VIA DMS

Mr. Kyle Morton
Environmental, Safety and Training Manager
Bremen Castings Inc.
500 North Baltimore Street
Bremen, Indiana 46506

Re: AT 099-10532
First Administrative Amendment to
Part 70 Permit T 099-6206-00001

Dear Mr. Morton:

Bremen Casting Incorporation was issued Part 70 Operating Permit T099-6206-00001 on January 21, 1999 to operate a stationary gray and ductile iron castings manufacturing plant. A letter was received on January 7, 1999 stating that the company had made changes to the plant after the public notice of the proposed Part 70 Permit ended on May 8, 1998. The changes did not increase potential to emit (PTE) of any air pollutant and can be treated as an Administrative Amendment. The letter requested the permit be amended to reflect the following changes:

(a) All facilities previously controlled by Baghouses DC-1, DC-2, DC-4 and DC-5 are now controlled by a new baghouse, identified as DC-1;

(b) All facilities previously controlled by Baghouse DC-6 are now controlled by a new sand system process collector, identified as DC-2;

(c) The old Baghouse DC-5 is now renamed as DC-3 and is now served as the control devise of the Pattern Shop; and

(d) The old Baghouse DC-1 is now renamed as DC-4 and is now used for controlling dust during removal of scrap sand.

Based on the information provided by the Bremen Casting Inc., The Part 70 Operating Permit T099-6206-00001 has been amended as follows:

(i) Cover page is amended to reflect the changes made to the Part 70 Permit.

(ii) Section A.2 (Emission Units and Pollution Control Equipment Summary), page 5 of 39, is amended to reflect the changes to the significant emission units and control equipment, as follows:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Handling of charge materials for melting furnaces;

(b) A cupola melting operation consisting of one (1) 14 tons per hour cupola furnace, identified as CUPOLA, one (1) 40 ton electric induction holding furnace for holding molten metal from the cupola furnace, and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1. CUPOLA is equipped with a wet scrubber, identified as WS#1, for particulate matter control, and exhausting through one (1) stack, identified as DS-9;

(c) An electric induction furnace (EIF) melting operation consisting of two (2) 1.75 tons per hour electric induction furnaces, identified as #1 and #2, and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1, with particulate matter emissions controlled by a baghouse, identified as ~~BGH #6~~ **DC-2**;

(d) A shell core making process consisting of seven (7) natural gas fired shell core machines with a maximum capacity of 0.70 tons of cores per hour in total, exhausting through two stacks identified as RE-19 and RE-20;

(e) An isocure core making process consisting of one (1) sand mixer and two (2) isocure core machines, each with a maximum capacity of 1.0 ton of cores per hour, exhausting through one (1) stack, identified as DS-12;

(f) A sand handling system consisting of:

(1) one (1) shakeout system including one (1) shaker pan and one (1) rotary shakeout, with particulate matter emissions controlled by a baghouse, identified as ~~BGH #6~~ **DC-2**,

(2) one (1) sand muller, two (2) silos, two (2) sand storage tanks, two (2) elevators, conveyors, one (1) magnetic separator, one (1) sand cooler, one (1) sand screen, and one (1) recycle sand hopper, with particulate matter emissions controlled by a baghouse, identified as ~~BGH #6~~ **DC-2**; and

(g) A grinding/cleaning operation including three (3) shot blast machines, identified as Shot #1 - #3, and grinding/finishing, ~~each~~ controlled by a baghouse (~~BGH #2, BGH #1, BGH #5, and BGH #4, respectively~~ **DC-1**), and ~~each~~ exhausting through one (1) stack (~~DC-2,~~ DC-1~~, DC-5 and DC-4, respectively~~).

(iii) Equipment list for Section D.1, page 28 of 39, has been amended as follows:

Facility Description [326 IAC 2-7-5(15)]
(a) Handling of charge materials for melting furnaces;
(b) A cupola melting operation consisting of one (1) 14 tons per hour cupola furnace, identified as CUPOLA, one (1) 40 ton electric induction holding furnace for holding molten metal from the cupola furnace, and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1. CUPOLA is equipped with a wet scrubber, identified as WS#1, for particulate matter control, and exhausting through one (1) stack, identified as DS-9; and
(c) An electric induction furnace (EIF) melting operation consisting of two (2) 1.75 tons per hour electric induction furnaces, identified as #1 and #2 and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1, with particulate matter emissions controlled by a baghouse, identified as ~~BGH #6~~ **DC-2**. (~~BGH #6~~ **DC-2** is also used to control PM emissions for the sand handling system in Section D.3. Compliance monitoring requirements for ~~BGH #6~~ **DC-2** are detailed in Section D.3)

(iv) Equipment list for Section D.3, page 33 of 39, has been amended as follows:

Facility Description [326 IAC 2-7-5(15)]
(f) A sand handling system consisting of:
(1) one (1) shakeout system including one (1) shaker pan and one (1) rotary shakeout, with particulate matter emissions controlled by a baghouse, identified as ~~BGH #6~~ **DC-2**,
(2) one (1) sand muller, two (2) silos, two (2) sand storage tanks, two (2) elevators, conveyors, one (1) magnetic separator, one (1) sand cooler, one (1) sand screen, and one (1) recycle sand hopper, with particulate matter emissions controlled by a baghouse, identified as ~~BGH #6~~ **DC-2**; and
(g) A grinding/cleaning operation including three (3) shot blast machines, identified as Shot #1 - #3, and grinding/finishing, ~~each~~ controlled by a baghouse (~~BGH #2, BGH #1, BGH #5, and BGH #4, respectively~~ **DC-1**), and ~~each~~ exhausting through one (1) stack (~~DC-2,~~ DC-1~~, DC-5 and DC-4, respectively~~).

(v) Due to the installation of new Baghouses DC-1 and DC-2, Conditions D.3.4 through D.3.6, page 34 of 39, have been amended as follows:

D.3.4 Particulate Matter (PM)

The baghouses (~~BGH #1 - #6~~ **DC-1 and DC-2**) for PM control, shall be in operation at all times when the sand handling operation, casting shakeout, shot blasters and grinding/finishing operation are in operation and exhausting to the outside atmosphere.

D.3.5 Visible Emissions Notations

(a) Daily visible emission notations of the baghouse stack exhausts (~~BGH #1 - #6~~ **DC-1 and DC-2**) shall be performed during normal daylight operations when exhausting when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the sand handling operation, casting shakeout, and grinding/cleaning operation, at least once daily when the sand handling operation, casting shakeout, and grinding/cleaning operation are in operation when venting to the outside atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the ~~BGH #1 - #4~~ **Baghouses DC-1 and DC-2** shall be maintained within the range of ~~1.0 to 2.5~~ **4.0 to 6.0** inches of water, ~~the BGH #5 shall be maintained within the range of 4.0 to 6.0 inches of water, and the BGH #6 shall be maintained within the range of 5.0 to 7.0 inches of water,~~ or ranges established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

(vi) The following insignificant activities (as defined in 326 IAC 2-7-1(21)) have been added to the source::

Two (2) baghouses, each with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate of less than or equal to 4,000 actual cubic feet per minute, described as follows:

(a) Baghouse DC-3 controlling emissions from the Pattern Shop.

(b) Baghouse DC-4 controlling dust during removal of scrap sand.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this amendment with the original permit.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

SP/EVP

cc: File - Marshall County
Marshall County Health Department
South Bend Regional Office - Paul Karkiewicz
Compliance Data Section - Jerri Curless
Permit Tracking - Janet Mobley
Air Programs Section - Nancy Landau

PART 70 OPERATING PERMIT
OFFICE OF AIR MANAGEMENT

Bremen Casting, Inc.
500 North Baltimore Street
Bremen, Indiana 46506

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T099-6206-00001	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: January 21, 1999

First Administrative Amendment: AT 099-10532	Pages Affected: Cover page, 5, 6, 28, 33, 34
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary gray and ductile iron castings manufacturer.

Responsible Official:	Kyle Morton
Source Address:	500 North Baltimore Street, Bremen, Indiana 46506
Mailing Address:	P. O. Box 129, Bremen, Indiana 46506
SIC Code:	3321
County Location:	Marshall
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

(a) Handling of charge materials for melting furnaces;

(b) A cupola melting operation consisting of one (1) 14 tons per hour cupola furnace, identified as CUPOLA, one (1) 40 ton electric induction holding furnace for holding molten metal from the cupola furnace, and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1. CUPOLA is equipped with a wet scrubber, identified as WS#1, for particulate matter control, and exhausting through one (1) stack, identified as DS-9;

(c) An electric induction furnace (EIF) melting operation consisting of two (2) 1.75 tons per hour electric induction furnaces, identified as #1 and #2, and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1, with particulate matter emissions controlled by a baghouse, identified as DC-2;

(d) A shell core making process consisting of seven (7) natural gas fired shell core machines with a maximum capacity of 0.70 tons of cores per hour in total, exhausting through two stacks identified as RE-19 and RE-20;

(e) An isocure core making process consisting of one (1) sand mixer and two (2) isocure core machines, each with a maximum capacity of 1.0 ton of cores per hour, exhausting through one (1) stack, identified as DS-12;

(f) A sand handling system consisting of:

(1) one (1) shakeout system including one (1) shaker pan and one (1) rotary shakeout, with particulate matter emissions controlled by a baghouse, identified as DC-2,

(2) one (1) sand muller, two (2) silos, two (2) sand storage tanks, two (2) elevators, conveyors, one (1) magnetic separator, one (1) sand cooler, one (1) sand screen, and one (1) recycle sand hopper, with particulate matter emissions controlled by a baghouse, identified as DC-2; and

(g) A grinding/cleaning operation including three (3) shot blast machines, identified as Shot #1 - #3, and grinding/finishing, controlled by a baghouse (DC-1), and exhausting through one (1) stack (DC-1); and

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1 (21) that have applicable requirements.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
(a) Handling of charge materials for melting furnaces;
(b) A cupola melting operation consisting of one (1) 14 tons per hour cupola furnace, identified as CUPOLA, one (1) 40 ton electric induction holding furnace for holding molten metal from the cupola furnace, and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1. CUPOLA is equipped with a wet scrubber, identified as WS#1, for particulate matter control, and exhausting through one (1) stack, identified as DS-9; and
(c) An electric induction furnace (EIF) melting operation consisting of two (2) 1.75 tons per hour electric induction furnaces, identified as #1 and #2 and ladles for pouring molten metal into the molds from one of the seven (7) mold making machines, identified as Hunter #1 - Hunter #6 and Sinto #1, with particulate matter emissions controlled by a baghouse, identified as DC-2. (DC-2 is also used to control PM emissions for the sand handling system in Section D.3. Compliance monitoring requirements for DC-2 are detailed in Section D.3)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emissions from charge handling shall not exceed 21.67 pounds per hour, when operating at a total process weight rate of 12 tons per hour.

(b) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emissions from the cupola shall not exceed 21.67 pounds per hour, when each is operating at a total process weight rate of 12 tons per hour.

Any change or modification for the cupola that would lead to increase in process weight rate of greater than 12 tons per hour must be approved by the OAM before such change can occur.

(b) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emissions from each electric induction furnace shall not exceed 5.96 pounds per hour, when each is operating at a total process weight rate of 1.75 tons per hour.

(c) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emissions from pouring/cooling processed in the Hunter #1 - # 6 and Sinto #1 Lines shall not exceed 32.5, 32.5, 32.5, 43.6, 32.5, 32.5 and 45.3 pounds per hour, respectively, when operating at total process weight rates of 21.9, 21.9, 21.9, 45.2, 21.9, 21.9 and 54.0 tons per hour, respectively.

The above pounds per hour limitations were calculated with the following equation:

For $P < 30$ tons/hr
$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

For $P > 30$ tons/hr
$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(f) A sand handling system consisting of:
  (1) one (1) shakeout system including one (1) shaker pan and one (1) rotary shakeout, with particulate matter emissions controlled by a baghouse, identified as DC-2,
  (2) one (1) sand muller, two (2) silos, two (2) sand storage tanks, two (2) elevators, conveyors, one (1) magnetic separator, one (1) sand cooler, one (1) sand screen, and one (1) recycle sand hopper, with particulate matter emissions controlled by a baghouse, identified as DC-2; and

(g) A grinding/cleaning operation including three (3) shot blast machines, identified as Shot #1 - #3, and grinding/finishing, controlled by a baghouse (DC-1), and each exhausting through one (1) stack (DC-1).

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2(c)]

(a) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emissions from sand handling shall not exceed 51.28 pounds per hour, when operating at a total process weight rate of 100 tons per hour.

The above pounds per hour limitations were calculated with the following equation:

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

(b) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emissions from casting shakeout shall not exceed 21.67 pounds per hour, when operating at a total process weight rate of 12 tons per hour.

The above pounds per hour limitations were calculated with the following equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

(c) Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emissions from the grinding/cleaning operation shall not exceed 17.06 pounds per hour, when each is operating at a maximum process weight rate of 8.4 tons per hour.

The above pounds per hour limitations were calculated with the following equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

D.3.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

Compliance Determination Requirements

D.3.3 Testing Requirements [326 IAC 2-7-6(1), (6)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.4 Particulate Matter (PM)

The baghouses (DC-1 and DC-2) for PM control, shall be in operation at all times when the sand handling operation, casting shakeout, shot blasters and grinding/finishing operation are in operation and exhausting to the outside atmosphere.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.5 Visible Emissions Notations

(a) Daily visible emission notations of the baghouse stack exhausts (DC-1 and DC-2) shall be performed during normal daylight operations when exhausting when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the sand handling operation, casting shakeout, and grinding/cleaning operation, at least once daily when the sand handling operation, casting shakeout, and grinding/cleaning operation are in operation when venting to the outside atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the Baghouses DC-1 and DC-2 shall be maintained within the range of 4.0 to 6.0 inches of water, or ranges established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.