/cool line)

Pouring and cooling area for the molds made on the Osborn Inliner automatic molding machine

P038 (Pipe End Grinder)

Surface grinder used to remove metal from castings

P901 (Inliner shakeout)

Shakeout for the Osborn Inliner automatic molding machine

P902 (Back Floor Mold Sand System)

Mold Sand Handling System

P903 (Inliner Shakeout Sand Recycle System)

Sand system used to return sand from shakeout to recycle silos.

You will be contacted approximately eighteen (18) months prior to the expiration date regarding the renewal of this permit. If you are not contacted, please contact the appropriate Ohio EPA District Office or local air agency listed below. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-04(A) and in accordance with the terms of this permit beyond the expiration date, provided that a complete renewal application is submitted no earlier than eighteen (18) months and no later than one-hundred eighty (180) days prior to the expiration date.

Described below is the current Ohio EPA District Office or local air agency that is responsible for processing and administering your Title V permit:

Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087
(330) 425-9171

OHIO ENVIRONMENTAL PROTECTION AGENCY

Christopher Jones
Director

PART I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Section

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. These quarterly written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the submission of monitoring reports every six months and OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations except malfunctions, which shall be reported in accordance with OAC rule 3745-15-06. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.) See B.8 below if no deviations occurred during the quarter.
 - iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, recordkeeping, and reporting

requirements. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports submitted pursuant to OAC rule 3745-15-06 shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of deviations caused by malfunctions or upsets.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.

- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78.

8. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

9. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these general terms and conditions shall apply to all operating scenarios authorized in this permit.

10. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

- a. Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

- b. This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.
- c. The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.
- d. The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

11. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

12. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

- i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
 - d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the appropriate Ohio EPA District Office or local air agency in the following manner and with the following content:
 - i. Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted on or before April 30th of each year during the permit term.
 - ii. Compliance certifications shall include the following:
 - (a) An identification of each term or condition of this permit that is the basis of the certification.
 - (b) The permittee's current compliance status.
 - (c) Whether compliance was continuous or intermittent.
 - (d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
 - (e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
 - iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

13. Permit Shield

- a. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.
- b. This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

14. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio

EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

15. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

16. Off Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

- a. The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition;
- b. The permittee provides contemporaneous written notice of the change to the director and the administrator, except that no such notice shall be required for changes that qualify as insignificant emission levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change;
- c. The change shall not qualify for the permit shield under OAC rule 3745-77-07(F);
- d. The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes; and
- e. The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit to install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(For further clarification, the permittee can refer to Engineering Guide #63 that is available in their STARSHIP software package.)

17. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any

defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

B. State Only Enforceable Section

1. Permit to Install Requirement

Prior to the “installation” or “modification” of any “air contaminant source,” as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

Part II - Specific Facility Terms and Conditions

A. State and Federally Enforcable Section

None

B. State Only Enforceable Section

1. The following insignificant emissions units are located at this facility:

B008 - gas fired heater #4
B009 - gas heater #4
F001 - refuse sand piles
F009 - phenolic urethane pouring and cooling
P028 - core drying oven
Z001 - core dryer #2
Z002 - welding
Z004 - ladle lining mixer
Z016 - heat treat furnace
Z017 - heat treat furnace
Z018 - shell blower #1
Z019 - shell blower #2
Z020 - shell blower #3
Z021 - shell blower #4
Z022 - shell blower #5
Z023 - shell blower #6
Z024 - shell blower #7
Z025 - shell blower #8
Z026 - shell blower #9
Z028 - generator
Z031 - #7 mold line
Z032 - #8 mold line
Z033 - #9 mold line
Z034 - ladle preheater #1
Z035 - ladle preheater #2
Z036 - ladle preheater #3
Z037 - ladle preheater #4
Z038 - ladle preheater #5
Z039 - ladle preheater #6
Z040 - ladle preheater #7
Z041 - ladle preheater #8
Z048 - oil sand muller
Z049 - cold cleaner 1
Z050 - cold cleaner 2
Z051 - cold cleaner 3
Z052 - wood saw
Z053 - belt sander
Z054 - disk sander

Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, as well as any emissions limitations and/or control requirements contained within a Permit to Install for the emissions unit.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Scrap reclaimer (F002)

Activity Description: Vibrating mechanical separator used to remove metal from sand

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
scrap reclaimer	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Furnace #1 (F003)
Activity Description: Coreless induction furnace 3750 KW

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
electric induction furnace #1, with a maximum melt rate of 6 TPH, charging, melting, tapping, metal transfer and alloy refining for producing iron	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Furnace #2 (F004)
Activity Description: Coreless induction furnace 3750 KW

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
electric induction furnace #2, with a maximum melt rate of 6 TPH: charging, melting, tapping, metal transfer and alloy refining for producing iron	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Furnace #3 (F005)
Activity Description: Coreless induction furnace 3750 KW

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
electric induction furnace #3, with a maximum melt rate of 6 TPH: charging, melting, tapping, metal transfer and alloy refining for producing iron	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Roadways & parking (F006)
Activity Description: Roadways and parking for employees

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
plant roadways and parking areas	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Nobake mold mixing & making line (F008)
Activity Description: Phenolic Urethane nobake mold system

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Phenolic Urethane no-bake mold system	OAC rule 3745-21-07(G)(9)(i)	The provisions of OAC rule 3745-21-07(G) shall not apply to this emissions unit.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a Although OAC rule 3745-21-07(G)(9)(i) specifies an exemption for the use of a phenolic urethane no-bake resin binder system in foundry core-making and mold-making operations, the exemption is not yet part of the federally approved SIP. This new exemption was promulgated by the Ohio EPA and became effective on June 15, 1999. The Ohio EPA has received confirmation from the USEPA concerning the acceptability of this exemption, and the permittee has agreed to consider the exemption as federally enforceable during the time from the effective date of this permit to the effective date of USEPA approval of the exemption as a revision to the Ohio SIP for ozone.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

Facility Name: **The Quality Castings Company**
Facility ID: **02-85-01-0001**
Emissions Unit: **Nobake mold mixing & making line (F008)**

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Phenolic Urethane no-bake mold system	OAC rule 3745-31-05 PTI 02-9648	Emissions of particulate matter shall not exceed 0.52 lb/hr. Visible emissions of particulate matter shall not exceed 20% opacity as a three-minute average. Emissions of organic compounds shall not exceed 8 lbs/hr and 40 lbs/day.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records each day this emissions unit operates:
 - a. The company identification of the liquid organic materials used.
 - b. The amounts (pounds) of liquid organic materials and sand mixed.
 - c. An estimate of the daily organic compound emission rate (pounds), using an emission factor of 1.17 lbs OC per ton of sand.
2. No recordkeeping and monitoring is required for the hourly OC emissions limit because the maximum uncontrolled emission rate of OC cannot exceed the limit.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include an identification of each day during which the organic compound emissions exceeded 40 pounds per day, and the actual organic compound emissions for each such day.

V. Testing Requirements

1. Compliance with the particulate matter emission limit of 0.52 lb/hr shall be determined in accordance with the following equation:

$$E = T_i \times 0.04 \text{ lb PE/ton iron}$$

where

E = lbs particulate matter emitted per hour

T_i = tons of iron produced per hour

0.04 = emission factor in lb particulate matter per ton iron produced (from Ohio EPA's document "Reasonably Available Control Measures for Fugitive Dust Sources", Table 2.7-1 for mold making)

Tons of iron produced can be estimated from hourly sand throughput multiplied by the ratio of iron to sand.

2. Compliance with the visible emission limitation for this emissions unit shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.
3. Emission Limitation:
40 lbs organic compounds per day

Applicable Compliance Method:

To determine the actual emission rate for organic compounds, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 1.17$$

where

E_d = organic compound emission rate (lbs/day)

1.17 = emission factor (lbs organic compounds per ton of sand) for phenolic urethane no-bake binder system (based on emissions data obtained by the OCMA)

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Nobake shakeout (F010)
Activity Description: Shakeout of nobake molds

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Shakeout of nobake molds	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Shakeout of nobake molds	OAC rule 3745-31-05 PTI 02-9648	Emissions of particulate matter shall not exceed 1.24 lbs/hr. Visible particulate matter emissions shall not exceed 20% opacity as a three-minute average. Emissions of volatile organic compounds shall not exceed 8 lbs/hr and 40 lbs/day.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. No recordkeeping and monitoring is required for the VOC emissions limits because the maximum uncontrolled emission rates of VOC cannot exceed the limits.

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the particulate matter emission limit of 1.24 lbs/hr shall be determined in accordance with the following equation:

$$E = T_i \times 3.2 \text{ lbs PE/ton iron}$$

where

$$E = \text{lbs particulate matter emitted per hour}$$

$$T_i = \text{maximum tons of iron per hour processed through the shakeout}$$

3.2 lbs PE/ton iron is emission factor from AP-42 Table 12.10-7 (1/95 revision).

2. Compliance with the visible emission limitation for this emissions unit shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

V. Testing Requirements (continued)

3. Compliance with the VOC emission limits shall be determined in accordance with the following equation:

$$E = T_i \times 1.2 \text{ lbs VOC/ton iron}$$

where

E = lbs VOC emitted per hour

T_i = maximum tons of iron per hour processed through the shakeout

1.2 lbs VOC/ton iron is emission factor from SCC 30400331 (U.S. EPA Source Classification Codes, 1997-98 update)

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: #7 #8 #9 pour/cool lines (F012)

Activity Description: Pouring and cooling area for molds made on the #7 #8 #9 mold lines

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Pouring and cooling area for molds made on the #7 #8 #9 mold lines	OAC rule 3745-18-06(D)(2)	Emissions of sulfur dioxide shall not exceed 167.3 lbs /hr, see A.III.1.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

- No recordkeeping and monitoring is required for the SO₂ emissions limit because the maximum uncontrolled emission rate of SO₂ cannot exceed the limit.

IV. Reporting Requirements

None

V. Testing Requirements

- Compliance with the SO₂ emission limitation in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

Compliance shall be demonstrated by multiplying the maximum production rate (tons iron/hr) by the emission factor of 0.02 lb SO₂/ton iron (SCC 30400320, U.S. EPA Source Classification Codes, 1997-98 update).

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **#7 #8 #9 pour/cool lines (F012)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Inliner mold line (F013)

Activity Description: Green sand molding using the Osborn Inliner automatic molding machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Green sand molding using the Osborn Inliner automatic molding machine	OAC rule 3745-21-07(G)	See A.2.a.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a This emissions unit shall not employ organic liquids which are photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5).

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records on all materials used in this emissions unit:
 - a. The identification of the chemical compound and its physical state.
 - b. For any liquid organic materials, whether or not the material is a photochemically reactive material , as defined in OAC rule 3745-21-01(C)(5).

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include an identification of each day during which any photochemically reactive materials were employed.

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **Inliner mold line (F013)**

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Hunter mold line (F015)
Activity Description: Green sand molding using the Hunter molding machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Green sand molding using the Hunter molding machine	OAC rule 3745-21-07(G)(2)	See A.2.a.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.
	OAC rule 3745-31-05 PTI 02-10374	Emissions of particulate matter shall not exceed 0.22 lb/hr. Visible particulate emissions shall not exceed 20% opacity as a three-minute average. Emissions of organic compounds shall not exceed 6 lbs/hr.

2. Additional Terms and Conditions

- 2.a. This emissions unit shall not employ organic liquids which are photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5).

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records on all materials used in this emissions unit:
 - a. The identification of the chemical compound and its physical state.
 - b. For any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

III. Monitoring and/or Record Keeping Requirements (continued)

2. The permittee shall keep the following records each day this emissions unit operates:
 - a. The company identification of the mold release and the pattern spray used.
 - b. The amount of mold release and pattern spray used, in pounds.
 - c. The number of hours of operation.
 - d. An estimate of the daily organic compound emission rate, in pounds, using an emission factor of 1.0 pound OC per pound of mold release and pattern spray used.
 - e. An estimate of the average hourly organic compound emission rate, i.e., d/c.
3. The permittee shall perform monthly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the egress points serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include an identification of each day during which any photochemically reactive materials were employed.
2. The permittee shall submit deviation (excursion) reports which include an identification of each day during which the average hourly organic compound emissions exceeded 6 pounds per hour, and the actual average hourly organic compound emissions for each such day.
3. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the egress points serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Emission Limitation: 0.22 lb PE/hr

Applicable Compliance Method:

To determine the maximum emission rate for particulate matter, the following equation shall be used:

$$E = T_i \times 0.04 \text{ lb PE/ton iron}$$

where

E = maximum lbs particulate matter emitted per hour

T_i = maximum iron production rate for the Hunter line

0.04 lb PM/ton iron is an emission factor in lbs particulate matter per ton iron produced (from Ohio EPA's document "Reasonably Available Control Measures for Fugitive Dust Sources", Table 2.7-1 for mold making)

V. Testing Requirements (continued)

2. Emission Limitation: visible particulate emissions shall not exceed 20% opacity as a three-minute average

Applicable Compliance Method: Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

3. Emission Limitation: 6 lbs OC/hr

Applicable Compliance Method: Compliance with the OC emission limitation shall be based on the record keeping requirements specified in Section A.III.2 of these terms.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Hunter pour/cool line (F016)

Activity Description: Pouring and cooling area for molds made on the Hunter molding machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Pouring and cooling area for molds made on the Hunter molding machine	OAC rule 3745-18-06	Emissions of sulfur dioxide shall not exceed 184.1 lbs/hr, see A.III.1.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

- No recordkeeping and monitoring is required for the SO₂ emissions limit because the maximum uncontrolled emission rate of SO₂ cannot exceed the limit.

IV. Reporting Requirements

None

V. Testing Requirements

- Compliance with the SO₂ emission limitation in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

Compliance shall be demonstrated by multiplying the maximum production rate (tons iron/hr) by the emission factor of 0.02 lb SO₂/ton iron (SCC 30400320, U.S. EPA Source Classification Codes, 1997-98 update).

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **Hunter pour/cool line (F016)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Pouring and cooling area for molds made on the Hunter molding machine	OAC rule 3745-31-05 PTI 02-9749	Emissions of particulate matter shall not exceed 1.5 pounds per hour. Visible particulate emissions shall not exceed 5% opacity as a six-minute average. Emissions of VOC shall not exceed 5.5 pounds per day.

2. Additional Terms and Conditions

None

II. Operational Restrictions

1. The production of ductile iron in this emission unit shall be done by means of the in-mold method only. This condition does not prohibit the pouring of ductile iron made by means of the ladle treatment method.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain the following daily records:
 - a. tons of iron produced; and
 - b. an estimate of the daily VOC emission rate, in pounds, using an emission factor of 0.14 pound VOC per ton of iron produced.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include an identification of each day during which the VOC emissions exceeded 5.5 pounds per day, and the actual VOC emissions for each such day.

V. Testing Requirements

1. Emission Limitation: 1.5 lbs PE/hr

Applicable Compliance Method:

To determine the maximum emission rate for particulate matter, the following equation shall be used:

$$E = T_i \times 0.45 \text{ lb PE/ton iron}$$

where

E = maximum lbs particulate matter emitted per hour

T_i = maximum iron production rate for the Hunter line

0.45 lb PE/ton iron is an emission factor in pounds particulate matter per ton iron produced based on emissions testing done on emissions unit P036.

2. Emission Limitation: visible particulate emissions shall not exceed 5% opacity as a six-minute average

Applicable Compliance Method: Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

3. Emission Limitation: 5.5 lbs VOC/dy

Applicable Compliance Method:

To determine the daily emission rate for VOC, the following equation shall be used:

$$E = T_d \times 0.14 \text{ lb VOC/ton iron}$$

where

E = actual lbs VOC emitted per day

T_d = actual daily iron production rate for the Hunter line

0.14 lb VOC/ton iron is an emission factor in lb VOC per ton iron produced for pouring and cooling from SCC emission factor (30400318), U.S. EPA Source Classification Codes, 1997-98 update.

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 722 mold line (F017)

Activity Description: Green sand molding using the Osborn 722 cope and drag style of molding

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Green sand molding using the Osborn 722 moldmaking system	OAC rule 3745-21-07(G)(2)	See A.I.2.a.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.
	OAC rule 3745-31-05 PTI 02-10374	Emissions of particulate matter shall not exceed 0.40 lb/hr. Visible particulate emissions shall not exceed 20% opacity as a three-minute average. Emissions of organic compounds shall not exceed 13.5 lbs/hr and 22.5 tons/yr, as a rolling 12-month summation.

2. Additional Terms and Conditions

- 2.a. This emissions unit shall not employ organic liquids which are photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5).

II. Operational Restrictions

1. The amount of metal poured in the Osborn 722 casting line shall not exceed 30,000 tons in any rolling 12-month period.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records on all materials used in this emissions unit:
 - a. The identification of the chemical compound and its physical state.
 - b. For any liquid organic materials, whether or not the material is a photochemically reactive material , as defined in OAC rule 3745-21-01(C)(5).
2. The permittee shall keep the following records each day this emissions unit operates:
 - a. The company identification of the mold release and the pattern spray used.
 - b. The amount of mold release and pattern spray used, in pounds.
 - c. The number of hours of operation.
 - d. An estimate of the daily organic compound emission rate, in pounds, using an emission factor of 1.0 pound OC per pound of mold release and pattern spray used.
 - e. An estimate of the average hourly organic compound emission rate, i.e., d/c.
3. The permittee shall perform monthly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the egress points serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
4. The permittee shall maintain monthly records which list the following information for this emissions unit:
 - a. tons of iron poured;
 - b. the rolling 12-month summation of the iron production rates;
 - c. monthly OC emissions (tons); and
 - d. the rolling 12-month summation of OC emissions (tons).

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include an identification of each day during which any photochemically reactive materials were employed.
2. The permittee shall submit deviation (excursion) reports which include an identification of each day during which the average hourly organic compound emissions exceeded 13.5 pounds per hour, and the actual average hourly organic compound emissions for each such day.
3. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the egress points serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
4. The permittee shall submit deviation(excursion) reports which identify all exceedances of the rolling, 12-month production rate limitation and the rolling 12-month summation of organic compound emission limitations. These reports shall be submitted to the Ohio EPA, Northeast District Office, no later than 45 days from the end of the month in which the exceedance occurred.

V. Testing Requirements

1. Emission Limitation: 0.40 lb PE/hr

Applicable Compliance Method:

To determine the maximum emission rate for particulate matter, the following equation shall be used:

$$E = Ti \times 0.04 \text{ lb PE/ton iron}$$

where

E = maximum lbs particulate matter emitted per hour

Ti = maximum hourly iron production rate for the Osborn 722 line

0.04 lb PE/ton iron is an emission factor in lbs particulate matter per ton iron produced (from Ohio EPA's document "Reasonably Available Control Measures for Fugitive Dust Sources", Table 2.7-1 for mold making)

2. Emission Limitation: visible particulate emissions shall not exceed 20% opacity as a three-minute average

Applicable Compliance Method: Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

3. Emission Limitation: 13.5 lbs OC/hr

Applicable Compliance Method: Compliance with the OC emission limitation shall be based on the record keeping requirements in Section A.III.2 of these terms.

4. Emission Limitation: 22.5 tons OC/yr, as a rolling 12-month summation

Applicable Compliance Method: Compliance with the OC emission limitation shall be based on the record keeping requirements in Section A.III.2 and A.III.4 of these terms. To determine the monthly OC emission rate (tons), sum the daily OC emission rate (lbs/day) for the entire month and divide by 2000 (lbs/ton).

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: 722 pour/cool line (F018)

Activity Description: Pouring and cooling area for the molds made on the Osborn 722 molding machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Pouring and cooling area for the molds made on the Osborn 722 molding machine	OAC rule 3745-18-06	Emissions of sulfur dioxide shall not exceed 481.5 lbs/hr, see A.III.1.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

- No recordkeeping and monitoring is required for the SO₂ emissions limit because the maximum uncontrolled emission rate of SO₂ cannot exceed the limit.

IV. Reporting Requirements

None

V. Testing Requirements

- Compliance with the SO₂ emission limitation in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

Compliance shall be demonstrated by multiplying the maximum production rate (tons iron/hr) by the emission factor of 0.02 lb SO₂/ton iron (SCC 30400320, U.S. EPA Source Classification Codes, 1997-98 update).

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **722 pour/cool line (F018)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Pouring and cooling area for the molds made on the Osborn 722 molding machine	OAC rule 3745-31-05 PTI 02-9748	Emissions of particulate matter shall not exceed 4.0 lbs/hr. Visible particulate matter emissions shall not exceed 5% as a six-minute average. Emissions of VOC shall not exceed 20 lbs/day.

2. Additional Terms and Conditions

None

II. Operational Restrictions

1. The production of ductile iron in this emission unit shall be done by means of the in-mold method only. This condition does not prohibit the pouring of ductile iron made by means of the ladle treatment method.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain the following daily records:
 - a. tons of iron produced; and
 - b. an estimate of the daily VOC emission rate, in pounds, using an emission factor of 0.14 pound per ton of iron produced.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include an identification of each day during which the VOC emissions exceeded 20 pounds per day and the actual VOC emissions for each such day.

V. Testing Requirements

1. Emission Limitation: 4.0 lbs PE/hr

Applicable Compliance Method:

To determine the maximum emission rate for particulate matter, the following equation shall be used:

$$E = T_i \times 0.45 \text{ lb PE/ton iron}$$

where

E = maximum lbs particulate matter emitted per hour

T_i = maximum iron production rate for the Osborn 722 line

0.45 lb PE/ton iron is an emission factor in pounds particulate matter per ton iron produced for pouring and cooling based on emissions testing done on emissions unit P036 on January 18, 1996.

2. Emission Limitation: visible particulate emissions shall not exceed 5% opacity as a six-minute average

Applicable Compliance Method: Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

3. Emission Limitation: 20 lbs VOC/dy

Applicable Compliance Method:

To determine the daily emission rate for VOC, the following equation shall be used:

$$E = T_d \times 0.14 \text{ lb VOC/ton iron}$$

where

E = actual lbs VOC emitted per day

T_d = actual daily iron production rate for the Hunter line

0.14 lb VOC/ton iron is an emission factor in lb VOC per ton iron produced for pouring and cooling from SCC emission factor (30400318), U.S. EPA Source Classification Codes, 1997-98 update.

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Nobake core line including mixer (F019)
Activity Description: Phenolic Urethane nobake core production

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Phenolic Urethane no bake core production	OAC rule 3745-17-11(A)	No limit, see A.1.2.a
	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-21-07(G)(9)(i)	The provisions of OAC rule 3745-21-07(G) shall not apply to this emissions unit.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.
- 2.b Although OAC rule 3745-21-07(G)(9)(i) specifies an exemption for the use of a phenolic urethane no-bake resin binder system in foundry core-making and mold-making operations, the exemption is not yet part of the federally approved SIP. This new exemption was promulgated by the Ohio EPA and became effective on June 15, 1999. The Ohio EPA has received confirmation from the USEPA concerning the acceptability of this exemption, and the permittee has agreed to consider the exemption as federally enforceable during the time from the effective date of this permit to the effective date of USEPA approval of the exemption as a revision to the Ohio SIP for ozone.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Phenolic Urethane no bake core production	OAC rule 3745-31-05 PTI 02-9755	Emissions of particulate emissions shall not exceed 0.75 lb/hr. Visible particulate matter shall not exceed 20% opacity on a three-minute average. Emissions of organic compounds shall not exceed 8 lbs/hr and 40 lbs/day.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records each day this emissions unit operates:
 - a. The company identification of the liquid organic materials used.
 - b. The amount of liquid organic materials and sand mixed, in pounds.
 - c. The number of hours of operation.
 - d. An estimate of the daily organic compound emission rate (pounds), using an emission factor of 1.17 lbs OC per ton of sand.
 - e. An estimate of the average hourly organic compound emission rate, i.e., d/c.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include the following information:
 - a. An identification of each day during which the average hourly organic compound emissions exceeded 8 pounds per hour, and the actual average hourly organic compound emissions for each such day.
 - b. An identification of each day during which the organic compound emissions exceeded 40 pounds per day, and the actual organic compound emissions for each such day.

V. Testing Requirements

1. Emission Limitation: 0.75 lb PE/hr

Applicable Compliance Method:

To determine the maximum emission rate for particulate matter, the following equation shall be used:

$$E = T_s \times 0.38 \text{ lb PE/ton sand}$$

where

E = maximum lbs particulate matter emitted per hour

T_s = maximum sand production rate for core mixing/making

0.38 lb PE/ton sand is the sum of two emission factors for core making (0.35) and mechanical core sand unloading (0.03) from the Ohio EPA RACM document, Table 2.7-1.

2. Emission Limitation: visible particulate emissions shall not exceed 20% opacity as a three-minute average

Applicable Compliance Method: Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(3)(a) and (B)(3)(b) of OAC rule 3745-17-03.

3. Emission Limitation:
40 lbs organic compounds per day

Applicable Compliance Method:

Compliance is based on the record keeping specified in Section B.III.1 of these terms and conditions. To determine the actual emission rate for organic compounds, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 1.17$$

where

E_d = organic compound emission rate (lbs/day)

1.17 = emission factor (lbs organic compounds per ton of sand) for phenolic urethane no-bake binder system (based on emissions data obtained by the OCMA)

4. Emission Limitation:
8 lbs organic compounds per hour

Applicable Compliance Method:

Compliance is based on the record keeping specified in Section B.III.1 of these terms and conditions.

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Ductile Iron Inoculation I (F020)
Activity Description: Ladle treatment style ductile iron production

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Ductile iron production at inliner using a tundish ladle	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Ductile Iron Inoculation II (F021)
Activity Description: Ladle treatment style ductile iron production

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Ductile iron production in the back floor using a tundish ladle	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Core sand receiving and transfer (F022)
Activity Description: Loading and unloading sand for core making

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Five core sand silos with bucket elevator and belt transfer	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Mold sand receiving and transfer (F023)
Activity Description: Loading and unloading sand and core making with the equipment described below

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Loading and unloading sand and core making	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-17-11(A)	No limit, see A.2.a.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

Facility Name: **The Quality Castings Company**
Facility ID: **02-85-01-0001**
Emissions Unit: **Mold sand receiving and transfer (F023)**

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Pre-74' - 30" snag grinders (P002)
Activity Description: Seven 30" snag grinders used to grind iron castings

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Twelve 30" snag grinders used to grind iron castings with a fabric filter baghouse located in the cleaning room	OAC rule 3745-17-11(A)	Emissions of particulate matter shall not exceed 31.3 pounds per hour. See A.I.2.a.
	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed twenty percent opacity as a six minute average, except as provided by rule.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- This emissions unit is operationally united with P012 (Pangborn tumblast machines), P013 (South Wheelabrator shotblast machine), P026 (North Wheelabrator shotblast machine), and P038 (Pipe end grinder) and is controlled by a common fabric filter baghouse. The allowable emission rate from the fabric filter baghouse was determined by using Figure II and an uncontrolled emission rate of 311.8 pounds of particulate matter from a 1997 emissions test.

II. Operational Restrictions

- Baghouse Operational Restrictions

The pressure drop across the baghouse shall be maintained within the range of 4 to 6 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Baghouse Pressure Drop Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. Baghouse Pressure Drop Reporting Requirements

The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.

2. Compliance with the particulate matter emission limitation of 31.3 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).

3.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit renewal.

ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

3.b Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

Facility Name: **The Quality Castings Company**
Facility ID: **02-85-01-0001**
Emissions Unit: **Pre-74' - 30" snag grinders (P002)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Twelve 30" snag grinders used to grind iron castings with a fabric filter baghouse located in the cleaning room	OAC rule 3745-31-05 PTI 02-10103	Emissions of particulate matter shall not exceed 0.030 gr/dscf of exhaust gases and 2.7 pounds per hour.

2. Additional Terms and Conditions

None

II. Operational Restrictions

- The collection efficiency of the air pollution capture hoods shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture. The collection efficiency shall be considered adequate if visible particulate emissions of fugitive dust do not exceed 20% opacity as a three-minute average.

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

- Emission Limitation for PM : 0.030 gr/dscf and 2.7 pounds per hour from fabric filter stack

Applicable Compliance Method: Compliance shall be demonstrated by the emissions testing and procedures specified in section A.V.3 of these terms and conditions.

To determine compliance with the hourly limit of 2.7 pounds per hour, multiply the grain loading at the exhaust of the fabric filter (gr/dscf) by the gas flow rate from this emissions unit (dscfm) and by 60 (minutes/hr).

- Compliance with the fugitive visible emission limitation shall be determined in accordance with OAC rule 3745-17-03(B)(3).

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Holding/Melting furnaces #4 & #5 (P011)
Activity Description: Two furnaces - each 5 ton capacity used for "holding iron"

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Two holding furnaces	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Two-pangborn tumblast machines (P012)
Activity Description: Tumblast machines used to remove sand from the castings

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Two tumblast machines used to remove sand from the castings with a fabric filter baghouse	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six minute average.
	OAC rule 3745-17-11	Emissions of particulate matter shall not exceed 31.3 pounds per hour. See A.I.2.a.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a This emissions unit is operationally united with P002 (twelve snag grinders), P013 (South Wheelabrator shotblast machine), P026 (North Wheelabrator shotblast machine) and P038 (pipe end grinder) and is controlled by a common fabric filter baghouse. The allowable emission rate from the fabric filter baghouse was determined by using Figure II and an uncontrolled emission rate of 311.8 pounds of particulate matter from a 1997 emissions test.

II. Operational Restrictions

1. Baghouse Operational Restrictions

The pressure drop across the baghouse shall be maintained within the range of 4 to 6 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Baghouse Pressure Drop Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. Baghouse Pressure Drop Reporting Requirements

The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.

2. Compliance with the particulate matter emission limitation of 31.3 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).

3.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit renewal.

ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

3.b Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

Facility Name: **The Quality Castings Company**
Facility ID: **02-85-01-0001**
Emissions Unit: **Two-pangborn tumblast machines (P012)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: South Wheelabrator (P013)
Activity Description: Shot blast machine used to remove sand from castings

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Shotblast used to remove sand from the castings with a fabric filter baghouse	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six minute average.
	OAC rule 3745-17-11	Emissions of particulate matter shall not exceed 31.3 pounds per hour. See A.I.2.a.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a This emissions unit is operationally united with P002 (twelve snag grinders), P012 (Pangborn tumblast machines), P026 (North Wheelabrator shotblast machine) and P038 (pipe end grinder) and is controlled by a common fabric filter baghouse. The allowable emission rate from the fabric filter baghouse was determined by using Figure II and an uncontrolled emission rate of 311.8 pounds per hour of particulate matter from a 1997 emissions test.

II. Operational Restrictions

1. Baghouse Operational Restrictions

The pressure drop across the baghouse shall be maintained within the range of 4 to 6 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Baghouse Pressure Drop Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. Baghouse Pressure Drop Reporting Requirements

The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.

2. Compliance with the particulate matter emission limitation of 31.3 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).

3.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit renewal.

ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

3.b Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **South Wheelabrator (P013)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: East end Shakeout (P017)

Activity Description: Shakeout system serving the 722, Hunter and #7 #8 #9 mold lines

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Shakeout system serving the 722, Hunter and #7 #8 #9 mold lines with fabric filter baghouse	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Tabor cut-off Saws (P021)

Activity Description: Three saws used to remove the gating system from the actual casting

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Three saws (#31816, #10452190, #34279) used to remove the gating system from castings with a fabric filter baghouse	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.
	OAC rule 3745-17-11	Emissions of particulate matter shall not exceed 10.4 pounds per hour.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

- Baghouse Operational Restrictions

The pressure drop across the baghouse shall be maintained within the range of 4 to 6 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

- Baghouse Pressure Drop Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **Tabor cut-off Saws (P021)**

IV. Reporting Requirements

1. Baghouse Pressure Drop Reporting Requirements

The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.
2. Compliance with the particulate matter emission limitation of 10.4 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10). No testing is specifically required by this permit but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A). Such testing may be required at opacity levels less than those required by the visible emissions limit in Section A.I.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
saw (#34279) used to remove the gating system from castings with a fabric filter baghouse	OAC rule 3745-31-05 PTI 02-3070	Emissions of particulate matter shall not exceed 0.5 lb/hr.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

- Compliance with the particulate matter emission limitation of 0.5 pound per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10). No testing is specifically required by this permit but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A). Such testing may be required at opacity levels less than those required by the visible emissions limit in Section A.I.

To determine the mass emission rate of particulate matter, multiply the particulate matter concentration (gr/dscf) at the fabric filter outlet by the gas flow rate from saw #34279 (dscfm) and by 60 (min/hr).

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: East end muller (P023)

Activity Description: Green sand muller which makes mold sand for the 722, Hunter and #7 #8 #9 molding systems

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Green sand muller which makes mold sand for the 722, Hunter and #7 #8 #9 molding systems	OAC rule 3745-17-11	See A.I.2.a.
	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

Facility Name: **The Quality Castings Company**
Facility ID: **02-85-01-0001**
Emissions Unit: **East end muller (P023)**

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Scrap preheater (P025)

Activity Description: Gas fired heater used to dry the scrap before it enters the melt furnaces-10 million BTU/hr

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Gas fired heater used to dry the scrap before it enters the melt furnaces-10 million BTU/hr	OAC rule 3745-17-11(A)	See A.I.2.a.
	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **Scrap preheater (P025)**

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Gas fired heater used to dry the scrap before it enters the melt furnaces-10 million BTU/hr	OAC 3745-17-11(A)	Emissions of particulate matter shall not exceed 10 pounds per hour.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

- Emission Limitation: 10 lbs PM/hr

Applicable Compliance Method:

To determine the maximum emission rate for particulate matter, the following equation shall be used:

$$E = T_i \times 0.6 \text{ lb PM/ton iron}$$

where

E = maximum lbs particulate matter emitted per hour

T_i = maximum hourly scrap processed (tons/hr)

0.6 lb PM/ton metal is an emission factor from AP-42, Table 12.10-7, 1/95 update.

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: North Wheelabrator (P026)
Activity Description: Shot blast machine used to remove sand from castings

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Shot blast machine used to remove sand from castings with fabric filter baghouse	OAC rule 3745-17-11	Emissions of particulate matter shall not exceed 31.3 pounds per hour. See A.I.2.a.
	OAC rule 3745-17-07	Visible particulate emissions from any stack shall not exceed twenty percent opacity, as a six minute average.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a. This emissions unit is operationally united with P002 (twelve snag grinders), P012 (Pangborn tumblast machines) and P013 (South Wheelabrator shotblast machine) and P038 (pipe end grinder) and is controlled by a common fabric filter baghouse. The allowable emission rate from the fabric filter baghouse was determined by using Figure II and an uncontrolled emission rate of 311.8 pounds per hour of particulate matter from a 1997 emissions test.

II. Operational Restrictions

1. Baghouse Operational Restrictions

The pressure drop across the baghouse shall be maintained within the range of 4 to 6 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Baghouse Pressure Drop Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. Baghouse Pressure Drop Reporting Requirements

The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.

2. Compliance with the particulate matter emission limitation of 31.3 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).

3.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit renewal.

ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

3.b Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **North Wheelabrator (P026)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Shot blast machine used to remove sand from castings with a fabric filter baghouse	OAC rule 3745-31-05 PTI 02-11952	Emissions of particulate matter from the stack shall not exceed 0.01 gr/dscf of exhaust gases, 0.5 lb/hr and 2.2 tons/year. fugitive particulate matter emissions shall not exceed 3.1 tons per year

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

- The permittee shall maintain annual records of the iron castings cleaned in this emissions unit (tons).

IV. Reporting Requirements

None

V. Testing Requirements

- Emission Limitation for PM : 0.01 gr/dscf and 0.5 pound per hour from fabric filter stack

Applicable Compliance Method: Compliance shall be demonstrated by the emissions testing and procedures specified in section A.V.3 of these terms and conditions.

The hourly limit of 0.5 pound per hour is based on a grain loading limit of 0.01 gr/dscf and the anticipated gas flow rate from this emissions unit of 5750 SCFM.

- Emission Limitation for PM : 2.2 tons per year from stack

Applicable Compliance Method: As this limit was established by multiplying the hourly limit of 0.5 lb/hr by 8760 hrs/yr of operation, compliance with this limit shall be assumed provided that the hourly limit is met through compliance testing.

V. Testing Requirements (continued)

3. Emission Limitation for fugitive PM emissions: 3.1 tons per year

Applicable Compliance Method: Compliance with this limit shall be based on the following equation:

$$E = T_i \times 17 \text{ lbs PM/ton iron} \times (1 - 0.98) \times 1 \text{ tn}/2000 \text{ lbs}$$

where

E = tons particulate matter emitted per year

T_i = tons of iron processed per year

17 lbs PM/ton iron is emission factor from AP-42 Table 12.10-7(1/95) for cleaning and finishing

0.98 = estimate of collection efficiency of the air pollution capture hoods

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Simpson Muller (P027)

Activity Description: Green sand muller which makes mold sand for the Osborn Inliner molding system

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Green sand muller which makes mold sand for the Osborn Inliner molding system, with wet scrubber	OAC rule 3745-17-11	Emissions of particulate matter shall not exceed 13.0 pounds per hour. See A.2.a.
	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack shall not exceed twenty percent opacity as a six-minute average, except as provided by rule.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a. The allowable particulate emissions rate, determined from Figure II, is based upon the uncontrolled mass rate of emissions determined by using data from the emissions test conducted on April 2, 1996 and the maximum capacity of the equipment.

II. Operational Restrictions

1. Scrubber Operational Restrictions

The pressure drop across the scrubber shall be continuously maintained at a value of not less than 3.6 inches of water at all times while the emissions unit is in operation.

The scrubber water flow rate shall be continuously maintained at a value of not less than 136 gallons per minute at all times while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Scrubber Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, on a continuous basis.
- b. The scrubber water flow rate, in gallons per minute, once per 8-hour period.
- c. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

IV. Reporting Requirements

1. Scrubber Reporting Requirements

The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

- a. The static pressure drop across the scrubber.
- b. The scrubber water flow rate.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined in accordance with OAC rule 3745-17-03(B)(1).
2. Compliance with the particulate matter emission limitation of 13.0 pounds/hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).
- 3.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The emission testing shall be conducted within 3 months after this permit is issued and by no later than 6 months prior to permit renewal.
- ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

V. Testing Requirements (continued)

- 3.b** Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Furnace #6 (P029)
Activity Description: 20 ton graphite rod "holding furnace"

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
20-ton graphite rod holding furnace	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
20-ton graphite rod holding furnace	OAC rule 3745-31-05 PTI 02-9649	Emissions of particulate matter shall not exceed 4.26 pounds per hour. Visible particulate matter emissions shall not exceed 20% opacity on a three-minute average.

2. Additional Terms and Conditions

None

II. Operational Restrictions

- This furnace shall not be used as a melting furnace. Prior to modifying this furnace in order to melt scrap, the permittee shall apply for and obtain a permit to install.

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

- Compliance with the visible emission limit in section B.I. shall be determined in accordance with Method 9 of 40 CFR Part 60, Appendix A.
- Emission Limitation:
4.26 lbs particulate matter per hour

Applicable Compliance Method:

To determine the actual emission rate for particulate matter, the following equation shall be used:

$$E = \text{maximum iron throughput (in tons per hour)} \times 0.19 \text{ (lbs/ton)}$$

where

$$E = \text{particulate matter emissions (lbs/hr)}$$

0.19 = emission factor in lbs particulate matter per ton of hot metal, from AP-42, Table 12.5-1 (1995) for hot metal transfer at iron and steel mills

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Leampe LL-5 (P030)

Activity Description: Resin based core making operation controlled with an acid scrubber.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Resin based core mixing and core making operation controlled with an acid scrubber (phenolic urethane cold box).	OAC rule 3745-17-11	See A.I.2.a.
	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-21-07(G)(9)(h)	See A.I.2.b and c.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.
- 2.b The provisions of OAC rule 3745-21-07(G) shall not apply to this emissions unit, provided that the catalyst gas emissions are vented to a sulfuric acid scrubber that is designed and operated to remove at least 98% by weight of the catalyst gas emissions.

2. Additional Terms and Conditions (continued)

- 2.c** Although OAC rule 3745-21-07(G)(9)(i) specifies an exemption for the use of a phenolic urethane no-bake resin binder system in foundry core-making and mold-making operations, the exemption is not yet part of the federally approved SIP. This new exemption was promulgated by the Ohio EPA and became effective on June 15, 1999. The Ohio EPA has received confirmation from the USEPA concerning the acceptability of this exemption, and the permittee has agreed to consider the exemption as federally enforceable during the time from the effective date of this permit to the effective date of USEPA approval of the exemption as a revision to the Ohio SIP for ozone.

II. Operational Restrictions

1. The pH of the scrubbing liquor shall be maintained at or below 4.5.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly install, operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. The pH of the scrubber liquor, once every four hours of operation.
- b. A log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

IV. Reporting Requirements

1. The permittee shall submit pH deviation (excursion) reports that identify all periods of time during which the scrubber liquor pH did not comply with the pH requirements specified above.

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Resin based core mixing and core making operation controlled with an acid scrubber.	OAC rule 3745-31-05 PTI 02-9654	Emissions of particulate matter shall not exceed 0.22 lb/hr. Visible particulate matter emissions shall not exceed 5% opacity on a six-minute average. Emissions of VOC shall not exceed 1.5 lbs/hr. Emissions of triethylamine (TEA) shall not exceed 0.1 lb/hr.

2. Additional Terms and Conditions

None

II. Operational Restrictions

1. Prior to discharging scrubber liquor into the sanitary sewer system, the permittee shall obtain approval from the City of Orrville and the Ohio EPA.
2. The permittee shall maintain sufficient capture hooding, in good operating condition, on all process areas where TEA may be emitted. Additional capture hooding or enclosures shall be installed if required by the Ohio EPA.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records each day this emissions unit operates:
 - a. The company identification of the liquid organic materials used.
 - b. The amount of liquid organic materials and sand mixed, in pounds.
 - c. The number of hours of operation.
 - d. An estimate of the daily organic compound emission rate, in pounds, using an emission factor of 0.65 lb OC per ton of sand.
 - e. An estimate of the average hourly organic compound emission rate, i.e., d/c.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include an identification of each day during which the average hourly VOC emissions exceeded 1.5 pounds per hour, and the actual average hourly VOC emissions for each such day.

V. Testing Requirements

1. Compliance with the particulate matter emission limit of 0.22 lb/hr shall be determined in accordance with the following equation:

$$E = Ts \times (0.27 \text{ lb PE/ton sand} \times (1 - .99) + 0.35 \text{ lb PE/ton sand})$$

where

E = lbs particulate matter emitted per hour

Ts = maximum amount of sand processed per hour (tons)

0.27 lb PM/ton sand is the emission factor from AP-42 Table 11.12-2 (1/95 update), for pneumatic loading to storage silo.

0.99 (99%) is the estimated control efficiency for the silo filter.

0.35 lb PM/ton sand is an emission factor from the Ohio EPA's RACM document, Table 2.8-1 for core making.

2. Compliance with the visible emission limit shall be determined in accordance with U.S. EPA Method 9 (40 CFR Part 60, Appendix A).
3. Compliance with the VOC emission limit of 1.5 lbs/hr shall be determined by using the information recorded in accordance with Section B.1 of these terms and conditions.

To determine the actual daily emission rate for VOC, the following equation shall be used:

$$Ed = \text{sand usage rate (in tons per day)} \times 0.65$$

where

Ed = VOC emission rate (lbs/day)

0.65 = emission factor (lb organic compounds per ton of sand) for phenolic urethane cold box binder system (based on emissions testing by resin manufacturers and the OCMA).

4. Compliance with the TEA emission limit of 0.1 lb/hr shall be determined in accordance with the following equation:

$$Et = TEA \times (1 - .98)$$

Et = emissions of triethylamine (TEA), lbs/hr

TEA = maximum hourly TEA usage rate

0.98 = estimated removal efficiency of TEA for sulfuric acid scrubber

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: L-40 (P032)

Activity Description: Sand cores are made using an L-40 size laempe core machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Sand cores are made using an L-40 size Laempe core machine	OAC rule 3745-17-11	The limit from this rule is less stringent than the limit established by OAC rule 3745-31-05.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(A)	The limit from this rule is less stringent than the limit established by OAC rule 3745-31-05.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.
	OAC rule 3745-21-07(G)(2)	See A.I.2.a.
	OAC rule 3745-31-05 PTI 02-11420	Emissions of particulate matter shall not exceed 0.64 lb/hr and 2.8 tons/yr. Visible particulate emissions shall not exceed 5% opacity as a six-minute average.
		Emissions of organic compounds shall not exceed 12.4 lbs/hr and 38.46 tons/yr, as a rolling 12-month summation. Emissions of methyl formate shall not exceed 12.1 lbs/hr and 37.7 tons/yr.

2. Additional Terms and Conditions

- 2.a.** Resins and other liquid organic materials used in this emissions unit shall not be photochemically reactive materials, as defined in OAC rule 3745-21-01.

II. Operational Restrictions

- 1.** The maximum annual production rate for this emissions unit shall not exceed 8550 tons of cores produced, based upon a rolling, 12-month summation of the monthly production rates.

III. Monitoring and/or Record Keeping Requirements

- 1.** The permittee shall keep the following daily records for all materials used in this emissions unit:
- a. The identification of the chemical compound and its physical state.
 - b. For any liquid organic materials, documentation as to whether or not the material is a photochemically reactive material as defined in OAC rule 3745-21-01(C)(5).
- 2.** The permittee shall keep the following records each day this emissions unit operates:
- a. The company identification of the liquid organic materials used.
 - b. The amount of liquid organic materials and sand mixed, in pounds.
 - c. The number of hours of operation.
 - d. An estimate of the daily organic compound emission rate, in pounds, using an emission factor of 5.34 lbs OC per ton of sand.
 - e. An estimate of the daily methyl formate emission rate, in pounds, using an emission factor of 5.24 lbs methyl formate per ton of sand.
 - f. An estimate of the average hourly OC emission rate, i.e., d/c.
 - g. An estimate of the average hourly methyl formate emission rate, i.e., e/c.
- 3.** The permittee shall maintain monthly records which list the following information:
- a. the tons of cores produced;
 - b. the rolling 12-month summation of the monthly core production rates;
 - c. organic compound emissions (tons); and
 - d. rolling 12-month summation of organic compound emissions (tons).

IV. Reporting Requirements

- 1.** The permittee shall submit deviation (excursion) reports which identify each day during which any photochemically reactive materials were employed.
- 2.** The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling 12-month core production rate limitation and/or the rolling 12-month organic compound emissions limitation. These reports shall be submitted to the Ohio EPA, Northeast District Office, no later than 45 days from the end of the month in which the exceedance occurred.

IV. Reporting Requirements (continued)

3. The permittee shall submit deviation (excursion) reports which include the following information:
 - a. An identification of each day during which the average hourly organic compound emissions exceeded 12.4 pounds per hour, and the actual average hourly organic compound emissions for each such day.
 - b. An identification of each day during which the average hourly methyl formate emissions exceeded 12.1 pounds per hour, and the actual average hourly methyl formate emissions for each such day.
4. The permittee shall submit annual reports which specify the total particulate emissions and total methyl formate emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

V. Testing Requirements

1. Compliance with the particulate matter emission limit of 0.64 lb/hr shall be determined in accordance with the following equation:

$$E = Ts \times (0.27 \text{ lb PE/ton sand} \times (1-.99) + 0.35 \text{ lb PE/ton sand})$$

where

E = lbs particulate matter emitted per hour

Ts = maximum amount of sand processed per hour (tons)

0.27 lb PE/ton sand is the emission factor from AP-42 Table 11.12-2 (1995 update) for pneumatic loading to storage silo.

0.99 (99%) is the estimated control efficiency for the silo filter.

0.35 lb PE/ton sand is an emission factor from the Ohio EPA's RACM document, Table 2.7-1 for core making.

2. Compliance with the particulate matter emission limit of 2.78 tons per year shall be determined in accordance with the following equation:

$$E = Ts \times (0.27 \text{ lb PE/ton sand} \times (1-.99) + 0.35 \text{ lb PE/ton sand})$$

where

E = lbs particulate matter emitted per year

Ts = annual amount of sand processed (tons)

0.27 lb PE/ton sand is the emission factor from AP-42 Table 11.12-2 (1995 update) for pneumatic loading to storage silo.

0.99 (99%) is the estimate control efficiency for the silo filter.

0.35 lb PE/ton sand is an emission factor from the Ohio EPA's RACM document, Table 2.8-1 for core making.

3. Compliance with the visible emission limit shall be determined in accordance with U.S. EPA Method 9 (40 CFR Part 60, Appendix A).

V. Testing Requirements (continued)

4. Compliance with the OC emission limit of 12.4 lbs/hr shall be determined by using the information recorded in accordance with Section A.III.2 of these terms and conditions

To determine the actual daily emission rate for OC, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 5.34$$

where

$$E_d = \text{organic compound emission rate (lbs/day)}$$

5.34 = emission factor (lb organic compounds per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers) .

5. Compliance with the OC emission limit of 38.46 tons per year shall be based on the record keeping specified in Section A.III.3 of these terms and conditions.
6. Compliance with the methyl formate emission limit of 12.1 lbs/hr shall be determined by using the information recorded in accordance with Section A.III.2 of these terms and conditions.

To determine the actual daily emission rate for methyl formate, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 5.24$$

where

$$E_d = \text{methyl formate emission rate (lbs/day)}$$

5.24 = emission factor (lbs methyl formate per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers) .

7. Compliance with the methyl formate emission limit of 37.7 tons per year shall be determined in accordance with the following equation:

$$E = T_s \times 5.24 \text{ lbs methyl formate/ton sand} \times 1 \text{ ton}/2000 \text{ lbs}$$

where

$$E = \text{tons methyl formate emitted per year}$$

$$T_s = \text{annual amount of sand processed (tons)}$$

5.24 = emission factor (lbs methyl formate per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers) .

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

**Operations, Property,
and/or Equipment**

**Applicable Rules/
Requirements**

**Applicable Emissions
Limitations/Control
Measures**

Sand cores are made using an L-40 size Laempe core machine

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

1. Air Toxic Policy Clarifying Language

This permit allows the use of materials specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Air Toxic Policy" and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Pollutant: methyl formate

TLV (ug/m3): 246000

Maximum Hourly Emission Rate (lbs/hr): 7.1

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 5800 (combined with emissions for P032 and P034)

MAGLC (ug/m3): 5800

OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
- b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable" emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
- c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
- d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.

The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:

- a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
- b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and
- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.

For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: East L-20 (P033)

Activity Description: Sand cores are made using an L-20 size laempe core machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Sand cores are made using a L-20 size Laempe core machine	OAC rule 3745-17-11	See A.I.2.a.
	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-21-07(G)(2)	See A.I.2.b.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a. In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.
- 2.b. Resins and other liquid organic materials used in this emissions unit shall not be photochemically reactive materials, as defined in OAC rule 3745-21-01.

II. Operational Restrictions

None

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **East L-20 (P033)**

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following daily records for all materials used in this emissions unit:
 - a. The identification of the chemical compound and its physical state.
 - b. For any liquid organic materials, documentation as to whether or not the material is a photochemically reactive material as defined in OAC rule 3745-21-01(C)(5).

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify each day during which any photochemically reactive materials were employed.

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Sand cores are made using a L-20 size Laempe core machine	OAC rule 3745-31-05 PTI 02-11952	Emissions of particulate matter shall not exceed 0.35 lb/hr and 1.53 tons/year. Visible particulate matter emissions shall not exceed 5% opacity on a six-minute average. Emissions of OC shall not exceed 8 lbs/hr and 35.0 tons/year. Emissions of methyl formate shall not exceed 7.1 lbs/hr and 31.1 tons per year.

2. Additional Terms and Conditions

None

II. Operational Restrictions

1. Particulate matter emissions from the sand hopper shall be controlled by the fabric filter at all times.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records each day this emissions unit operates:
 - a. The company identification of the the organic materials used.
 - b. The amount of organic materials, curing agent and sand employed, in pounds.
 - c. The number of hours of operation.
 - d. An estimate of the daily organic compound emission rate, in pounds, using an emission factor of 5.32 lbs OC per ton of sand.
 - e. An estimate of the daily methyl formate emission rate, in pounds, using an emission factor of 5.24 lbs methyl formate per ton of sand.
 - f. An estimate of the average hourly organic compound emission rate, i.e., d/c.
 - g. An estimate of the average hourly methyl formate emission rate, i.e., e/c.
2. The permittee shall maintain daily records that document any time periods when the fabric filter was not in service when the emissions unit was in operation.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include the following information:
 - a. An identification of each day during which the average hourly organic compound emissions exceeded 8 pounds per hour, and the actual average hourly organic compound emissions for each such day.
 - b. An identification of each day during which the average hourly methyl formate emissions exceeded 7.1 pounds per hour, and the actual average hourly methyl formate emissions for each such day.
2. The permittee shall submit annual reports which specify the total particulate emissions, total OC emissions and total methyl formate emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit the deviation (excursion) report of any daily record showing that the fabric filter was not in service when the emissions unit was in operation.

V. Testing Requirements

1. Compliance with the particulate matter emission limit of 0.35 lb/hr shall be determined in accordance with the following equation:

$$E = Ts \times (0.27 \text{ lb PE/ton sand} \times (1-.99) + 0.35 \text{ lb PE/ton sand})$$

where

E = lbs particulate matter emitted per hour

Ts = maximum amount of sand processed per hour (tons)

0.27 lb PE/ton sand is the emission factor from AP-42 Table 11.12-2, for pneumatic loading to storage silo.

0.99 (99%) is the estimated control efficiency for the silo filter.

0.35 lb PE/ton sand is an emission factor from the Ohio EPA's RACM document, Table 2.8-1 for core making.

2. Compliance with the particulate matter emission limit of 1.53 TPY shall be determined in accordance with the following equation:

$$E = Ts \times (0.27 \text{ lb PE/ton sand} \times (1-.99) + 0.35 \text{ lb PE/ton sand})$$

where

E = tons particulate matter emitted per year

Ts = amount of sand processed per year (tons)

0.27 lb PE/ton sand is the emission factor from AP-42 Table 11.12-2 (1995 update) for pneumatic loading to storage silo.

0.99 (99%) is the estimate control efficiency for the silo filter.

0.35 lb PE/ton sand is an emission factor from the Ohio EPA's RACM document, Table 2.8-1 for core making.

3. Compliance with the visible emission limit shall be determined in accordance with OAC rule 3745-17-03(B)(1) and U.E. EPA Method 9.

V. Testing Requirements (continued)

4. Compliance with the OC emission limit of 8 lbs/hr shall be determined by using the information recorded in accordance with Section B.III.1 of these terms and conditions.

To determine the actual daily emission rate for OC, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 5.32$$

where

$$E_d = \text{organic compound emission rate (lbs/day)}$$

5.32 = emission factor (lb organic compounds per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers and the resin to sand mix ratio) .

5. Compliance with the OC emission limit of 35.0 tons per year shall be determined in accordance with the following equation:

$$E = T_s \times 5.32 \text{ lbs OC/ton sand} \times 1 \text{ tn}/2000 \text{ lbs}$$

where

$$E = \text{tons organic compounds emitted per year}$$

$$T_s = \text{annual amount of sand processed (tons)}$$

5.32 = emission factor (lbs organic compounds per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers and the resin to sand mix ratio) .

6. Compliance with the methyl formate emission limit of 7.1 lbs/hr shall be determined by using the information recorded in accordance with Section B.III.1 of these terms and conditions.

To determine the actual daily emission rate for methyl formate, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 5.24$$

where

$$E_d = \text{methyl formate emission rate (lbs/day)}$$

5.24 = emission factor (lbs methyl formate per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers) .

7. Compliance with the methyl formate emission limit of 31.1 tons per year shall be determined in accordance with the following equation:

$$E = T_s \times 5.24 \text{ lbs methyl formate/ton sand} \times 1 \text{ tn}/2000 \text{ lbs}$$

where

$$E = \text{tons methyl formate emitted per year}$$

$$T_s = \text{annual amount of sand processed (tons)}$$

5.24 = emission factor (lbs methyl formate per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers) .

VI. Miscellaneous Requirements

1. Air Toxic Policy Clarifying Language

This permit allows the use of materials specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Air Toxic Policy" and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Pollutant: methyl formate

TLV (ug/m3): 246000

Maximum Hourly Emission Rate (lbs/hr): 7.1

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 5800 (combined with emissions for P032 and P034)

MAGLC (ug/m3): 5800

OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
- b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable" emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
- c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
- d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.

The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:

- a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
- b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and
- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **East L-20 (P033)**

VI. Miscellaneous Requirements (continued)

For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: West L-20 (P034)

Activity Description: Sand cores are made using an L-20 size laempe core machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Sand cores are made using a L-20 size Laempe core machine	OAC rule 3745-17-11	See A.I.2.a.
	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-21-07(G)(2)	See A.I.2.b.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a. In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.
- 2.b. Resins and other liquid organic materials used in this emissions unit shall not be photochemically reactive materials, as defined in OAC rule 3745-21-01.

II. Operational Restrictions

None

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **West L-20 (P034)**

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following daily records for all materials used in this emissions unit:
 - a. The identification of the chemical compound and its physical state.
 - b. For any liquid organic materials, documentation as to whether or not the material is a photochemically reactive material as defined in OAC rule 3745-21-01(C)(5).

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify each day during which any photochemically reactive materials were employed.

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Sand cores are made using a L-20 size Laempe core machine	OAC rule 3745-31-05 PTI 02-11952	Emissions of particulate matter shall not exceed 0.35 lb/hr and 1.53 tons/year. Visible particulate matter emissions shall not exceed 5% opacity on a six-minute average. Emissions of OC shall not exceed 8 lbs/hr and 35.0 tons/year. Emissions of methyl formate shall not exceed 7.1 lbs/hr and 31.1 tons per year.

2. Additional Terms and Conditions

None

II. Operational Restrictions

1. Particulate matter emissions from the sand hopper shall be controlled by the fabric filter at all times.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall keep the following records each day this emissions unit operates:
 - a. The company identification of the the organic materials used.
 - b. The amount of organic materials, curing agent and sand employed, in pounds.
 - c. The number of hours of operation.
 - d. An estimate of the daily organic compound emission rate, in pounds, using an emission factor of 5.32 lbs OC per ton of sand.
 - e. An estimate of the daily methyl formate emission rate, in pounds, using an emission factor of 5.24 lbs methyl formate per ton of sand.
 - f. An estimate of the average hourly organic compound emission rate, i.e., d/c.
 - g. An estimate of the average hourly methyl formate emission rate, i.e., e/c.
2. The permittee shall maintain daily records that document any time periods when the fabric filter was not in service when the emissions unit was in operation.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which include the following information:
 - a. An identification of each day during which the average hourly organic compound emissions exceeded 8 pounds per hour, and the actual average hourly organic compound emissions for each such day.
 - b. An identification of each day during which the average hourly methyl formate emissions exceeded 7.1 pounds per hour, and the actual average hourly methyl formate emissions for each such day.
2. The permittee shall submit annual reports which specify the total particulate emissions, total OC emissions and total methyl formate emissions from this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.
3. The permittee shall submit the deviation (excursion) report of any daily record showing that the fabric filter was not in service when the emissions unit was in operation.

V. Testing Requirements

1. Compliance with the particulate matter emission limit of 0.35 lb/hr shall be determined in accordance with the following equation:

$$E = Ts \times (0.27 \text{ lb PE/ton sand} \times (1-.99) + 0.35 \text{ lb PE/ton sand})$$

where

E = lbs particulate matter emitted per hour

Ts = maximum amount of sand processed per hour (tons)

0.27 lb PE/ton sand is the emission factor from AP-42 Table 11.12-2, for pneumatic loading to storage silo.

0.99 (99%) is the estimated control efficiency for the silo filter.

0.35 lb PE/ton sand is an emission factor from the Ohio EPA's RACM document, Table 2.8-1 for core making.

2. Compliance with the particulate matter emission limit of 1.53 tons/yr shall be determined in accordance with the following equation:

$$E = Ts \times (0.27 \text{ lb PE/ton sand} \times (1-.99) + 0.35 \text{ lb PE/ton sand})$$

where

E = tons particulate matter emitted per year

Ts = maximum amount of sand processed per year (tons)

0.27 lb PE/ton sand is the emission factor from AP-42 Table 11.12-2 (1995 update) for pneumatic loading to storage silo.

0.99 (99%) is the estimated control efficiency for the silo filter.

0.35 lb PE/ton sand is an emission factor from the Ohio EPA's RACM document, Table 2.8-1 for core making.

3. Compliance with the visible emission limit shall be determined in accordance with OAC rule 3745-17-03(B)(1) and U.E. EPA Method 9.

V. Testing Requirements (continued)

4. Compliance with the OC emission limit of 8 lbs/hr shall be determined by using the information recorded in accordance with Section B.III.1 of these terms and conditions.

To determine the actual daily emission rate for OC, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 5.32$$

where

$$E_d = \text{organic compound emission rate (lbs/day)}$$

5.32 = emission factor (lb organic compounds per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers and the resin to sand mix ratio) .

5. Compliance with the OC emission limit of 35.0 tons per year shall be determined in accordance with the following equation:

$$E = T_s \times 5.32 \text{ lbs OC/tn sand} \times 1 \text{ ton}/2000 \text{ lbs}$$

where

$$E = \text{tons organic compounds emitted per year}$$

$$T_s = \text{annual amount of sand processed (tons)}$$

5.32 = emission factor (lbs organic compounds per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers and the resin to sand mix ratio) .

6. Compliance with the methyl formate emission limit of 7.1 lbs/hr shall be determined by using the information recorded in accordance with Section B.III.1 of these terms and conditions.

To determine the actual daily emission rate for methyl formate, the following equation shall be used:

$$E_d = \text{sand usage rate (in tons per day)} \times 5.24$$

where

$$E_d = \text{methyl formate emission rate (lbs/day)}$$

5.24 = emission factor (lbs methyl formate per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers) .

7. Compliance with the methyl formate emission limit of 31.1 tons per year shall be determined in accordance with the following equation:

$$E = T_s \times 5.24 \text{ lbs methyl formate/tn sand} \times 1 \text{ ton}/2000 \text{ lbs}$$

where

$$E = \text{tons methyl formate emitted per year}$$

$$T_s = \text{annual amount of sand processed (tons)}$$

5.24 = emission factor (lbs methyl formate per ton of sand) for ester-cured phenolic urethane cold box binder system (based on emissions testing by resin manufacturers) .

VI. Miscellaneous Requirements

1. Air Toxic Policy Clarifying Language

This permit allows the use of materials specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation(s) specified in this permit was (were) established using the Ohio EPA's "Air Toxic Policy" and is (are) based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Pollutant: methyl formate

TLV (ug/m3): 246000

Maximum Hourly Emission Rate (lbs/hr): 7.1

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 5800 (combined with emissions for P032 and P033)

MAGLC (ug/m3): 5800

OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above table;
- b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable" emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
- c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
- d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.

The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:

- a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
- b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and
- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **West L-20 (P034)**

VI. Miscellaneous Requirements (continued)

For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Inliner pour/cool line (P036)

Activity Description: Pouring and cooling area for the molds made on the Osborn Inliner automatic molding machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Pouring and cooling area for the molds made on the Osborn Inliner automatic molding machine	OAC rule 3745-18-06	Emissions of sulfur dioxide shall not exceed 782 pounds per hour; see A.III.1.
	OAC rule 3745-17-07(A)	In accordance with paragraph (A)(3)(h) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(A) shall not apply to this emissions unit.
	OAC rule 3745-17-11(B)(1)	See A.I.2.a.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a. In accordance with OAC 3745-17-11(A)(2)(a)(ii), "Figure II" of OAC rule 3745-17-11 shall not apply to this emissions unit because the uncontrolled particulate matter emissions are less than 10 pounds per hour. Based on the results of emissions testing conducted on January 18, 1996 and a maximum iron pour rate of 20 tons per hour, the maximum uncontrolled particulate matter emission rate is 9 pounds per hour. In accordance with OAC 3745-17-11(A)(2)(b)(ii), "Table I" of OAC rule 3745-17-11 shall not apply to this emissions unit because it is located in Wayne County.

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. No recordkeeping and monitoring is required for the SO2 emissions limit because the maximum uncontrolled emission rate of SO2 cannot exceed the limit.

Facility Name: **The Quality Castings Company**

Facility ID: **02-85-01-0001**

Emissions Unit: **Inliner pour/cool line (P036)**

IV. Reporting Requirements

None

V. Testing Requirements

1. Compliance with the SO₂ emission limitation is Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

Compliance shall be demonstrated by multiplying the maximum production rate (tons iron/hr) by the emission factor of 0.02 lb SO₂/tn iron (SCC 30400320) U.S. EPA Source Classification Codes 1997-98 update.

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Pouring and cooling area for the molds made on the Osborn Inliner automatic molding machine	OAC rule 3745-17-11(B)(1)	Emissions of particulate matter shall not exceed 10 pounds per hour.

2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

- Compliance with the particulate matter emission limitation of 10 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10). No testing is specifically required by this permit but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A).

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Pipe End Grinder (P038)
Activity Description: Surface grinder used to remove metal from castings

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Surface grinder used to remove metal from castings with fabric filter baghouse	OAC rule 3745-17-11(B)(1)	Emissions of particulate matter shall not exceed 31.3 pounds per hour.
	OAC rule 3745-17-07(A)	Visible particulate matter emissions shall not exceed 20% opacity as a six-minute average, except as provided by rule .

2. Additional Terms and Conditions

- 2.a. This emissions unit is operationally united with P002 (twelve snag grinders), P012 (Pangborn tumblast machines) and P013 (South Wheelabrator shotblast machine) and P026 (North Wheelabrator shotblast machine) and is controlled by a common fabric filter baghouse. The allowable emission rate from the fabric filter baghouse was determined by using Figure II and an uncontrolled emission rate of 311.8 pounds per hour of particulate matter from a 1997 emissions test.

II. Operational Restrictions

1. Baghouse Operational Restrictions

The pressure drop across the baghouse shall be maintained within the range of 4 to 6 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Baghouse Pressure Drop Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. Baghouse Pressure Drop Reporting Requirements

The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

1. Compliance with the particulate matter emission limitation of 31.3 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).
2. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.
- 2.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit renewal.
- ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

- 2.b Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Surface grinder used to remove metal from castings with fabric filter baghouse	OAC rule 3745-31-05 PTI 02-10315	Emissions of particulate matter shall not exceed 0.01 gr/dscf of fabric filter exhaust gases and 0.86 pound per hour. Visible particulate matter emissions shall not exceed 5% opacity as a six-minute average.

2. Additional Terms and Conditions

None

II. Operational Restrictions

- The collection efficiency of the air pollution capture hoods shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at the point(s) of capture. The collection efficiency shall be considered adequate if visible particulate emissions of fugitive dust do not exceed 20% opacity as a three-minute average.

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

- Emission Limitation for PE : 0.01 gr/dscf and 0.86 pound per hour from fabric filter stack

Applicable Compliance Method: Compliance shall be demonstrated by the emissions testing and procedures specified in section A.V.3 of these terms and conditions.

The hourly limit of 0.86 pound per hour is based on a grain loading limit of 0.01 gr/dscf and the anticipated gas flow rate from this emissions unit of 10,033 SCFM.

- Compliance with the stack visible emission limitation of 5% shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.
- Compliance with the fugitive visible emission limitation shall be determined in accordance with OAC rule 3745-17-03(B)(3).

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Inliner shakeout (P901)
Activity Description: Shakeout for the Osborn Inliner automatic molding machine

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Shakeout for the Osborn Inliner automatic molding machine, with the following equipment controlled by a wet scrubber: punchout, scalping conveyor, and shakeout deck. The cooling conveyor exhaust stack is not controlled.	OAC rule 3745-17-11(B) (1)	Emissions of particulate matter from wet scrubber shall not exceed 46.2 pounds per hour. See A.I.2.a.
	OAC rule 3745-17-07(A)(1)	Visible particulate matter emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a This emissions unit is operationally united with P903 (Inliner Shakeout Sand Recycle System) and is controlled by a common wet scrubber. The allowable emission rate from the wet scrubber was determined by using Figure II and an uncontrolled emission rate of 523.5 pounds per hour of particulate matter from an April 2, 1996 emissions test.

II. Operational Restrictions

1. Scrubber Operational Restrictions

The pressure drop across the scrubber shall be continuously maintained at a value of not less than 3.6 inches of water at all times while the emissions unit is in operation.

The scrubber water flow rate shall be continuously maintained at a value of not less than 136 gallons per minute at all times while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Scrubber Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, on a continuous basis.
 - b. The scrubber water flow rate, in gallons per minute, once per 8 hours.
 - c. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving cooling conveyor. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

IV. Reporting Requirements

1. Scrubber Reporting Requirements

The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

- a. The static pressure drop across the scrubber.
 - b. The scrubber water flow rate.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving the cooling conveyor and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.

V. Testing Requirements (continued)

2. Compliance with the particulate matter emission limitation of 46.2 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).

2.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit renewal.

ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

2.b Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Back Floor Mold Sand System (P902)
Activity Description: Mold Sand Handling System

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Mold Sand Handling System: back floor reclaim system with a fabric filter baghouse	OAC rule 3745-17-11	Emissions of particulate matter shall not exceed 32.2 pounds per hour.
	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack shall not exceed twenty per cent opacity as a six-minute average, except as provided by rule.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

None

II. Operational Restrictions

- Baghouse Operational Restrictions

The pressure drop across the baghouse shall be maintained within the range of 3 to 5 inches of water while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Baghouse Pressure Drop Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on daily basis.

IV. Reporting Requirements

1. Baghouse Pressure Drop Reporting Requirements

The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.

2. Compliance with the particulate matter emission limitation of 32.2 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).

2.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months prior to permit renewal.

ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

2.b Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

Facility Name: **The Quality Castings Company**
Facility ID: **02-85-01-0001**
Emissions Unit: **Back Floor Mold Sand System (P902)**

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

- The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Mold Sand Handling System: back floor reclaim system with a fabric filter baghouse	OAC rule 3745-31-05 PTI 02-11040	<p>Emissions of particulate matter shall not exceed 0.01 gr/dscf of exhaust gases from the fabric filter and 3.17 pounds per hour.</p> <p>Fugitive emissions not to exceed 6.48 tons per year of PM and 0.97 tons per year PM-10.</p> <p>Visible particulate matter emissions not to exceed 5% opacity as a six-minute average.</p>

2. Additional Terms and Conditions

None

II. Operational Restrictions

- The collection efficiency of the air pollution capture hoods shall be sufficient to minimize or eliminate visible particulate emissions of fugitive dust at all points of capture. The collection efficiency shall be considered adequate if visible particulate emissions of fugitive dust from the building that encloses this emissions unit do not exceed 5% opacity as a six-minute average.
- All material handling equipment, except the final belt conveyor, shall be covered and shall be exhausted to the baghouse. This shall include: the belt conveyor from the existing shakeout, the transfer point at the cross magnetic belt conveyor, the belt conveyors to the sand cooler, and the vibrating feed conveyor. The final belt conveyor to the existing sand muller shall be enclosed at the head and tail and shall be exhausted to the baghouse.
- All sand processing equipment shall be fully enclosed and shall be exhausted to the baghouse. This shall include: the rotary screen, the sand cooler and cyclone and the return sand storage silo.

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

1. Emission Limitation: 0.01 gr/dscf and 3.17 pounds PM per hour from fabric filter stack

Applicable Compliance Method: Compliance shall be demonstrated by the emissions testing and procedures specified in section A.V.3 of these terms and conditions.

The hourly limit of 3.17 pounds per hour is based on a grain loading limit of 0.01 gr/dscf and the anticipated gas flow rate from this emissions unit of 37,000 SCFM.

2. Compliance with the fugitive PM emission limit of 6.48 tons/yr shall be determined in accordance with the following equation:

$$E = Ts \times 3.6 \text{ (lbs PM/ton sand)} \times (1-.99) \times 1/2000 \text{ (ton/pounds)}$$

where

E = tons PM emitted per year

Ts = actual amount of sand processed per year (tons)

3.6 lbs PM/ton sand is the emission factor from AP-42 Table 12.10-7 (1/95 update), for sand handling.

0.99 (99%) is the estimate of the collection efficiency of the air pollution capture hoods.

3. Compliance with the fugitive PM-10 emission limit of 0.97 tons/yr shall be determined in accordance with the following equation:

$$E = Ts \times 0.54 \text{ (lbs PM-10/ton sand)} \times (1-.99) \times 1/2000 \text{ (ton/pounds)}$$

where

E = tons PM-10 emitted per year

Ts = actual amount of sand processed per year (tons)

0.54 lbs PM-10/ton sand is an emission factor submitted in the application for PTI 02-11040 and is based on U.S. EPA document "PM-10 Emission Factor Listing Developed by Technology Transfer, 3-04-003-50"

0.99 (99%) is the estimate of the collection efficiency of the air pollution capture hoods.

4. Compliance with the visible emission limitation listed in section B.I shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.

VI. Miscellaneous Requirements

None

Part III - Terms and Conditions for Emissions Units

Emissions Unit ID: Inliner Shakeout Sand Recycle System (P903)

Activity Description: Sand system used to return sand from shakeout to recycle silos.

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Sand system used to return sand from shakeout to recycle silos. The belt transfer 7 to 8, belt transfer 8 to 8A, belt transfer 8A to rotary screen, and the rotary screen are controlled by a wet scrubber.	OAC rule 3745-17-11(B)(1)	Emissions of particulate matter shall not exceed 46.2 pounds per hour. See A.I.2.a.
	OAC rule 3745-17-07(A)	Visible particulate matter emissions from any stack shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
	OAC rule 3745-17-08(B)	In accordance with paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) shall not apply to this emissions unit.
	OAC rule 3745-17-07(B)	In accordance with paragraph (B)(11)(e) of OAC rule 3745-17-07, the requirements of OAC rule 3745-17-07(B) shall not apply to this emissions unit.

2. Additional Terms and Conditions

- 2.a. This emissions unit is operationally united with P901 (Inliner Shakeout) and is controlled by a common wet scrubber. The allowable emission rate from the wet scrubber was determined by using Figure II and an uncontrolled emission rate of 523.5 pounds per hour of particulate matter from an April 2, 1996 emissions test.

II. Operational Restrictions

1. Scrubber Operational Restrictions

The pressure drop across the scrubber shall be continuously maintained at a value of not less than 3.6 inches of water at all times while the emissions unit is in operation.

The scrubber water flow rate shall be continuously maintained at a value of not less than 136 gallons per minute at all times while the emissions unit is in operation.

III. Monitoring and/or Record Keeping Requirements

1. Scrubber Monitoring and Recordkeeping Requirements

The permittee shall properly operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. The pressure drop across the scrubber, in inches of water, on a continuous basis.
- b. The scrubber water flow rate, in gallons per minute, once per 8 hours.
- c. The operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

IV. Reporting Requirements

1. Scrubber Reporting Requirements

The permittee shall submit deviation (excursion) reports that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:

- a. The static pressure drop across the scrubber.
- b. The scrubber water flow rate.

V. Testing Requirements

1. Compliance with the visible emission limitation shall be determined by using U.S. EPA method 9, if required by the Ohio EPA.
2. Compliance with the particulate matter emission limitation of 46.2 pounds per hour shall be determined in accordance with OAC rule 3745-17-03(B)(10).

V. Testing Requirements (continued)

2.a Emission testing requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The emission testing shall be conducted within 3 months after issuance of the permit and within 6 months prior to permit renewal.
- ii. The emission testing shall be conducted to demonstrate compliance with the mass emission limit for particulate matter.
- iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Methods 1-5 of 40 CFR Part 60, Appendix A.
- iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

A particulate emissions test also shall be conducted at the inlet of the control device to determine the uncontrolled mass rate of emissions for the emissions unit, for purposes of applying Figure II of OAC Rule 3745-17-11. For this testing, Method 5 of 40 CFR Part 60, Appendix A shall be employed.

- ### **2.b**
- Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office within 30 days following completion of the test(s).

VI. Miscellaneous Requirements

None

B. State Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/ Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
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2. Additional Terms and Conditions

None

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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