217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Mueller Company - Decatur Foundry
Attn: Todd A. Lewis
1226 East Garfield Avenue
Decatur, Illinois 62526

Application No.: 04070077 I.D. No.: 115015AGL
Applicant's Designation: Modernization Date Received: July 21, 2004
Subject: Brass Foundry
Date Issued: Expiration Date:
Location: 1226 East Garfield Avenue, Decatur

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of:

Zinc Melting Furnace
Aluminum Melting Furnace
Fiberglass Mold Making
Core Ovens
10 Brass Melting Electric Induction Furnaces with Dust Collection
Casting Operations (Consisting of Pouring/Casting, Casting Cooling, and Shakeout Areas)
2 Sand Silos with Dust Collection
1 Bond Silo with Dust Collection
10 Shell Core Machines

pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. This federally enforceable state operating permit is issued to limit the emissions from the foundry plant to less than major source thresholds (i.e., less than 100 tons/year of particulate matter 10 micron (PM_{10})). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.

b. Prior to initial issuance, a draft of this permit has undergone a public notice and comment period.

c. This permit supersedes all operating permits issued for this location.

2. Pursuant to 40 CFR 60.130(a), furnaces from which molten brass or bronze are cast into the shape of finished products, such as foundry furnaces, are not considered to be affected facilities that would be subject to the provisions of 40 CFR 60 Subpart M, New Source Performance Standards (NSPS) for Secondary Brass and Bronze Production Plants.

3a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124

b. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 Ill. Adm. Code 212.301 and 212.314.

c. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in Conditions 3(c)(i) through 3(c)(ii) (see also 35 Ill. Adm. Code 212.304 through 212.308) shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310 and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.

i. Materials Collected by Pollution Control Equipment: All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods, pursuant to 35 Ill. Adm. Code 212.307.

ii. Spraying or Choke-Feeding Required: Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program, pursuant to 35 Ill. Adm. Code 212.308.

d. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).

4. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm, pursuant to 35 Ill. Adm. Code 214.301.

5a. The dust collectors shall be in operation at all times when the associated emission units are in operation and emitting air contaminants.

b. The Permittee shall follow good operating practices for the baghouse, including periodic inspection, routine maintenance and prompt repair of defects.

6. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.

7. Emissions and operation of metal foundry operations shall not exceed the following limits:

Equipment	Metal Throughput (T/Mo)	(T/Yr)	Pollutant	Emission Factor (Lb/Ton)	Emissions (Lb/Mo)	(T/Yr)
Brass Melting w/ Dust Collection	3,668	36,680	PM	7.00	2,570.0	12.83
			PM_{10}	0.70	256.0	1.28
			Pb	0.35	128.0	0.64
			Se	0.070	24.0	0.12
Zinc Melting	0.5	5	PM	0.05	2.0	0.01
			PM_{10}	0.05	2.0	0.01
			VOM	0.20	2.0	0.01
Aluminum Melting	0.5	5	PM	0.90	2.0	0.01
			PM_{10}	0.86	2.0	0.01
			VOM	0.20	2.0	0.01
Pouring/Casting w/ Dust Collection*	2,183	21,839	PM	4.20	916.0	4.58
			PM_{10}	2.06	448.0	2.24
			VOM	0.14	304.0	1.52
			NO_x	0.01	20.0	0.10
			SO_2	0.02	42.0	0.21
			Pb	0.21	44.0	0.22
			Se	0.04	8.0	0.04
Pouring/Casting w/ partial Dust Collection**	1,220	12,200	PM	4.20	2,560.0	12.80
			PM_{10}	2.06	1,256.0	6.28
			VOM	0.14	170.0	0.85
			NO_x	0.01	12.0	0.06
			SO_2	0.02	24.0	0.12
			Pb	0.21	128.0	0.64
			Se	0.04	24.0	0.12
Casting Cooling	1,200	12,200	PM	1.40	1,706.0	8.53
			PM_{10}	1.40	1,706.0	8.53
			Pb	0.07	84.0	0.42
			Se	0.01	170.0	0.08
Casting Cooling w/ Dust Collection*	2,183	21,839	PM	2.80	610.0	3.05
			PM_{10}	1.40	304.0	1.52
			Pb	0.14	30.0	0.15

Equipment	Metal Throughput (T/Mo)	(T/Yr)	Pollutant	Emission Factor (Lb/Ton)	Emissions (Lb/Mo)	(T/Yr)
			Se	0.02	6.0	0.03
Casting Shakeout w/ Dust Collection*	3,668	36,680	PM	3.20	1,172.0	5.86
			PM_{10}	3.20	1,172.0	5.86
			Pb	0.16	58.0	0.29
			Se	0.03	10.0	0.05
			VOM	1.20	4,400.0	22.00
Sand System with Dust Collection	3,669	36,690	PM	12.00	4,402.0	22.01
			PM_{10}	6.00	2,200.0	11.00
			Pb	0.60	220.0	1.10
			Se	0.12	44.0	0.22
Shell Core Machines	134	1,346	NOx	0.50	66.0	0.33
			SOx	0.32	42.0	0.21
	235	2,355	PM	2.71	638.0	3.19
Core Sand Muller			PM-10	2.22	522.0	2.61
			NOx	0.50	116.0	0.58
Fiberglass Mold Making	1.1	11	PM	1.10	1.0	0.003
			PM-10	0.60	1.0	0.001
			VOM	35.00	38.4	0.192
			Styrene	35.00	38.4	0.192
Bond Silo			PM	3.00	36.0	0.18
Hours of Operations	120	1,202	PM-10	1.50	18.0	0.09
System Sand Silos						
Hours of Operations	293	2,938	PM	3.00	88.0	0.44
			PM-10	1.50	44.0	0.22
Core Sand Silos						
Hours of Operations	355	3,557	PM	3.00	106.0	0.53
			PM-10	1.50	52.0	0.26
EXEMPTED EMISSION	SOURCES			Lbs/mmcuft		
Comfort/Process Heat			PM	7.60	60.0	0.30
			PM-10	7.60	60.0	0.30
Hours of Operations		80	VOM	5.50	44.0	0.22
			NOx	100.00	800.0	4.00
			SOx	0.60	4.0	0.02
			CO	84.00	672.0	3.36
			NH-3	3.20	24.0	0.12
			HAPs	1.88	14.0	0.07
Concentrator Mill w/ Dust			PM	1.13	28.0	0.14
			PM-10	0.56	14.0	0.07

Equipment	Metal Throughput (T/Mo)	Metal Throughput (T/Yr)	Pollutant	Emission Factor (Lb/Ton)	Emissions (Lb/Mo)	Emissions (T/Yr)
Collection*			Pb	0.05	1.4	0.007
Hours of Operations	264	2,641	Se	0.01	1.0	0.001
Abrasive Cut-Off			PM	1.13	206.0	1.03
Saw w/Dust			PM-10	0.56	102.0	0.51
Collection			Pb	0.05	10.0	0.05
Hours of Operations	183	18,340	Se	0.01	2.0	0.01
Grinding w/Duct Collection						
Hours of Operations	146	14,672	PM	1.13	166.0	0.83
			PM-10	0.56	82.0	0.41
			Pb	0.05	8.0	0.04
			Se	0.11	1.6	0.008
Tumble Blast	3,668	36,680	PM	1.13	414.0	2.07
Machine w/Dust			PM-10	0.56	206.0	1.03
Collection			Pb	0.05	20.0	0.10
Hours of Operations			Se	0.01	4.0	0.02

Total Emissions In Tons Per Year										
PM	PM-10	Pb	Se	VOM	NOx	SOx	CO	NH-3	Styrene	HAPs
78.39	42.23	3.66	0.70	24.80	5.07	0.56	3.36	0.12	0.19	0.07

These limits are based on representations of the maximum production rates, the use of standard emission factors (FIRE, Version 6.25), and manufacturer's control efficiencies for the dust collectors.

8. This permit is issued based on negligible emissions of particulate matter (PM) from 1 bond and 2 sand silos with dust collection. For this purpose emissions from each emission source, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year.

9. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

10a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109, and 212.110, testing for particulate matter emissions shall be performed as follows:

i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301, pursuant to 35 Ill. Adm. Code 212.107.

ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged, pursuant to 35 Ill. Adm. Code 212.109.

iii. Measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E, pursuant to 35 Ill. Adm. Code 212.110(a).

iv. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4, pursuant to 35 Ill. Adm. Code 212.110(b).

v. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA, pursuant to 35 Ill. Adm. Code 212.110(c).

b. Testing required by Condition 8(a) shall be performed by a qualified independent testing service.

11. Inspections of the brass foundry and dust collection systems equipment and operations shall be performed as necessary but at least once per week when the emission units associated with the dust collectors are in operation to confirm compliance with the requirements of this permit.

12a. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.

b. The Permittee shall maintain records of the following items, and such other items as may be appropriate to allow the Illinois EPA to review compliance with the limits in this permit.

i. Records addressing the application of control measures taken pursuant to the operating program required by Condition 3(c) which are used to reduce fugitive particulate matter emissions.

ii. Records addressing use of good operating practices for the dust collectors:

A. Operating logs for the dust collectors, including operating data (pressure drop or stack condition), daily upon startup;

B. Records for periodic inspection of the dust collectors with date, individual performing the inspection, and nature of inspection; and

C. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.

iii. Brass casting production (tons/month and tons/year);

iv. Copper Based Alloy production (tons/month and tons/year);

v. New Sand additions (tons/month and tons/year); and

vi. Monthly and annual NO_x, PM, PM_{10}, SO_2, and lead emissions from the brass foundry shall be maintained, based on brass casting and the applicable emission factors, with supporting calculations (tons/month and tons/year).

c. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years after the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.

13a. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.

b. If there is an exceedance of or a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA’s Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a

description of the exceedance or deviation and efforts to reduce emissions and future occurrences.

14. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control - Region 3
2009 Mall Street
Collinsville, Illinois 62234

Please note that this permit has been revised to incorporate the operation of the equipment in Construction Permit #06040011 and #06070078.

If you have any questions on this, please call Dwayne Booker at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:DLB:psj

cc: Region 3

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the brass foundry operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are below the levels, (e.g., 100 tons per year of particulate matter and volatile organic material, 10 tons per year for a single HAP, and 25 tons per year for totaled HAP, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

	EMISSION (Tons/Year)											
Emission unit	PM	PM_{10}	VOM	SO_2	CO	NOx	Pb	Se	Styrene	NH3	Single HAP	Combined HAPs
Brass Melting w/ Dust Collection	12.83	1.28					0.64	0.12				
Zinc Melting	0.01	0.01	0.01									
Aluminum Melting	0.01	0.01	0.01									
Pouring/Casting w/ Dust Collection	4.58	2.24	1.52	0.21		0.10	0.22	0.04				
Pouring/Casting w/ partial Dust Collection	12.80	6.28	0.85	0.12		0.06	0.64	0.12				
Casting Cooling	8.53	8.53					0.42	0.08				
Casting Cooling w/ Dust Collection	3.05	1.52					0.15	0.03				
Casting Shakeout w/ Dust Collection	5.86	5.86	22.00				0.29	0.05				
Sand System with Dust Collection	22.01	11.00					1.10	0.22				
Shell Core Machines				0.21		0.33						
Core Ovens with Core Sand Muller	3.19	2.61				0.58						
Fiberglass Mold Making	0.003	0.001	0.192						0.19			
Bond Silo	0.18	0.09										
System Sand Silos	0.44	0.22										
Core Sand Silos	0.53	0.26										
Comfort/Process Heat	0.30	0.30	0.22	0.02	3.36	4.00				0.12	0.07	
Concentrator Mill w/ Dust Collection	0.14	0.07					0.007	0.001				
Abrasive Cut-Off Saw w/Dust Collection	1.03	0.51					0.05	0.01				
Grinding w/Duct Collection	0.83	0.41					0.04	0.008				
Tumble Blast Machine w/Dust Collection	2.07	1.03					0.10	0.02				
Totals	78.39	42.23	24.80	0.56	3.36	5.07	3.66	0.70	0.19	0.12	0.07	0.00