



Missouri Department of Natural Resources  
Air Pollution Control Program

## PART 70 PERMIT TO OPERATE

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to operate the air contaminant source(s) described below, in accordance with the laws, rules, and conditions set forth herein.

**Operating Permit Number:** OP2010-122  
**Expiration Date:** NOV 18 2015  
**Installation ID:** 113-0029  
**Project Number:** 2009-07-021

**Installation Name and Address**

Bodine Aluminum, Inc.  
100 Cherry Blossom Way  
Troy, MO 63379  
Lincoln County

**Parent Company's Name and Address**

Toyota Motor Engineering and Manufacturing North America, Inc.  
25 Atlantic Avenue  
Erlanger, KY 41018

**Installation Description:**

Bodine Aluminum, Inc. is an aluminum die casting installation located in Lincoln County. They are a wholly owned division of Toyota Motor Engineering and Manufacturing North America, Inc.

NOV 19 2010

\_\_\_\_\_  
Effective Date

*Carolee for JLK*  
\_\_\_\_\_  
Director or Designee  
Department of Natural Resources

---

---

## Table of Contents

<b>I. INSTALLATION DESCRIPTION AND EQUIPMENT LISTING .....</b>	<b>4</b>
INSTALLATION DESCRIPTION .....	4
EMISSION UNITS WITH LIMITATIONS .....	4
EMISSION UNITS WITHOUT LIMITATIONS .....	5
DOCUMENTS INCORPORATED BY REFERENCE .....	5
<b>II. PLANT WIDE EMISSION LIMITATIONS.....</b>	<b>6</b>
PERMIT CONDITION PW001 .....	6
10 CSR 10-6.060 Construction Permits Required.....	6
Construction Permit 112008-006, Issued November 14, 2008.....	6
PERMIT CONDITION PW002.....	9
10 CSR 10-6.060 Construction Permits Required.....	9
Construction Permit 0194-014, Issued January 1994.....	9
PERMIT CONDITION PW003 .....	10
10 CSR 10-6.060 Construction Permits Required.....	10
Construction Permit 0196-019A, Issued January 1996.....	10
<b>III. EMISSION UNIT SPECIFIC EMISSION LIMITATIONS .....</b>	<b>11</b>
EU0050 – ALUMINUM MELTING FURNACE #5 .....	11
EU0060 – SAND RECLAMATION FURNACE #1 .....	11
EU0070 – SAND RECLAMATION FURNACE #2 .....	11
EU0080 – RESIN COATING.....	11
PERMIT CONDITION (EU0050 through EU0080)-001 .....	11
10 CSR 10-6.060 Construction Permits Required.....	11
Construction Permit 112008-006, Issued November 14, 2008.....	11
10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes.....	11
PERMIT CONDITION (EU0050 through EU0080)-002 .....	12
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants .....	12
EU0102 – CYLINDER HEAD CORE MOLDING 102.....	13
EU0103 – CYLINDER HEAD CORE MOLDING 103.....	13
EU0104 – CYLINDER HEAD CORE MOLDING 104.....	13
EU0105 – CYLINDER HEAD CORE MOLDING 105.....	13
EU0106 – CYLINDER HEAD CORE MOLDING 106.....	13
PERMIT CONDITION (EU0102 through EU0106)-001 .....	13
10 CSR 10-6.060 Construction Permits Required.....	13
Construction Permit 112008-006, Issued November 14, 2008.....	13
EU0132 – CYLINDER HEAD CASTING 132.....	14
EU0133 – CYLINDER HEAD CASTING 133.....	14
EU0134 – CYLINDER HEAD CASTING 134.....	14
EU0135 – CYLINDER HEAD CASTING 135.....	14
EU0136 – CYLINDER HEAD CASTING 136.....	14
PERMIT CONDITION (EU0132 through EU0136)-001 .....	15
10 CSR 10-6.060 Construction Permits Required.....	15
Construction Permit 112008-006, Issued November 14, 2008.....	15
10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes.....	15
PERMIT CONDITION (EU0132 through EU0136)-002 .....	16
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants .....	16
EU0150 – USED SAND CRUSHING.....	16
EU0160 – COATED SAND CRUSHING .....	16
EU0170 – SAND COOLING .....	16
PERMIT CONDITION (EU0150 through EU0170)-001 .....	16
10 CSR 10-6.060 Construction Permits Required.....	16

---

Construction Permit 112008-006, Issued November 14, 2008.....	16
10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes.....	16
PERMIT CONDITION (EU0150 through EU0170)-002.....	18
10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants .....	18
EU0180 – USED SAND SIEVING .....	18
EU0190 – COATED SAND SIEVING .....	18
EU0210 – ALUMINUM AND SAND SEPARATION.....	18
EU0220 – FINAL SAND CRUSHING .....	18
EU0230 – SAND SEPARATION .....	18
EU0240 – SAND STORAGE.....	18
EU0250 – SAND WEIGHING.....	18
EU0260 – SAND HEATING .....	18
EU0270 – HEATED SAND STORAGE .....	18
EU0280 – COATED SAND STORAGE.....	18
PERMIT CONDITION (EU0180 through EU0280)-001 .....	19
10 CSR 10-6.060 Construction Permits Required.....	19
Construction Permit 112008-006, Issued November 14, 2008.....	19
EU0290 – DIESEL EMERGENCY GENERATOR.....	19
PERMIT CONDITION EU0290-001 .....	19
10 CSR 10-6.070 New Source Performance Regulations .....	19
40 CFR Part 60, Subpart A General Provisions and Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.....	19
PERMIT CONDITION EU0290-002 .....	20
10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds .....	20
<b>IV. CORE PERMIT REQUIREMENTS .....</b>	<b>22</b>
<b>V. GENERAL PERMIT REQUIREMENTS.....</b>	<b>30</b>
<b>VI. ATTACHMENTS .....</b>	<b>36</b>
ATTACHMENT A .....	37
Monthly PM <sub>10</sub> Emissions Tracking Record .....	37
ATTACHMENT B .....	38
Monthly VOC Emissions Tracking Record .....	38
ATTACHMENT C .....	39
Monthly NO <sub>x</sub> Emissions Tracking Record.....	39
ATTACHMENT D .....	40
Fugitive Emission Observations .....	40
ATTACHMENT E .....	41
Opacity Emission Observations .....	41
ATTACHMENT F.....	42
Inspection/Maintenance/Repair/Malfunction Log.....	42
ATTACHMENT G .....	43
Method 9 Opacity Emissions Observations .....	43

## I. Installation Description and Equipment Listing

### INSTALLATION DESCRIPTION

Bodine Aluminum, Inc. is an aluminum die casting installation located in Lincoln County. They are a wholly owned division of Toyota Motor Manufacturing of North America.

Reported Air Pollutant Emissions, tons per year								
Year	Particulate Matter ≤ Ten Microns (PM-10)	Sulfur Oxides (SO <sub>x</sub> )	Nitrogen Oxides (NO <sub>x</sub> )	Volatile Organic Compounds (VOC)	Carbon Monoxide (CO)	Lead (Pb)	Hazardous Air Pollutants (HAPs)	Particulate Matter ≤ 2.5 Microns (PM-2.5)
2009	17.64	0.04	25.94	54.52	3.35	--	1.14	--
2008	27.25	0.06	37.23	79.04	4.71	--	1.76	--
2007	33.23	0.07	45.49	97.09	1.37	--	2.50	--
2006	42.42	0.75	59.24	113.29	1.57	--	4.04	--
2005	61.05	9.91	79.45	118.89	2.60	--	3.75	36.18

### EMISSION UNITS WITH LIMITATIONS

The following list provides a description of the equipment at this installation that emits air pollutants and that are identified as having unit-specific emission limitations.

Emission Unit #	Description of Emission Unit
EU0050	Aluminum Melting Furnace #5
EU0060	Sand Reclamation Furnace #1
EU0070	Sand Reclamation Furnace #2
EU0080	Resin Coating
EU0102	Cylinder Head Core Molding 102
EU0103	Cylinder Head Core Molding 103
EU0104	Cylinder Head Core Molding 104
EU0105	Cylinder Head Core Molding 105
EU0106	Cylinder Head Core Molding 106
EU0132	Cylinder Head Casting 132
EU0133	Cylinder Head Casting 133
EU0134	Cylinder Head Casting 134
EU0135	Cylinder Head Casting 135
EU0136	Cylinder Head Casting 136
EU0150	Used Sand Crushing
EU0160	Coated Sand Crushing
EU0170	Sand Cooling
EU0180	Used Sand Sieving
EU0190	Coated Sand Sieving
EU0210	Aluminum and Sand Separation
EU0220	Final Sand Crushing
EU0230	Sand Separation
EU0240	Sand Storage
EU0250	Sand Weighing

Emission Unit #	Description of Emission Unit
EU0260	Sand Heating
EU0270	Heated Sand Storage
EU0280	Coated Sand Storage
EU0290	Diesel Emergency Generator

**EMISSION UNITS WITHOUT LIMITATIONS**

The following list provides a description of the equipment that does not have unit specific limitations at the time of permit issuance.

Description of Emission Source	2008 EIQ Reference #
Ladle Preheaters (0.4 MMBtu/hr)	C1
Die Preheaters (0.47 MMBtu/hr each)	C1
Water Heaters (0.012 MMBtu/hr each)	C1
HV Units (128.3 MMBtu/hr total, < 10 MMBtu/hr each)	C1
Three 0.012 MMBtu/hr Natural Gas Die Heating Ovens	C1
Cylinder Head (0.95 MMBtu/hr each, 45 total) Heat Treat Furnaces	OA7, C1
Resin Charging	P12
Die Casting	P30
Finish Lines, fugitive within building	G1
Final Inspection, fugitive within building	G1
Die Maintenance Shot Blast, fugitive within building	G1
Welding, fugitive within building	G1
Water Quench, fugitive within building	Not Applicable
Surface Impregnation HP, fugitive within building	ST108
Machining, fugitive within building	M1
Exhaust Fans, venting indoor air	G1
Cylinder Block, dry machining	G1
Aluminum Storage	Not Applicable
Die Storage	Not Applicable
Scrap Aluminum Storage	Not Applicable
Product Storage	Not Applicable

**DOCUMENTS INCORPORATED BY REFERENCE**

These documents have been incorporated by reference into this permit.

- 1) Missouri Department of Natural Resources Construction Permit 112008-006, Issued November 14, 2008

## II. Plant Wide Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

**PERMIT CONDITION PW001**  
 10 CSR 10-6.060 Construction Permits Required  
 Construction Permit 112008-006, Issued November 14, 2008

### Emission Limitations

- 1) Bodine Aluminum, Inc. shall emit less than 250 tons of Particulate Matter less than ten microns in diameter (PM<sub>10</sub>) from the entire installation in any consecutive 12-month period. Table 1 lists the stack and equipment that are applicable to this limitation. This limitation includes all existing emission sources on site. [Construction Permit 112008-006, Special Condition 2.A]
- 2) Bodine Aluminum, Inc. shall emit less than 250 tons of Volatile Organic Compounds (VOCs) from the entire installation in any consecutive 12-month period. Table 1 lists the stack and equipment that are applicable to this limitation. This limitation includes all existing emission sources on site. [Construction Permit 112008-006, Special Condition 2.B]
- 3) Bodine Aluminum, Inc. shall emit less than 250 tons of Nitrogen Oxide (NO<sub>x</sub>) from the entire installation in any consecutive 12-month period. Table 1 lists the stack and equipment that are applicable to this limitation. This limitation includes all existing emission sources on site. [Construction Permit 112008-006, Special Condition 2.C]

**Table 1: Stack and Equipment Identification Applicable to Emission Limitations**

Stack Identification	Equipment Identification	Description
ST-3	OD2	Receive approximately 14% of casting (O2) and core molding (O5) emissions and a number of die preheaters (C1) - Potential sand usage - 67506 tons/year and 7.70 tons/hour based on 8760 hours/year
ST-6B	DC1B	Used sand crushing (P1), used sand sieving (P2), al/sand sep (P3), sand sep/storage (P6, P7), sand crush (P4) - Potential sand usage - 67506 tons/year and 8.0 tons/hour
ST-6A	DC1A	Sand weighing (P8), heating (P9), heat storage (P10), resin charging (P12), coated sand crush (P14) and cooling (P14) and sieving (P15) and storage (P16) - Potential sand usage - 67506 tons/year and 8.0 tons/hour
ST-7	DC2	Rec furnace 1 and combustion emissions
ST-8	DC3/ OD1	Resin coating and TO combustion emissions
ST-12	DC12	Melter 5 and combustion emissions
ST-19	OD3	Receive approximately 25% of casting (O2) and core molding (O5) emissions and a number of die preheaters - Potential sand usage - 67506 tons/year and 7.70 tons/hour based on 8760 hours/year
ST-20	OD4	Receive approximately 25% of casting (O2) and core molding (O5) emissions and a number of die preheaters - Potential sand usage - 67506 tons/year and 7.70 tons/hour based on 8760 hours/year

Stack Identification	Equipment Identification	Description
ST-23	DC16	Rec furnace 2 and combustion emissions
ST-24	OD5	Receive approximately 14% of casting (O2) and core molding (O5) emissions and a number of die preheaters - Potential sand usage - 67506 tons/year and 7.70 tons/hour based on 8760 hours/year
ST-25	OD6	Receive approximately 25% of casting (O2) and core molding (O5) emissions and a number of die preheaters - Potential sand usage - 67506 tons/year and 7.70 tons/hour based on 8760 hours/year
WH1		2 water heaters to 1 stack - combustion emissions
EF1		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF2		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF3		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF4		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF5		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF6		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF7		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF8		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF9		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF10		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF11		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF29		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF30		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF31		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF32		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF33		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF34		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF37		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF38		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF36		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF40		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF44A		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF45		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF48		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF49		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF50		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF52		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF53		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF54		Remaining Plant Nat Gas, 5 old Heat Transfer (OA7), G1, Machining
EF55		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF56		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF57		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF58		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF59		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF60		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF61		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF62		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF63		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF64		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining
EF65		Remaining Plant Nat Gas, 5 old HT (OA7), G1, Machining

Stack Identification	Equipment Identification	Description
HF5	OA7	Combustion emissions only to stack, HT emissions to G1
HF8	OA7	Combustion emissions only to stack, Heat Treating emissions to G1
HF9	OA7	Combustion emissions only to stack, Heat Treating emissions to G1
HF10	OA7	Combustion emissions only to stack, Heat Treating emissions to G1
HF11	OA7	Combustion emissions only to stack, Heat Treating emissions to G1
HF12	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF13	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF14	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF15	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF16	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF17	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF18	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF19	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF20	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF21	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF22	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF23	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF24	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF25	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF26	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF27	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF28	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF29	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF30	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF31	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF32	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF33	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF34	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF35	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF36	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF37	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF38	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF39	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF40	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF41	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF42	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF43	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF44	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF45	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF46	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF47	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF48	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF49	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF50	OA7	Combustion and new Heat Treating (OA7) emissions to stack
HF51	OA7	Combustion and new Heat Treating (OA7) emissions to stack
DO1	OA7	Die Heat Ovens combustion emissions



**Monitoring/Recordkeeping:**

- 1) Attachments A, B and C or equivalent forms approved by the Air Pollution Control Program that are adequate to determine the total emissions of PM<sub>10</sub>, VOC, and NO<sub>x</sub> shall be used to demonstrate compliance with Special Conditions 2.A., 2.B., and 2.C. [Construction Permit 112008-006, Special Condition 2.D]
- 2) Bodine Aluminum, Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Construction Permit 112008-006, Special Condition 2.D]

**Reporting:**

- 1) If a continued situation of demonstrated nuisance odors exists in violation of 10 CSR 10-3.090, the Director may require through written notice Bodine Aluminum Inc. to submit a corrective action plan within ten (10) days adequate to timely and significantly mitigate the odors. Bodine Aluminum, Inc. shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be in violation of this permit. [Construction Permit 112008-006, Special Condition 6.A]
- 2) Bodine Aluminum, Inc. shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which records indicate that the source exceeds the emission limitations. [Construction Permit 112008-006, Special Condition 2.E]

**PERMIT CONDITION PW002**

10 CSR 10-6.060 Construction Permits Required  
Construction Permit 0194-014, Issued January 1994

**Operational Limitation:**

- 1) All emission control equipment associated with this installation shall be maintained and operated in serviceable condition as prescribed by the manufacturer during operation. [Construction Permit 0194-014, Special Condition 1]
- 2) If the presence of PM<sub>10</sub> (particulate matter less than ten microns) in the ambient air is detected in quantity and duration that directly or approximately causes or contributes to injury to human, plant or animal life or health, or to property, or that unreasonably interferes with the enjoyment of life or use of property, or is a violation of a state rule, the permittee shall immediately undertake a program that will correct the problem (taken from the Missouri Air Conservation Law, Chapter 643 RSMo). [Construction Permit 0194-014, Special Condition 2]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.

**PERMIT CONDITION PW003**

10 CSR 10-6.060 Construction Permits Required  
Construction Permit 0196-019A, Issued January 1996

**Operational Limitation:**

At all times when the permittee's installation is in operation, the permittee shall maintain in good working order all equipment which emits or is a control device for any regulated pollutant.  
[Construction Permit 0196-019A, Special Condition 7]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.

### III. Emission Unit Specific Emission Limitations

The installation shall comply with each of the following emission limitations. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued.

<b>EU0050 – ALUMINUM MELTING FURNACE #5</b> <b>EU0060 – SAND RECLAMATION FURNACE #1</b> <b>EU0070 – SAND RECLAMATION FURNACE #2</b> <b>EU0080 – RESIN COATING</b>		
Emission Unit	Description	2008 EIQ Reference #
EU0050	Aluminum Melting Furnace #5: open flame reverberatory melting furnace; process weight rate 3.86 ton/hr; natural gas-fired; 10 MMBtu/hr; emissions are controlled by baghouse (DC-12); installed 1996	P15M
EU0060	Sand Reclamation Furnace #1: sand reclamation furnace used to remove any residual resin in the recycled sand; process weight rate 4.0 ton/hr; natural gas-fired; 4.8 MMBtu/hr; emissions are controlled by a baghouse (DC-2); installed 1996	P5
EU0070	Sand Reclamation Furnace #2: sand reclamation furnace used to remove any residual resin in the recycled sand; process weight rate 4.0 ton/hr; natural gas-fired; 4.8 MMBtu/hr; emissions are controlled by a baghouse (DC-16); installed 1996	P5
EU0080	Resin Coating: a muller used to mix sand and resin coatings; process weight rate 8.0 ton/hr; offgasses are preheated with a natural gas direct heater (4 MMBtu/hr); and destroyed by a thermal oxidizer (OD-1) fired by natural gas (8.9 MMBtu/hr). The muller is also equipped with a baghouse (DC-3); installed in 1996.	P11, C1

<b>PERMIT CONDITION (EU0050 through EU0080)-001</b> 10 CSR 10-6.060 Construction Permits Required Construction Permit 112008-006, Issued November 14, 2008 10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes
---

**Emission Limitation:**

- 1) The permittee shall not emit particulate matter from emission units EU0050 through EU0080 in excess of the amounts in Table 2.

**Table 2: PM Emission Limitations for EU0050 through EU0080**

EU ID #	EU Description	Allowable PM Emission Rate (lbs/hr)
EU0050	Aluminum Melting Furnace #5	10.13
EU0060	Sand Reclamation Furnace #1	10.38
EU0070	Sand Reclamation Furnace #2	10.38
EU0080	Resin Coating	10.38

- 2) The permittee shall not emit particulate matter from any source in a concentration in excess of 0.30 grains per standard cubic feet of exhaust gases.

**Monitoring:**

The control equipment detailed in Table 3 must be in operation all times when the equipment is in operation. The control equipment shall be operated and maintained in accordance with the manufacturer's specifications. [Construction Permit 112008-006, Special Condition 3.A]

**Table 3: Pollution Control Equipment Applicable to EU0050 through EU0080**

EU ID #	Device Number and Code	Type
EU0050	DC-12, 016	Baghouse
EU0060	DC-2, 017	Baghouse
EU0070	DC-16, 017	Baghouse
EU0080	DC-3, 016	Baghouse
	OD-1, 001	Baghouse/thermal Oxidizer

**Recordkeeping:**

Bodine Aluminum, Inc. shall maintain an operating and maintenance log for the control equipment which shall include the following: [Construction Permit 112008-006, Special Condition 3.B]

- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; [C.P. 112008-006, Special Condition 3.B.i]
- 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc. [Construction Permit 112008-006, Special Condition 3.B.ii]
- 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection. [Construction Permit 112008-006, Special Condition 3.B.iii]
- 4) Bodine Aluminum, Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Construction Permit 112008-006, Special Condition 3.B.iv]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.

**PERMIT CONDITION (EU0050 through EU0080)-002**

10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

**Emission Limitation:**

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

**Monitoring/Recordkeeping/Reporting:**

As detailed in Core Permit Requirements.

Note: The installation will only revert to weekly monitoring when a violation has been noted. Permit renewal or modification does not require the installation to revert to the weekly/bi-weekly opacity monitoring schedule. If the permittee is currently performing semi-annual monitoring it may continue unless a violation is noted.

<b>EU0102 – CYLINDER HEAD CORE MOLDING 102</b> <b>EU0103 – CYLINDER HEAD CORE MOLDING 103</b> <b>EU0104 – CYLINDER HEAD CORE MOLDING 104</b> <b>EU0105 – CYLINDER HEAD CORE MOLDING 105</b> <b>EU0106 – CYLINDER HEAD CORE MOLDING 106</b>		
Emission Unit	Description	2008 EIQ Reference #
EU0102	Cylinder Head Core Molding 102: core molding machines into which resin-coated sand is poured into a metal form and heated to create a specific shape that is later used to form the inner pathways of the castings; emissions are controlled by one wet scrubber (OD-2)	O5
EU0103	Cylinder Head Core Molding 103: core molding machines into which resin-coated sand is poured into a metal form and heated to create a specific shape that is later used to form the inner pathways of the castings; emissions are controlled by one wet scrubber (OD-3)	O5
EU0104	Cylinder Head Core Molding 103: core molding machines into which resin-coated sand is poured into a metal form and heated to create a specific shape that is later used to form the inner pathways of the castings; emissions are controlled by one wet scrubber (OD-4)	O5
EU0105	Cylinder Head Core Molding 105: core molding machines into which resin-coated sand is poured into a metal form and heated to create a specific shape that is later used to form the inner pathways of the castings; emissions are controlled by one wet scrubber (OD-5)	O5
EU0106	Cylinder Head Core Molding 106: core molding machines into which resin-coated sand is poured into a metal form and heated to create a specific shape that is later used to form the inner pathways of the castings; emissions are controlled by one wet scrubber (OD-6)	O5

**PERMIT CONDITION (EU0102 through EU0106)-001**  
 10 CSR 10-6.060 Construction Permits Required  
 Construction Permit 112008-006, Issued November 14, 2008

**Monitoring:**

The control equipment detailed in Table 4 must be in operation all times when the equipment is in operation. The control equipment shall be operated and maintained in accordance with the manufacturer's specifications. [Construction Permit 112008-006, Special Condition 3.A]

**Table 4: Pollution Control Equipment Applicable to EU0102 through EU0106**

EU ID #	Device Number and Code	Type
EU0102	OD-2, 001	ABB Wet Scrubber
EU0103	OD-3, 001	ABB Wet Scrubber
EU0104	OD-4, 001	ABB Wet Scrubber
EU0105	OD-5, 001	ABB Wet Scrubber
EU0106	OD-6, 001	ABB Wet Scrubber

**Recordkeeping:**

Bodine Aluminum, Inc. shall maintain an operating and maintenance log for the control equipment which shall include the following: [Construction Permit 112008-006, Special Condition 3.B]

- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; [Construction Permit 112008-006, Special Condition 3.B.i]
- 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc. [Construction Permit 112008-006, Special Condition 3.B.ii]
- 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection. [Construction Permit 112008-006, Special Condition 3.B.iii]
- 4) Bodine Aluminum, Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Construction Permit 112008-006, Special Condition 3.B.iv]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.

<b>EU0132 – CYLINDER HEAD CASTING 132</b> <b>EU0133 – CYLINDER HEAD CASTING 133</b> <b>EU0134 – CYLINDER HEAD CASTING 134</b> <b>EU0135 – CYLINDER HEAD CASTING 135</b> <b>EU0136 – CYLINDER HEAD CASTING 136</b>		
Emission Unit	Description	2008 EIQ Reference #
EU0132	Cylinder Head Casting 132: molten metal is poured into die/core assemblies to form castings; emissions are controlled by one wet scrubber (OD-2)	O2
EU0133	Cylinder Head Casting 133: molten metal is poured into die/core assemblies to form castings; emissions are controlled by one wet scrubber (OD-3)	O2
EU0134	Cylinder Head Casting 134: molten metal is poured into die/core assemblies to form castings; emissions are controlled by one wet scrubber (OD-4)	O2
EU0135	Cylinder Head Casting 135: molten metal is poured into die/core assemblies to form castings; emissions are controlled by one wet scrubber (OD-5)	O2
EU0136	Cylinder Head Casting 136: molten metal is poured into die/core assemblies to form castings; emissions are controlled by one wet scrubber (OD-6)	O2

**PERMIT CONDITION (EU0132 through EU0136)-001**  
 10 CSR 10-6.060 Construction Permits Required  
 Construction Permit 112008-006, Issued November 14, 2008  
 10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes

**Emission Limitation:**

- 1) The permittee shall not emit particulate matter from the emission units EU0132 through EU0136 in excess of the amounts listed in Table 5.

**Table 5: PM Emission Limitations for EU0132 through EU0136**

EU ID #	EU Description	Allowable PM Emission Rate (lbs/hr)
EU0132	Cylinder Head Casting 132	4.27
EU0133	Cylinder Head Casting 133	6.30
EU0134	Cylinder Head Casting 134	6.30
EU0135	Cylinder Head Casting 135	4.27
EU0136	Cylinder Head Casting 136	6.30

- 2) The permittee shall not emit particulate matter from any source in a concentration in excess of 0.30 grains per standard cubic feet of exhaust gases.

**Monitoring:**

The control equipment detailed in Table 6 must be in operation all times when the equipment is in operation. The control equipment shall be operated and maintained in accordance with the manufacturer's specifications. [Construction Permit 112008-006, Special Condition 3.A]

**Table 6: Pollution Control Equipment Applicable to EU0132 through EU0136**

EU ID #	Device Number and Code	Type
EU0132	OD-2, 001	ABB Wet Scrubber
EU0133	OD-3, 001	ABB Wet Scrubber
EU0134	OD-4, 001	ABB Wet Scrubber
EU0135	OD-5, 001	ABB Wet Scrubber
EU0136	OD-6, 001	ABB Wet Scrubber

**Recordkeeping:**

Bodine Aluminum, Inc. shall maintain an operating and maintenance log for the control equipment which shall include the following: [Construction Permit 112008-006, Special Condition 3.B]

- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; [Construction Permit 112008-006, Special Condition 3.B.i]
- 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc. [Construction Permit 112008-006, Special Condition 3.B.ii]
- 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection. [Construction Permit 112008-006, Special Condition 3.B.iii]

- 4) Bodine Aluminum, Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Construction Permit 112008-006, Special Condition 3.B.iv]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.

**PERMIT CONDITION (EU0132 through EU0136)-002**  
 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

**Emission Limitation:**

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

**Monitoring/Recordkeeping/Reporting:**

As detailed in Core Permit Requirements.

Note: The installation will only revert to weekly monitoring when a violation has been noted. Permit renewal or modification does not require the installation to revert to the weekly/bi-weekly opacity monitoring schedule. If the permittee is currently performing semi-annual monitoring it may continue unless a violation is noted.

<b>EU0150 – USED SAND CRUSHING            EU0160 – COATED SAND CRUSHING            EU0170 – SAND COOLING</b>		
Emission Unit	Description	2008 EIQ Reference #
EU0150	Used Sand Crushing: crushing of used sand for reuse in sand reclamation; emissions controlled by a baghouse (DC-1B); installed in 1996	P1
EU0160	Coated Sand Crushing: crushing of coated sand prior to use in production in sand reclamation; emissions are controlled by a baghouse (DC-1A); installed in 1996	P14
EU0170	Sand Cooling: cooling of sand prior to use in production in sand reclamation; emissions are controlled by a baghouse (DC-1A); installed in 1996	P14

**PERMIT CONDITION (EU0150 through EU0170)-001**  
 10 CSR 10-6.060 Construction Permits Required  
 Construction Permit 112008-006, Issued November 14, 2008  
 10 CSR 10-6.400 Restriction of Emission of Particulate Matter From Industrial Processes

**Emission Limitation:**

- 1) The permittee shall not emit particulate matter from emission units EU0150 through EU0170 in excess of the amounts in Table 7:



**Table 7: PM Emission Limitations for EU0150 through EU0170**

EU ID #	EU Description	Allowable PM Emission Rate (lbs/hr)
EU0150	Used Sand Crushing	18.66
EU0160	Cooled Sand Crushing	18.66
EU0170	Sand Cooling	18.66

- 2) The permittee shall not emit particulate matter from any source in a concentration in excess of 0.30 grains per standard cubic feet of exhaust gases.

**Monitoring:**

The control equipment detailed in Table 8 must be in operation all times when the equipment is in operation. The control equipment shall be operated and maintained in accordance with the manufacturer's specifications. [Construction Permit 112008-006, Special Condition 3.A]

**Table 8: Pollution Control Equipment Applicable to EU0150 through EU0170**

EU ID #	Device Number and Code	Type
EU0150	DC-1B, 017	Baghouse
EU0160, EU0170	DC-1A, 017	Baghouse

**Recordkeeping:**

Bodine Aluminum, Inc. shall maintain an operating and maintenance log for the control equipment which shall include the following: [Construction Permit 112008-006, Special Condition 3.B]

- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; [Construction Permit 112008-006, Special Condition 3.B.i]
- 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc. [Construction Permit 112008-006, Special Condition 3.B.ii]
- 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection. [Construction Permit 112008-006, Special Condition 3.B.iii]
- 4) Bodine Aluminum, Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Construction Permit 112008-006, Special Condition 3.B.iv]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.

**PERMIT CONDITION (EU0150 through EU0170)-002**  
 10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants

**Emission Limitation:**

- 1) No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions with an opacity greater than 20%.
- 2) Exception: A person may discharge into the atmosphere from any source of emissions for a period(s) aggregating not more than six (6) minutes in any 60 minutes air contaminants with an opacity up to 60%.

**Monitoring/Recordkeeping/Reporting:**

As detailed in Core Permit Requirements.

Note: The installation will only revert to weekly monitoring when a violation has been noted. Permit renewal or modification does not require the installation to revert to the weekly/bi-weekly opacity monitoring schedule. If the permittee is currently performing semi-annual monitoring it may continue unless a violation is noted.

**EU0180 – USED SAND SIEVING  
 EU0190 – COATED SAND SIEVING  
 EU0210 – ALUMINUM AND SAND SEPARATION  
 EU0220 – FINAL SAND CRUSHING  
 EU0230 – SAND SEPARATION  
 EU0240 – SAND STORAGE  
 EU0250 – SAND WEIGHING  
 EU0260 – SAND HEATING  
 EU0270 – HEATED SAND STORAGE  
 EU0280 – COATED SAND STORAGE**

Emission Unit	Description	2008 EIQ Reference #
EU0180	Used Sand Sieving: sieving of used sand for reuse in sand reclamation; emissions are controlled by a baghouse (DC-1B); installed in 1996	P2
EU0190	Coated Sand Sieving: sieving of resin-coated sand prior to use in production in sand reclamation; emissions are controlled by a baghouse (DC-1A); installed in 1996	P15
EU0210	Aluminum and Sand Separation: Separation of aluminum and sand for reuse; emissions are controlled by a baghouse (DC-1B); installed in 1996	P3
EU0220	Final Sand Crushing: crushing of sand for reuse in sand reclamation; emissions are controlled by a baghouse (DC-1B); installed in 1996	P4
EU0230	Sand Separation: separation of reusable sand; emissions are controlled by a baghouse (DC-1B); installed in 1996	P6
EU0240	Sand Storage: emissions are controlled by a baghouse (DC-1B); installed in 1996	P7
EU0250	Sand Weighing: emissions are controlled by a baghouse (DC- 1A); installed in 1996	P8
EU0260	Sand Heating: sand heating for resin coating; emissions are controlled by a baghouse (DC-1 A); installed in 1996	P9
EU0270	Heated Sand Storage: emissions are controlled by a baghouse (DC-1A); installed in 1996	P10
EU0280	Coated Sand Storage: emissions are controlled by a baghouse (DC-1A); installed in 1996	P16

**PERMIT CONDITION (EU0180 through EU0280)-001**

10 CSR 10-6.060 Construction Permits Required  
 Construction Permit 112008-006, Issued November 14, 2008

**Monitoring:**

The control equipment detailed in Table 9 must be in operation all times when the equipment is in operation. The control equipment shall be operated and maintained in accordance with the manufacturer's specifications. [Construction Permit 112008-006, Special Condition 3.A]

**Table 9: Pollution Control Equipment Applicable to EU0180 through EU0280**

EU ID #	Device Number and Code	Type
EU0180, EU0210, EU0220, EU0240	DC-1B, 017	Baghouse
EU0190, EU0230, EU0250, EU0260, EU0270, EU0280	DC-1A, 017	Baghouse

**Recordkeeping:**

Bodine Aluminum, Inc. shall maintain an operating and maintenance log for the control equipment which shall include the following: [Construction Permit 112008-006, Special Condition 3.B]

- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; [Construction Permit 112008-006, Special Condition 3.B.i]
- 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc. [Construction Permit 112008-006, Special Condition 3.B.ii]
- 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection. [Construction Permit 112008-006, Special Condition 3.B.iii]
- 4) Bodine Aluminum, Inc. shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. [Construction Permit 112008-006, Special Condition 3.B.iv]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10- 6.065(6)(C)1.C.

**EU0290 – DIESEL EMERGENCY GENERATOR**

Emission Unit	Description	2008 EIQ Reference #
EU0290	Diesel Emergency Generator: Caterpillar V-16 emergency generator; 2168 hp; installed 2007	NA

**PERMIT CONDITION EU0290-001**

10 CSR 10-6.070 New Source Performance Regulations  
 40 CFR Part 60, Subpart A General Provisions and Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

**Operational Limitations:**

- 1) Owners and operators of 2007 model year emergency stationary CI ICE with a displacement of less than 30 liters per cylinder, that are not fire pump engines, must comply with Subpart IIII by purchasing an engine certified to the certification emission standards for new nonroad CI engines for the 2007 model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants. [§60.4205(b) and §60.4211(c)]
- 2) The engine must be installed and configured according to the manufacturer's specifications. [§60.4211(c)]
- 3) Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine. [§60.4206]
- 4) Beginning October 1, 2007, you must use diesel fuel that meets the requirements of 40 CFR 80.510(a). [§60.4207(a)]
- 5) Beginning October 1, 2010, you must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel. [§60.4207(b)]
- 6) You may petition the Director for approval to use remaining non-compliant fuel that does not meet the fuel requirements of §60.4207(a) and (b) beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Director. [§60.4207(c)]
- 7) You must install a non-resettable hour meter prior to startup of the engine. [§60.4209(a)]
- 8) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited. [§60.4209(e)]

**Reporting:**

The permittee shall report any deviations of this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10- 6.065(6)(C)1.C.

**PERMIT CONDITION EU0290-002**

10 CSR 10-6.260 Restriction of Emission of Sulfur Compounds

**Emission Limitation:**

- 1) Emissions from any new source operation shall not contain more than five hundred parts per million by volume (500 ppmv) of sulfur dioxide.
- 2) Stack gasses shall not contain more than thirty-five milligrams (35 mg) per cubic meter of sulfuric acid or sulfur trioxide or any combination of those gases averaged on any consecutive three hour time period.

- 3) No person shall cause or permit the emission of sulfur compounds from any source which causes or contributes to concentrations exceeding those specified in 10 CSR 10-6.010 Ambient Air Quality Standards.

Pollutant	Concentration by Volume	Remarks
Sulfur Dioxide (SO <sub>2</sub> )	0.03 parts per million (ppm) (80 micrograms per cubic meter (µg/m <sup>3</sup> ))	Annual arithmetic mean
	0.14 ppm (365 µg/m <sup>3</sup> )	24-hour average not to be exceeded more than once per year
	0.5 ppm (1300 µg/m <sup>3</sup> )	3-hour average not to be exceeded more than once per year
Hydrogen Sulfide (H <sub>2</sub> S)	0.05 ppm (70 µg/m <sup>3</sup> )	½-hour average not to be exceeded over 2 times per year
	0.03 ppm (42 µg/m <sup>3</sup> )	½-hour average not to be exceeded over 2 times in any 5 consecutive days
Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	10 µg/m <sup>3</sup>	24-hour average not to be exceeded more than once in any 90 consecutive days
	30 µg/m <sup>3</sup>	1-hour average not to be exceeded more than once in any 2 consecutive days

**Operational Limitation/Equipment Specifications:**

The emission unit shall be limited to burning diesel fuel.

**Reporting:**

The permittee shall report any deviations from this permit condition using the semi-annual monitoring report and annual compliance certification to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as required by 10 CSR 10-6.065(6)(C)1.C.

## IV. Core Permit Requirements

The installation shall comply with each of the following regulations or codes. Consult the appropriate sections in the Code of Federal Regulations (CFR), the Code of State Regulations (CSR), and local ordinances for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued. The following is only an excerpt from the regulation or code, and is provided for summary purposes only.

### **10 CSR 10-6.045 Open Burning Requirements**

- (1) General Provisions. The open burning of tires, petroleum-based products, asbestos containing materials, and trade waste is prohibited, except as allowed below. Nothing in this rule may be construed as to allow open burning which causes or constitutes a public health hazard, nuisance, a hazard to vehicular or air traffic, nor which violates any other rule or statute.
- (2) Refer to the regulation for a complete list of allowances. The following is a listing of exceptions to the allowances:
  - (A) Burning of household or domestic refuse. Burning of household or domestic refuse is limited to open burning on a residential premises having not more than four dwelling units, provided that the refuse originates on the same premises, with the following exceptions:
    1. Kansas City metropolitan area. The open burning of household refuse must take place in an area zoned for agricultural purposes and outside that portion of the metropolitan area surrounded by the corporate limits of Kansas City and every contiguous municipality;
    2. Springfield-Greene County area. The open burning of household refuse must take place outside the corporate limits of Springfield and only within areas zoned A-1, Agricultural District;
    3. St. Joseph area. The open burning of household refuse must take place within an area zoned for agricultural purposes and outside that portion of the metropolitan area surrounded by the corporate limits of St. Joseph; and
    4. St. Louis metropolitan area. The open burning of household refuse is prohibited;
  - (B) Yard waste, with the following exceptions:
    1. Kansas City metropolitan area. The open burning of trees, tree leaves, brush or any other type of vegetation shall require an open burning permit;
    2. Springfield-Greene County area. The City of Springfield requires an open burning permit for the open burning of trees, brush or any other type of vegetation. The City of Springfield prohibits the open burning of tree leaves;
    3. St. Joseph area. Within the corporate limits of St. Joseph, the open burning of trees, tree leaves, brush or any other type of vegetation grown on a residential property is allowed during the following calendar periods and time-of-day restrictions:
      - A. A three (3)-week period within the period commencing the first day of March through April 30 and continuing for twenty-one (21) consecutive calendar days;
      - B. A three (3)-week period within the period commencing the first day of October through November 30 and continuing for twenty-one (21) consecutive calendar days;
      - C. The burning shall take place only between the daytime hours of 10:00 a.m. and 3:30 p.m.; and
      - D. In each instance, the twenty-one (21)-day burning period shall be determined by the Director of Public Health and Welfare of the City of St. Joseph for the region in which the

City of St. Joseph is located provided, however, the burning period first shall receive the approval of the Department Director; and

4. St. Louis metropolitan area. The open burning of trees, tree leaves, brush or any other type of vegetation is limited to the period beginning September 16 and ending April 14 of each calendar year and limited to a total base area not to exceed sixteen (16) square feet. Any open burning shall be conducted only between the hours of 10:00 a.m. and 4:00 p.m. and is limited to areas outside of incorporated municipalities;
- (3) Certain types of materials may be open burned provided an open burning permit is obtained from the Director. The permit will specify the conditions and provisions of all open burning. The permit may be revoked if the owner or operator fails to comply with the conditions or any provisions of the permit.
- (4) Bodine Aluminum, Inc. may be issued an annually renewable open burning permit for open burning provided that an air curtain destructor or incinerator is utilized and only tree trunks, tree limbs, vegetation or untreated wood waste are burned. Open burning shall occur at least two hundred (200) yards from the nearest occupied structure unless the owner or operator of the occupied structure provides a written waiver of this requirement. Any waiver shall accompany the open burning permit application. The permit may be revoked if Bodine Aluminum, Inc. fails to comply with the provisions or any condition of the open burning permit.
  - (A) In a nonattainment area, as defined in 10 CSR 10-6.020, paragraph (2)(N)5., the Director shall not issue a permit under this section unless the owner or operator can demonstrate to the satisfaction of the Director that the emissions from the open burning of the specified material would be less than the emissions from any other waste management or disposal method.
- (5) Reporting and Record Keeping. New Source Performance Standard (NSPS) 40 CFR Part 60 Subpart CCCC establishes certain requirements for air curtain destructors or incinerators that burn wood trade waste. These requirements are established in 40 CFR 60.2245-60.2260. The provisions of 40 CFR Part 60 Subpart CCCC promulgated as of September 22, 2005, shall apply and are hereby incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401. To comply with NSPS 40 CFR 60.2245-60.2260, sources must conduct an annual Method 9 test. A copy of the annual Method 9 test results shall be submitted to the Director.
- (6) Test Methods. The visible emissions from air pollution sources shall be evaluated as specified by 40 CFR Part 60, Appendix A–Test Methods, Method 9–Visual Determination of the Opacity of Emissions from Stationary Sources. The provisions of 40 CFR Part 60, Appendix A, Method 9 promulgated as of December 23, 1971, is incorporated by reference in this rule, as published by the U.S. Government Printing Office, 732 N Capitol Street NW, Washington, DC 20401.

#### **10 CSR 10-6.050 Start-up, Shutdown and Malfunction Conditions**

- 1) In the event of a malfunction, which results in excess emissions that exceed one hour, the permittee shall submit to the Director within two business days, in writing, the following information:
  - a) Name and location of installation;
  - b) Name and telephone number of person responsible for the installation;
  - c) Name of the person who first discovered the malfunction and precise time and date that the malfunction was discovered.
  - d) Identity of the equipment causing the excess emissions;
  - e) Time and duration of the period of excess emissions;
  - f) Cause of the excess emissions;

- g) Air pollutants involved;
  - h) Best estimate of the magnitude of the excess emissions expressed in the units of the applicable requirement and the operating data and calculations used in estimating the magnitude;
  - i) Measures taken to mitigate the extent and duration of the excess emissions; and
  - j) Measures taken to remedy the situation that caused the excess emissions and the measures taken or planned to prevent the recurrence of these situations.
- 2) The permittee shall submit the paragraph 1 information list to the Director in writing at least ten days prior to any maintenance, start-up or shutdown, which is expected to cause an excessive release of emissions that exceed one hour. If notice of the event cannot be given ten days prior to the planned occurrence, it shall be given as soon as practicable prior to the release. If an unplanned excess release of emissions exceeding one hour occurs during maintenance, start-up or shutdown, the Director shall be notified verbally as soon as practical during normal working hours and no later than the close of business of the following working day. A written notice shall follow within ten working days.
  - 3) Upon receipt of a notice of excess emissions issued by an agency holding a certificate of authority under Section 643.140, RSMo, the permittee may provide information showing that the excess emissions were the consequence of a malfunction, start-up or shutdown. The information, at a minimum, should be the paragraph 1 list and shall be submitted not later than 15 days after receipt of the notice of excess emissions. Based upon information submitted by the permittee or any other pertinent information available, the Director or the commission shall make a determination whether the excess emissions constitute a malfunction, start-up or shutdown and whether the nature, extent and duration of the excess emissions warrant enforcement action under Section 643.080 or 643.151, RSMo.
  - 4) Nothing in this rule shall be construed to limit the authority of the Director or commission to take appropriate action, under Sections 643.080, 643.090 and 643.151, RSMo to enforce the provisions of the Air Conservation Law and the corresponding rule.
  - 5) Compliance with this rule does not automatically absolve the permittee of liability for the excess emissions reported.

#### **10 CSR 10-6.060 Construction Permits Required**

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any installation which has been shut down longer than five years without first obtaining a permit from the permitting authority.

#### **10 CSR 10-6.065 Operating Permits**

The permittee shall file a complete application for renewal of this operating permit at least six months before the date of permit expiration. In no event shall this time be greater than eighteen months. [10 CSR 10-6.065(6)(B)1.A(V)] The permittee shall retain the most current operating permit issued to this installation on-site. [10 CSR 10-6.065(6)(C)1.C(II)] The permittee shall immediately make such permit available to any Missouri Department of Natural Resources personnel upon request. [10 CSR 10-6.065(6)(C)3.B]

#### **10 CSR 10-6.110 Submission of Emission Data, Emission Fees and Process Information**

- 1) The permittee shall complete and submit an Emission Inventory Questionnaire (EIQ) in accordance with the requirements outlined in this rule.
- 2) The permittee may be required by the Director to file additional reports.



- 3) Public Availability of Emission Data and Process Information. Any information obtained pursuant to the rule(s) of the Missouri Air Conservation Commission that would not be entitled to confidential treatment under 10 CSR 10-6.210 shall be made available to any member of the public upon request.
- 4) The permittee shall pay an annual emission fee per ton of regulated air pollutant emitted according to the schedule in the rule. This fee is an emission fee assessed under authority of RSMo. 643.079.
- 5) The fees shall be payable to the Department of Natural Resources and shall be accompanied by the Emissions Inventory Questionnaire (EIQ) form or equivalent approved by the Director.
- 6) The permittee shall complete required reports on state supplied EIQ forms or in a form satisfactory to the Director and the reports shall be submitted to the Director by June 1 after the end of each reporting period.
- 7) The reporting period shall end on December 31 of each calendar year. Each report shall contain the required information for each emission unit for the twelve (12)-month period immediately preceding the end of the reporting period.
- 8) The permittee shall collect, record and maintain the information necessary to complete the required forms during each year of operation of the installation.

#### **10 CSR 10-6.130 Controlling Emissions During Episodes of High Air Pollution Potential**

This rule specifies the conditions that establish an air pollution alert (yellow/orange/red/purple), or emergency (maroon) and the associated procedures and emission reduction objectives for dealing with each. The permittee shall submit an appropriate emergency plan if required by the Director.

#### **10 CSR 10-6.150 Circumvention**

The permittee shall not cause or permit the installation or use of any device or any other means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission or air contaminant which violates a rule of the Missouri Air Conservation Commission.

#### **10 CSR 10-6.170**

##### **Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin**

###### **Emission Limitation:**

- 1) The permittee shall not cause or allow to occur any handling, transporting or storing of any material; construction, repair, cleaning or demolition of a building or its appurtenances; construction or use of a road, driveway or open area; or operation of a commercial or industrial installation without applying reasonable measures as may be required to prevent, or in a manner which allows or may allow, fugitive particulate matter emissions to go beyond the premises of origin in quantities that the particulate matter may be found on surfaces beyond the property line of origin. The nature or origin of the particulate matter shall be determined to a reasonable degree of certainty by a technique proven to be accurate and approved by the Director.
- 2) The permittee shall not cause nor allow to occur any fugitive particulate matter emissions to remain visible in the ambient air beyond the property line of origin.
- 3) Should it be determined that noncompliance has occurred, the Director may require reasonable control measures as may be necessary. These measures may include, but are not limited to, the following:
  - a) Revision of procedures involving construction, repair, cleaning and demolition of buildings and their appurtenances that produce particulate matter emissions;
  - b) Paving or frequent cleaning of roads, driveways and parking lots;
  - c) Application of dust-free surfaces;

- d) Application of water; and
- e) Planting and maintenance of vegetative ground cover.

**Monitoring:**

The permittee shall conduct inspections of its facilities sufficient to determine compliance with this regulation. If the permittee discovers a violation, the permittee shall undertake corrective action to eliminate the violation.

The permittee shall maintain the following monitoring schedule:

- 1) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
- 2) Should no violation of this regulation be observed during this period then-
  - a) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
  - b) If a violation is noted, monitoring reverts to weekly.
  - c) Should no violation of this regulation be observed during this period then-
    - i) The permittee may observe once per month.
    - ii) If a violation is noted, monitoring reverts to weekly.
- 3) If the permittee reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner to the initial monitoring frequency.

**Recordkeeping:**

The permittee shall document all readings on Attachment D, or its equivalent, noting the following:

- 1) Whether air emissions (except water vapor) remain visible in the ambient air beyond the property line of origin.
- 2) Whether the visible emissions were normal for the installation.
- 3) Whether equipment malfunctions contributed to an exceedance.
- 4) Any violations and any corrective actions undertaken to correct the violation.

**10 CSR 10-6.180 Measurement of Emissions of Air Contaminants**

- 1) The Director may require any person responsible for the source of emission of air contaminants to make or have made tests to determine the quantity or nature, or both, of emission of air contaminants from the source. The Director may specify testing methods to be used in accordance with good professional practice. The Director may observe the testing. All tests shall be performed by qualified personnel.
- 2) The Director may conduct tests of emissions of air contaminants from any source. Upon request of the Director, the person responsible for the source to be tested shall provide necessary ports in stacks or ducts and other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices as may be necessary for proper determination of the emission of air contaminants.
- 3) The Director shall be given a copy of the test results in writing and signed by the person responsible for the tests.

**10 CSR 10-3.090 Restriction of Emission of Odors**

**This requirement is not federally enforceable.**

No person may cause, permit or allow the emission of odorous matter in concentrations and frequencies or for durations that odor can be perceived when one volume of odorous air is diluted with seven volumes of odor-free air for two separate trials not less than 15 minutes apart within the period of one hour.

### **10 CSR 10-6.220 Restriction of Emission of Visible Air Contaminants**

#### **Emission Limitation:**

No owner or other person shall cause or permit to be discharged into the atmosphere from any source any visible emissions in excess of the limits specified by this rule. This permit will contain the opacity limits identified (10, 20 or 40 percent) for the specific emission units.

#### **Monitoring:**

- 1) The permittee shall conduct opacity readings on each emission unit using the procedures contained in U.S. EPA Test Method 22. The permittee is only required to take readings when the emission unit is operating and when the weather conditions allow. If the permittee observes no visible or other significant emissions using these procedures, then no further observations are required. For emission units with visible emissions perceived or believed to exceed the applicable opacity standard, the source representative would then conduct a Method 9 observation.
- 2) The permittee must maintain the following monitoring schedule:
  - a) The permittee shall conduct weekly observations for a minimum of eight (8) consecutive weeks after permit issuance.
  - b) Should the permittee observe no violations of this regulation during this period then-
    - i) The permittee may observe once every two (2) weeks for a period of eight (8) weeks.
    - ii) If a violation is noted, monitoring reverts to weekly.
    - iii) Should no violation of this regulation be observed during this period then-
      - (1) The permittee may observe once per month.
      - (2) If a violation is noted, monitoring reverts to weekly.
- 3) If the source reverts to weekly monitoring at any time, monitoring frequency will progress in an identical manner from the initial monitoring frequency.

#### **Recordkeeping:**

The permittee shall maintain records of all observation results using Attachment E (or its equivalent), noting:

- 1) Whether any air emissions (except for water vapor) were visible from the emission units;
- 2) All emission units from which visible emissions occurred;
- 3) Whether the visible emissions were normal for the process;
- 4) The permittee shall maintain records of any equipment malfunctions using Attachment F (or its equivalent), which may contribute to visible emissions; and,
- 5) The permittee shall maintain records of all U.S. EPA Method 9 opacity tests using Attachment G (or its equivalent), performed.

### **Title VI – 40 CFR Part 82 Protection of Stratospheric Ozone**

- 1) The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
  - a) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
  - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.

- c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
- d) No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
- 2) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
  - a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  - b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
  - c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  - d) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like" appliance as defined at §82.152).
  - e) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
  - f) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
- 3) If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.
- 4) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.
- 5) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program. *Federal Only - 40 CFR Part 82*

#### **10 CSR 10-6.280 Compliance Monitoring Usage**

- 1) The permittee is not prohibited from using the following in addition to any specified compliance methods for the purpose of submission of compliance certificates:
  - a) Monitoring methods outlined in 40 CFR Part 64;
  - b) Monitoring method(s) approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
  - c) Any other monitoring methods approved by the Director.
- 2) Any credible evidence may be used for the purpose of establishing whether a permittee has violated or is in violation of any such plan or other applicable requirement. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred by a permittee:
  - a) Monitoring methods outlined in 40 CFR Part 64;

- b) A monitoring method approved for the permittee pursuant to 10 CSR 10-6.065, "Operating Permits", and incorporated into an operating permit; and
  - c) Compliance test methods specified in the rule cited as the authority for the emission limitations.
- 3) The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
- a) Applicable monitoring or testing methods, cited in:
    - i) 10 CSR 10-6.030, "Sampling Methods for Air Pollution Sources";
    - ii) 10 CSR 10-6.040, "Reference Methods";
    - iii) 10 CSR 10-6.070, "New Source Performance Standards";
    - iv) 10 CSR 10-6.080, "Emission Standards for Hazardous Air Pollutants"; or
  - b) Other testing, monitoring, or information gathering methods, if approved by the Director, that produce information comparable to that produced by any method listed above.

## V. General Permit Requirements

The installation shall comply with each of the following requirements. Consult the appropriate sections in the Code of Federal Regulations (CFR) and Code of State Regulations (CSR) for the full text of the applicable requirements. All citations, unless otherwise noted, are to the regulations in effect as of the date that this permit is issued,

### **10 CSR 10-6.065(6)(C)1.B Permit Duration**

This permit is issued for a term of five years, commencing on the date of issuance. This permit will expire at the end of this period unless renewed.

### **10 CSR 10-6.065(6)(C)1.C General Record Keeping and Reporting Requirements**

- 1) Record Keeping
  - a) All required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report or application.
  - b) Copies of all current operating and construction permits issued to this installation shall be kept on-site for as long as the permits are in effect. Copies of these permits shall be made immediately available to any Missouri Department of Natural Resources' personnel upon request.
- 2) Reporting
  - a) All reports shall be submitted to the Air Pollution Control Program's Enforcement Section, P. O. Box 176, Jefferson City, MO 65102.
  - b) The permittee shall submit a report of all required monitoring by:
    - i) October 1st for monitoring which covers the January through June time period, and
    - ii) April 1st for monitoring which covers the July through December time period.
    - iii) Exception. Monitoring requirements which require reporting more frequently than semi annually shall report no later than 30 days after the end of the calendar quarter in which the measurements were taken.
  - c) Each report shall identify any deviations from emission limitations, monitoring, record keeping, reporting, or any other requirements of the permit, this includes deviations or Part 64 exceedances.
  - d) Submit supplemental reports as required or as needed. Supplemental reports are required no later than ten days after any exceedance of any applicable rule, regulation or other restriction. All reports of deviations shall identify the cause or probable cause of the deviations and any corrective actions or preventative measures taken.
    - i) Notice of any deviation resulting from an emergency (or upset) condition as defined in paragraph (6)(C)7.A of 10 CSR 10-6.065 (Emergency Provisions) shall be submitted to the permitting authority either verbally or in writing within two working days after the date on which the emission limitation is exceeded due to the emergency, if the permittee wishes to assert an affirmative defense. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that indicate an emergency occurred and the permittee can identify the cause(s) of the emergency. The permitted installation must show that it was operated properly at the time and that during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or requirements in the permit. The notice must contain a description of the emergency, the steps taken to mitigate emissions, and the corrective actions taken.

- ii) Any deviation that poses an imminent and substantial danger to public health, safety or the environment shall be reported as soon as practicable.
- iii) Any other deviations identified in the permit as requiring more frequent reporting than the permittee's semi-annual report shall be reported on the schedule specified in this permit, and no later than ten days after any exceedance of any applicable rule, regulation, or other restriction.
- e) Every report submitted shall be certified by the responsible official, except that, if a report of a deviation must be submitted within ten days after the deviation, the report may be submitted without a certification if the report is resubmitted with an appropriate certification within ten days after that, together with any corrected or supplemental information required concerning the deviation.
- f) The permittee may request confidential treatment of information submitted in any report of deviation.

#### **10 CSR 10-6.065(6)(C)1.D Risk Management Plan Under Section 112(r)**

The permittee shall comply with the requirements of 40 CFR Part 68, Accidental Release Prevention Requirements. If the permittee has more than a threshold quantity of a regulated substance in process, as determined by 40 CFR Section 68.115, the permittee shall submit a Risk Management Plan in accordance with 40 CFR Part 68 no later than the latest of the following dates:

- 1) June 21, 1999;
- 2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or
- 3) The date on which a regulated substance is first present above a threshold quantity in a process.

#### **10 CSR 10-6.065(6)(C)1.F Severability Clause**

In the event of a successful challenge to any part of this permit, all uncontested permit conditions shall continue to be in force. All terms and conditions of this permit remain in effect pending any administrative or judicial challenge to any portion of the permit. If any provision of this permit is invalidated, the permittee shall comply with all other provisions of the permit.

#### **10 CSR 10-6.065(6)(C)1.G General Requirements**

- 1) The permittee must comply with all of the terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation and is grounds for enforcement action, permit termination, permit revocation and re-issuance, permit modification or denial of a permit renewal application.
- 2) The permittee may not use as a defense in an enforcement action that it would have been necessary for the permittee to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit
- 3) The permit may be modified, revoked, reopened, reissued or terminated for cause. Except as provided for minor permit modifications, the filing of an application or request for a permit modification, revocation and reissuance, or termination, or the filing of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- 4) This permit does not convey any property rights of any sort, nor grant any exclusive privilege.
- 5) The permittee shall furnish to the Air Pollution Control Program, upon receipt of a written request and within a reasonable time, any information that the Air Pollution Control Program reasonably may require to determine whether cause exists for modifying, reopening, reissuing or revoking the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to

the Air Pollution Control Program copies of records required to be kept by the permittee. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 10 CSR 10-6.065(6)(C)1.

**10 CSR 10-6.065(6)(C)1.H Incentive Programs Not Requiring Permit Revisions**

No permit revision will be required for any installation changes made under any approved economic incentive, marketable permit, emissions trading, or other similar programs or processes provided for in this permit.

**10 CSR 10-6.065(6)(C)1.I Reasonably Anticipated Operating Scenarios**

None

**10 CSR 10-6.065(6)(C)3 Compliance Requirements**

- 1) Any document (including reports) required to be submitted under this permit shall contain a certification signed by the responsible official.
- 2) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized officials of the Missouri Department of Natural Resources, or their authorized agents, to perform the following (subject to the installation's right to seek confidential treatment of information submitted to, or obtained by, the Air Pollution Control Program):
  - a) Enter upon the premises where a permitted installation is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this permit;
  - b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
  - c) Inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
  - d) As authorized by the Missouri Air Conservation Law, Chapter 643, RSMo or the Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the terms of this permit, and all applicable requirements as outlined in this permit.
- 3) All progress reports required under an applicable schedule of compliance shall be submitted semi-annually (or more frequently if specified in the applicable requirement). These progress reports shall contain the following:
  - a) Dates for achieving the activities, milestones or compliance required in the schedule of compliance, and dates when these activities, milestones or compliance were achieved, and
  - b) An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measures adopted.
- 4) The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually by April 1st, unless the applicable requirement specifies more frequent submission. These certifications shall be submitted to EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, as well as the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102. All deviations and Part 64 exceedances and excursions must be included in the compliance certifications. The compliance certification shall include the following:
  - a) The identification of each term or condition of the permit that is the basis of the certification;
  - b) The current compliance status, as shown by monitoring data and other information reasonably available to the installation;



- c) Whether compliance was continuous or intermittent;
- d) The method(s) used for determining the compliance status of the installation, both currently and over the reporting period; and
- e) Such other facts as the Air Pollution Control Program will require in order to determine the compliance status of this installation.

#### **10 CSR 10-6.065(6)(C)6 Permit Shield**

- 1) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date that this permit is issued, provided that:
  - a) The application requirements are included and specifically identified in this permit, or
  - b) The permitting authority, in acting on the permit revision or permit application, determines in writing that other requirements, as specifically identified in the permit, are not applicable to the installation, and this permit expressly includes that determination or a concise summary of it.
- 2) Be aware that there are exceptions to this permit protection. The permit shield does not affect the following:
  - a) The provisions of Section 303 of the Act or Section 643.090, RSMo concerning emergency orders,
  - b) Liability for any violation of an applicable requirement which occurred prior to, or was existing at, the time of permit issuance,
  - c) The applicable requirements of the acid rain program,
  - d) The authority of the Environmental Protection Agency and the Air Pollution Control Program of the Missouri Department of Natural Resources to obtain information, or
  - e) Any other permit or extra-permit provisions, terms or conditions expressly excluded from the permit shield provisions.

#### **10 CSR 10-6.065(6)(C)7 Emergency Provisions**

- 1) An emergency or upset as defined in 10 CSR 10-6.065(6)(C)7.A shall constitute an affirmative defense to an enforcement action brought for noncompliance with technology-based emissions limitations. To establish an emergency- or upset-based defense, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence, the following:
  - a) That an emergency or upset occurred and that the permittee can identify the source of the emergency or upset,
  - b) That the installation was being operated properly,
  - c) That the permittee took all reasonable steps to minimize emissions that exceeded technology-based emissions limitations or requirements in this permit, and
  - d) That the permittee submitted notice of the emergency to the Air Pollution Control Program within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken.
- 2) Be aware that an emergency or upset shall not include noncompliance caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

#### **10 CSR 10-6.065(6)(C)8 Operational Flexibility**

An installation that has been issued a Part 70 operating permit is not required to apply for or obtain a permit revision in order to make any of the changes to the permitted installation described below if the changes are not Title I modifications, the changes do not cause emissions to exceed emissions allowable

under the permit, and the changes do not result in the emission of any air contaminant not previously emitted. The permittee shall notify the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, at least seven days in advance of these changes, except as allowed for emergency or upset conditions. Emissions allowable under the permit means a federally enforceable permit term or condition determined at issuance to be required by an applicable requirement that establishes an emissions limit (including a work practice standard) or a federally enforceable emissions cap that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.

- 1) Section 502(b)(10) changes. Changes that, under Section 502(b)(10) of the Act, contravene an express permit term may be made without a permit revision, except for changes that would violate applicable requirements of the Act or contravene federally enforceable monitoring (including test methods), record keeping, reporting or compliance requirements of the permit.
  - a) Before making a change under this provision, The permittee shall provide advance written notice to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, describing the changes to be made, the date on which the change will occur, and any changes in emission and any permit terms and conditions that are affected. The permittee shall maintain a copy of the notice with the permit, and the Air Pollution Control Program shall place a copy with the permit in the public file. Written notice shall be provided to the EPA and the Air Pollution Control Program as above at least seven days before the change is to be made. If less than seven days notice is provided because of a need to respond more quickly to these unanticipated conditions, the permittee shall provide notice to the EPA and the Air Pollution Control Program as soon as possible after learning of the need to make the change.
  - b) The permit shield shall not apply to these changes.

#### **10 CSR 10-6.065(6)(C)9 Off-Permit Changes**

- 1) Except as noted below, the permittee may make any change in its permitted operations, activities or emissions that is not addressed in, constrained by or prohibited by this permit without obtaining a permit revision. Insignificant activities listed in the application, but not otherwise addressed in or prohibited by this permit, shall not be considered to be constrained by this permit for purposes of the off-permit provisions of this section. Off-permit changes shall be subject to the following requirements and restrictions:
  - a) The change must meet all applicable requirements of the Act and may not violate any existing permit term or condition; the permittee may not change a permitted installation without a permit revision if this change is subject to any requirements under Title IV of the Act or is a Title I modification;
  - b) The permittee must provide written notice of the change to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, as well as EPA Region VII, 901 North 5th Street, Kansas City, KS 66101, no later than the next annual emissions report. This notice shall not be required for changes that are insignificant activities under 10 CSR 10-6.065(6)(B)3. This written notice shall describe each change, including the date, any change in emissions, pollutants emitted and any applicable requirement that would apply as a result of the change.
  - c) The permittee shall keep a record describing all changes made at the installation that result in emissions of a regulated air pollutant subject to an applicable requirement and the emissions resulting from these changes; and

- d) The permit shield shall not apply to these changes.

**10 CSR 10-6.020(2)(R)12 Responsible Official**

The application utilized in the preparation of this permit was signed by Charlie Thompson, Environmental Director. If this person terminates employment, or is reassigned different duties such that a different person becomes the responsible person to represent and bind the installation in environmental permitting affairs, the owner or operator of this air contaminant source shall notify the Director of the Air Pollution Control Program of the change. Said notification shall be in writing and shall be submitted within 30 days of the change. The notification shall include the name and title of the new person assigned by the source owner or operator to represent and bind the installation in environmental permitting affairs. All representations, agreement to terms and conditions and covenants made by the former responsible person that were used in the establishment of limiting permit conditions on this permit will continue to be binding on the installation until such time that a revision to this permit is obtained that would change said representations, agreements and covenants.

**10 CSR 10-6.065(6)(E)6 Reopening-Permit for Cause**

This permit may be reopened for cause if:

- 1) The Missouri Department of Natural Resources (MDNR) receives notice from the Environmental Protection Agency (EPA) that a petition for disapproval of a permit pursuant to 40 CFR § 70.8(d) has been granted, provided that the reopening may be stayed pending judicial review of that determination,
- 2) The Missouri Department of Natural Resources or EPA determines that the permit contains a material mistake or that inaccurate statements were made which resulted in establishing the emissions limitation standards or other terms of the permit,
- 3) Additional applicable requirements under the Act become applicable to the installation; however, reopening on this ground is not required if—:
  - a) The permit has a remaining term of less than three years;
  - b) The effective date of the requirement is later than the date on which the permit is due to expire;or
- c) The additional applicable requirements are implemented in a general permit that is applicable to the installation and the installation receives authorization for coverage under that general permit,
- 4) The installation is an affected source under the acid rain program and additional requirements (including excess emissions requirements), become applicable to that source, provided that, upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the permit; or
- 5) The Missouri Department of Natural Resources or EPA determines that the permit must be reopened and revised to assure compliance with applicable requirements.

**10 CSR 10-6.065(6)(E)1.C Statement of Basis**

This permit is accompanied by a statement setting forth the legal and factual basis for the permit conditions (including references to applicable statutory or regulatory provisions). This Statement of Basis, while referenced by the permit, is not an actual part of the permit.

## **VI. Attachments**

Attachments follow.

**Attachment A**

Monthly PM<sub>10</sub> Emissions Tracking Record

Permit Number: OP2010-122

Bodine Aluminum, Inc.

Lincoln County, S36, T36, R7W

Project Number: 2007-07-053

Installation ID Number: 131-0029

This sheet covers the month of \_\_\_\_\_  
(month)

Emission Points	Description	Amount Processed This Month	Emission Factor	(a) Monthly Emissions from Each Emission Point (tons)
(b) Total PM <sub>10</sub> Emissions Calculated for this Month (tons):				
(c) 12-Month PM <sub>10</sub> Emissions from Previous Month's Attachment A (tons):				
(d) Monthly PM <sub>10</sub> Emissions Total from Previous Year's Attachment A (tons):				
(e) Current 12-month PM <sub>10</sub> Emissions (tons):				

- (a) Monthly Emissions from each emission point is calculated by multiplying the amount processed by the emission factors. The emission factors can be obtained from three (3) sources where applicable: Stack testing results, EPA document AP-42, or approved MODNR emission factors.
- (b) Total PM<sub>10</sub> Emissions for this Month Calculated by Summing (a). Monthly Emissions from Each Emission Point.
- (c) 12-Month PM<sub>10</sub> Emissions total can be taken from (e) of last month's Attachment A.
- (d) The Monthly PM<sub>10</sub> Emissions from previous year's Attachment A is the emissions from thirteen (13) month ago.
- (e) Current 12-Month PM<sub>10</sub> Emissions can be calculated by (b) + (c) - (d).

**A 12-Month Total PM<sub>10</sub> emissions total (e) of less than 250 tons indicates compliance.**

**Attachment B**

Monthly VOC Emissions Tracking Record

Permit Number: OP2010-122

Bodine Aluminum, Inc.

Lincoln County, S36, T36, R7W

Project Number: 2007-07-053

Installation ID Number: 131-0029

This sheet covers the month of \_\_\_\_\_  
(month)

Emission Points	Description	Amount Processed This Month	Emission Factor	(a) Monthly Emissions from Each Emission Point (tons)
(b) Total VOC Emissions Calculated for this Month (tons):				
(c) 12-Month VOC Emissions from Previous Month's Attachment B (tons):				
(d) Monthly VOC Emissions Total from Previous Year's Attachment B (tons):				
(e) Current 12-month VOC Emissions (tons):				

(a) Monthly Emissions from each emission point is calculated by multiplying the amount processed by the emission factors. The emission factors can be obtained from three (3) sources where applicable: Stack testing results, EPA document AP-42, or approved MODNR emission factors.

(b) Total VOC Emissions for this Month Calculated by Summing (a). Monthly Emissions from Each Emission Point.

(c) 12-Month VOC Emissions total can be taken from (e) of last month's Attachment B.

(d) The Monthly VOC Emissions from previous year's Attachment B is the emissions from thirteen (13) month ago.

(e) Current 12-Month VOC Emissions can be calculated by (b) + (c) - (d).

**A 12-Month Total VOC emissions total (e) of less than 250 tons indicates compliance.**

**Attachment C**

Monthly NOx Emissions Tracking Record

Permit Number: OP2010-122

Bodine Aluminum, Inc.

Lincoln County, S36, T36, R7W

Project Number: 2007-07-053

Installation ID Number: 131-0029

This sheet covers the month of \_\_\_\_\_  
 (month)

Emission Points	Description	Amount Processed This Month	Emission Factor	(a) Monthly Emissions from Each Emission Point (tons)
(b) Total NOx Emissions Calculated for this Month (tons):				
(c) 12-Month NOx Emissions from Previous Month’s Attachment C (tons):				
(d) Monthly NOx Emissions Total from previous year’s Attachment C (tons):				
(e) Current 12-month NOx Emissions (tons):				

- (a) Monthly Emissions from each emission point is calculated by multiplying the amount processed by the emission factors. The emission factors can be obtained from three (3) sources where applicable: Stack testing results, EPA document AP-42, or approved MODNR emission factors.
- (b) Total NOx Emissions for this Month Calculated by Summing (a). Monthly Emissions from Each Emission Point.
- (c) 12-Month NOx Emissions total can be taken from (e) of last month’s Attachment C.
- (d) The Monthly NOx Emissions from previous year’s Attachment C is the emissions from thirteen (13) month ago.
- (e) Current 12-Month NOx Emissions can be calculated by (b) + (c) – (d).

**A 12-Month Total NOx emissions total (e) of less than 250 tons indicates compliance.**









**Attachment G**

Method 9 Opacity Emissions Observations								
Company					Observer			
Location					Observer Certification Date			
Date					Emission Unit			
Time					Control Device			
Hour	Minute	Seconds				Steam Plume (check if applicable)		Comments
		0	15	30	45	Attached	Detached	
	0							
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							
	16							
	17							
	18							
SUMMARY OF AVERAGE OPACITY								
Set Number	Time				Opacity			
	Start	End	Sum	Average				

Readings ranged from \_\_\_\_\_ to \_\_\_\_\_ % opacity.

Was the emission unit in compliance at the time of evaluation? \_\_\_\_\_  
 YES NO Signature of Observer

## STATEMENT OF BASIS

### Permit Reference Documents

These documents were relied upon in the preparation of the operating permit. Because they are not incorporated by reference, they are not an official part of the operating permit.

- 1) Part 70 Operating Permit Application, received July 7, 2009;
- 2) 2008 Emissions Inventory Questionnaire, received May 29, 2009; and
- 3) U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*; Volume I, Stationary Point and Area Sources, Fifth Edition.

### Applicable Requirements Included in the Operating Permit but Not in the Application or Previous Operating Permits

In the operating permit application, the installation indicated they were not subject to the following regulation(s). However, in the review of the application, the agency has determined that the installation is subject to the following regulation(s) for the reasons stated.

None

### Other Air Regulations Determined Not to Apply to the Operating Permit

The Air Pollution Control Program (APCP) has determined the following requirements to not be applicable to this installation at this time for the reasons stated.

#### 10 CSR 10-6.100, *Alternate Emission Limits*

This rule is not applicable because the installation is in an ozone attainment area.

### Construction Permit Revisions

The following revisions were made to construction permits for this installation:

- 1) Missouri Department of Natural Resources Construction Permit 1299-009 and 1299-009A
  - a) The permittee has already fulfilled the requirements of Special Conditions 1 through 6, therefore, these special conditions are not included in this operating permit.
  - b) Special Condition 7 applies Missouri rule 10 CSR 10-5.160, *Control of Odors in the Ambient Air*. This rule is not applicable in Lincoln County and is not included in the operating permit. Missouri rule 10 CSR 10-3.090, *Restriction of Emission of Odors*, is applicable in Lincoln County and is included as a core permit requirement.
  - c) The pollution control equipment requirements in Special Condition 8 were re-established in Special Condition 3 of Construction Permit 112008-006. These requirements are included in this operating permit.
  - d) The emission limitations in Special Condition 9 were re-established in Special Condition 2 of Construction Permit 112008-006. These requirements are included in this operating permit.
- 2) Missouri Department of Natural Resources Construction Permit 112004-005
  - a) The emission limitations in Special Condition 1 and the control equipment requirements in Special Condition 2 were re-established in Special Conditions 2 and 3 of Construction Permit 112008-006. These requirements are included in this operating permit.

- b) Special Condition 3 applies Missouri rule 10 CSR 10-5.160, *Control of Odors in the Ambient Air*. This rule is not applicable in Lincoln County and is not included in the operating permit. Missouri rule 10 CSR 10-3.090, *Restriction of Emission of Odors*, is applicable in Lincoln County and is included as a core permit requirement.
- 3) Missouri Department of Natural Resources Construction Permit 032006-004
  - a) The special conditions of this construction permit were superseded by Special Condition 1 of Construction Permit 112008-006. Therefore, these special conditions are not included in this operating permit.
- 4) Missouri Department of Natural Resources Construction Permit 112008-006
  - a) The permittee has already met the stack testing requirements of Special Conditions 4 and 5. Therefore, these special conditions are not included in this operating permit.

#### **New Source Performance Standards (NSPS) Applicability**

10 CSR 10-6.070, *New Source Performance Regulations*

Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*

- 1) This rule applies to the Diesel Emergency Engine (EU0290).

#### **Maximum Available Control Technology (MACT) Applicability**

10 CSR 10-6.075, *Maximum Achievable Control Technology Regulations*

- 1) 40 CFR Part 63, Subpart RRR, *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*
  - a) This rule does not apply because the installation is not a major source of HAPs. Furthermore, Bodine Aluminum, Inc. is a die casting installation that only melts clean charge.
- 2) 40 CFR Part 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*
  - a) This rule applies to the Diesel Emergency Engine (EU0290). However, according to §63.6590(c), new stationary RICE located at an area source must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 CFR Part 60 Subpart IIII. Permit Condition EU0290-001 contains the requirements of 40 CFR Part 60 Subpart IIII.
- 3) 40 CFR Part 63, Subpart ZZZZZZ, *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries*
  - a) This rule applies to aluminum foundries which according to §63.11556 means a facility that melts aluminum and pours molten aluminum into molds to manufacture aluminum castings (*except die casting*). Bodine Aluminum, Inc. is a die casting installation that only melts clean charge; therefore, this rule does not apply.

#### **National Emission Standards for Hazardous Air Pollutants (NESHAP) Applicability**

In the permit application and according to Air Pollution Control Programs records, there was no indication that any Missouri Air Conservation Law, Asbestos Abatement, 643.225 through 643.250; 10 CSR 10-6.080, Emission Standards for Hazardous Air Pollutants, Subpart M, National Standards for Asbestos; and 10 CSR 10-6.250, Asbestos Abatement Projects - Certification, Accreditation, and Business Exemption Requirements apply to this installation. The installation is subject to these regulations if they undertake any projects that deal with or involve any asbestos containing materials. None of the installation's operating projects underway at the time of this review deal with or involve asbestos containing material. Therefore, the above regulations were not cited in the operating permit. If

the installation should undertake any construction or demolition projects in the future that deal with or involve any asbestos containing materials, the installation must follow all of the applicable requirements of the above rules related to that specific project.

### Compliance Assurance Monitoring (CAM) Applicability

#### 40 CFR Part 64, *Compliance Assurance Monitoring (CAM)*

The CAM rule does not apply because none of emission units subject to an emission limitation or standard, that uses a control device to achieve compliance, exceeds or are equivalent to the major source threshold.

### Other Regulatory Determinations

#### 1) 10 CSR 10-6.260, *Restriction of Emission of Sulfur Compounds*

- a) According to paragraph (1)(A)2 of this rule, combustion equipment that uses exclusively pipeline grade natural gas, as defined in 40 CFR 72.2, are exempt from this rule. Therefore, the natural gas combustion units at the installation are exempt from this rule.
- b) This rule applies to the Diesel Emergency Generator (EU0290). The calculations below demonstrate that this units will be in compliance with this rule.

#### General Equation

$\text{ppmv SO}_2 = \text{SO}_2 \text{ Emission Factor (lb/MMBtu)} \div \text{F factor (wscf/MMBtu)} \div \text{Conversion Factor (lb/scf)} \times \text{Conversion Factor (ppmv/ppmw)}$

Where:

- All of the sulfur in the fuel is converted to SO<sub>2</sub> emissions.
- For generators > 600 hp: SO<sub>2</sub> emission factor is 1.01S lb/MMBtu. [EPA AP-42, Table 3.4-1]
- Assume S = 0.5
- The F factor is the ratio of gas volume of products of combustion to the heat content of the fuel. For fuel oil, the F factor is 10,320 wscf/MMBtu. [40 CFR Part 60 Appendix A Method 19 Table 19-2]
- Conversion factor = 1.660E-7 lb/scf per ppm. [40 CFR Part 60 Appendix A Method 19, Table 19-1]
- Conversion factor for ppmw to ppmv = 28.8/MW = 28.8/64 = 0.45 [EPA AP-42, App A]

#### Calculation

$$\text{ppmv SO}_2 = \frac{1.01(0.5) \text{ lb}}{\text{MMBtu}} \times \frac{\text{MMbtu}}{10,320 \text{ ft}^3} \times \frac{\text{scf}}{1.660\text{E}^{-7} \text{ lb}} \times \frac{0.45 \text{ ppmv}}{\text{ppmw}} = 133 \text{ ppmv SO}_2 < 500 \text{ ppmv}$$

#### 2) 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*

- a) The following calculations verify that that the listed emission units are in compliance with this rule provided that the required control devices are in operation and working properly:

#### Allowable PM Emission Rate (E)

For process weight rates of 60,000 lbs/hr or less:

$$E \text{ (lbs/hr)} = 4.10(P)^{0.67}$$

Where:

P = process weight rate in tons/hr

#### Potential Uncontrolled PM Emission Rate (PTE)

$$\text{PTE (lb/hr)} = \text{MHDR (ton/hr)} \times \text{Emission Factor (lbs/ton)}$$

EU ID #	EU Description	Process Weight Rate (tons/hr)	<sup>1</sup> PM Emission Factor (lbs/ton)	Overall Control Device Efficiency (%)	Uncontrolled Emission Rate (lbs/hr)	Controlled Emission Rate (lbs/hr)	Allowable Emission Rate (lbs/hr)
EU0050	Aluminum Melting Furnace #5	3.86	7.77	85	29.99	4.50	10.13
EU0060	Sand Reclamation Furnace #1	4.0	5.41	95	21.64	1.08	10.38
EU0070	Sand Reclamation Furnace #2	4.0	5.41	95	21.64	1.08	10.38
EU0080	Resin Coating	7.50	12	95	90.00	4.50	15.82
EU0132	Cylinder Head Casting 132	1.06	4.11	90	4.37	0.44	4.27
EU0133	Cylinder Head Casting 133	1.90	4.11	90	7.81	0.78	6.30
EU0134	Cylinder Head Casting 134	1.90	4.11	90	7.81	0.78	6.30
EU0135	Cylinder Head Casting 135	1.06	4.11	90	4.37	0.44	4.27
EU0136	Cylinder Head Casting 136	1.90	4.11	90	7.81	0.78	6.30
EU0150	Used Sand Crushing	9.60	2.03	95	19.49	0.97	18.66
EU0160	Coated Sand Crushing	9.60	2.03	95	19.49	0.97	18.66
EU0170	Sand Cooling	9.60	2.28	95	21.89	1.09	18.66

<sup>1</sup> The PM<sub>10</sub> emission factors are based on Toyota design data and stack test data.

- b) According to paragraph (1)(B)16 of this rule, emission units that at maximum hourly design rate (MHDR) have an uncontrolled potential to emit PM less than the allowable emissions are exempt from this rule. As shown in the following table, each of these emission units has an uncontrolled emission rate less than the allowable emission rate.

EU ID #	EU Description	Process Weight Rate (tons/hr)	<sup>1</sup> PM Emission Factor (lbs/ton)	Uncontrolled Emission Rate (lbs/hr)	Allowable Emission Rate (lbs/hr)
EU0102	Cylinder Head Core Molding 102	8.8	0.104	0.92	17.60
EU0103	Cylinder Head Core Molding 103	8.8	0.104	0.92	17.60
EU0104	Cylinder Head Core Molding 104	8.8	0.104	0.92	17.60
EU0105	Cylinder Head Core Molding 105	8.8	0.104	0.92	17.60
EU0180	Used Sand Sieving	9.60	1.14	10.94	18.66
EU0190	Coated Sand Sieving	9.60	1.14	10.94	18.66
EU0210	Aluminum and Sand Separation	9.60	1.14	10.94	18.66
EU0220	Final Sand Crushing	9.60	1.01	9.70	18.66
EU0230	Sand Separation	9.60	1.01	9.70	18.66
EU0240	Sand Storage	9.60	0.25	2.40	18.66

EU ID #	EU Description	Process Weight Rate (tons/hr)	<sup>1</sup> PM Emission Factor (lbs/ton)	Uncontrolled Emission Rate (lbs/hr)	Allowable Emission Rate (lbs/hr)
EU0250	Sand Weighing	9.60	0.25	2.40	18.66
EU0260	Sand Heating	9.60	0.25	2.40	18.66
EU0270	Heated Sand Storage	9.60	0.25	2.40	18.66
EU0280	Coated Sand Storage	1.60	2.53	4.05	5.62

<sup>1</sup> The PM<sub>10</sub> emission factors are based on Toyota design data and stack test data.

- c) According to paragraph (1)(B)12, emission units that at maximum design capacity have a potential to emit less than one-half (0.5) pounds per hour of particulate matter are exempt. As shown in the following table, each of these emission units has the uncontrolled emission rate less than 0.5 lbs/hr.

EU ID #	EU Description	<sup>1</sup> Process Weight Rate (tons/hr)	PM Emission Factor (lbs/ton)	Uncontrolled Emission Rate (lbs/hr)
P12	Resin Charging	9.60	0.0064	0.06
P30	Die Casting	0.68	0.37	0.25

<sup>1</sup> The PM<sub>10</sub> emission factors are based on Toyota design data and stack test data.

- 3) The emission unit Cylinder Block, Lower Case Finishing (EU0200 in OP 2005-001) has been modified since the issuance of OP 2005-001. The facility no longer manufactures low-pressure die casting cylinder blocks and lower cases. The facility still manufactures, on a limited basis, high-pressure die casting cylinder blocks. Any emissions from the dry machining of these blocks are captured under G1, General Building exhaust. Consequently, this emission unit is listed in this operating permit under the heading *Emission Unit Without Limitations*.

**Other Regulations Not Cited in the Operating Permit or the Above Statement of Basis**

Any regulation which is not specifically listed in either the Operating Permit or in the above Statement of Basis does not appear, based on this review, to be an applicable requirement for this installation for one or more of the following reasons:

1. The specific pollutant regulated by that rule is not emitted by the installation;
2. The installation is not in the source category regulated by that rule;
3. The installation is not in the county or specific area that is regulated under the authority of that rule;
4. The installation does not contain the type of emission unit which is regulated by that rule;
5. The rule is only for administrative purposes.



Should a later determination conclude that the installation is subject to one or more of the regulations cited in this Statement of Basis or other regulations which were not cited, the installation shall determine and demonstrate, to the Air Pollution Control Program's satisfaction, the installation's compliance with that regulation(s). If the installation is not in compliance with a regulation which was not previously cited, the installation shall submit to the Air Pollution Control Program a schedule for achieving compliance for that regulation(s).

Prepared by:

---

Jason Dickneite  
Environmental Engineer