

217/782-2113

CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

PERMITTEE:

GBC Metals, LLC, d/b/a Olin Brass
Attn: B.P. Caruso, Environmental Engineering & Loss Prevention
427 North Shamrock Street
East Alton, Illinois 62024

I.D. No.: 119020ABG
Application No.: 07110030

Date Received: November 14, 2007
Date Issued: January 28, 2008
Expiration Date¹: January 28, 2013

Operation of: GBC Metals, LLC, Manufacture Brass Alloy Strip
Source Location: 427 North Shamrock Street, East Alton, Madison County
Responsible Official: Kevin Madden, Secretary Treasurer, GBC Metals, LLC

This permit is hereby granted to the above-designated Permittee to OPERATE a brass alloy strip, pursuant to the above referenced permit application. This permit is subject to the conditions contained herein.

If you have any questions concerning this permit, please contact Michael Davidson at 217/782-2113.

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

ECB:MED:jws

cc: Illinois EPA, FOS, Region 3
CES
Lotus Notes

¹ Except as provided in Conditions 1.5 and 8.7 of this permit.

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	4
1.1 Source Identification	
1.2 Owner/Parent Company	
1.3 Operator	
1.4 Source Description	
1.5 Title I Conditions	
2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED	7
3.0 CONDITIONS FOR INSIGNIFICANT ACTIVITIES	9
3.1 Identification of Insignificant Activities	
3.2 Compliance with Applicable Requirements	
3.3 Addition of Insignificant Activities	
4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE	13
5.0 OVERALL SOURCE CONDITIONS	17
5.1 Applicability of Clean Air Act Permit Program (CAAPP)	
5.2 Area Designation	
5.3 Source-Wide Applicable Provisions and Regulations	
5.4 Source-Wide Non-Applicability of Regulations of Concern	
5.5 Source-Wide Control Requirements and Work Practices	
5.6 Source-Wide Production and Emission Limitations	
5.7 Source-Wide Testing Requirements	
5.8 Source-Wide Monitoring Requirements	
5.9 Source-Wide Recordkeeping Requirements	
5.10 Source-Wide Reporting Requirements	
5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios	
5.12 Source-Wide Compliance Procedures	
6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS	32
7.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS	33
7.1 Unit 01 Casting Operations	
7.2 Unit 02 Brass Operations	
7.3 Unit 05 Cold Cleaning/Degreasing	
7.4 Unit 06 Other VOM Emission Units	
7.5 Unit 09 Gasoline Tanks	
7.6 Unit 10 Fugitive Emissions	

	<u>Page</u>
8.0 GENERAL PERMIT CONDITIONS	114
8.1 Permit Shield	
8.2 Applicability of Title IV Requirements	
8.3 Emissions Trading Programs	
8.4 Operational Flexibility/Anticipated Operating Scenarios	
8.5 Testing Procedures	
8.6 Reporting Requirements	
8.7 Title I Conditions	
9.0 STANDARD PERMIT CONDITIONS	119
9.1 Effect of Permit	
9.2 General Obligations of Permittee	
9.3 Obligation to Allow Illinois EPA Surveillance	
9.4 Obligation to Comply with Other Requirements	
9.5 Liability	
9.6 Recordkeeping	
9.7 Annual Emissions Report	
9.8 Requirements for Compliance Certification	
9.9 Certification	
9.10 Defense to Enforcement Actions	
9.11 Permanent Shutdown	
9.12 Reopening and Reissuing Permit for Cause	
9.13 Severability Clause	
9.14 Permit Expiration and Renewal	
9.15 General Authority for the Terms and Conditions of this Permit	
10.0 ATTACHMENTS	
1 Example Certification by a Responsible Official	1-1
2 Emissions of Particulate Matter from Process Emission Units	2-1
3 Compliance Assurance Monitoring (CAM) Plan	3-1
4 Guidance	4-1
5 Pressure Drop Monitoring Schedule and Visible Emission Compliance Demonstration	5-1

1.0 INTRODUCTION

1.1 Source Identification

GBC Metals, LLC, d/b/a Olin Brass
427 North Shamrock Street
East Alton, Illinois 62024-1197
618/258-3353

I.D. No.: 119020ABG
County: Madison

Standard Industrial Classification: 3341, Secondary Smelting & Refining
Of Nonferrous Metals
3351, Rolling, drawing and
extruding of copper based
alloys

1.2 Owner/Parent Company

GBC Metals, LLC, d/b/a Olin Brass
c/o KPS Capital Partners, LP
200 Park Avenue, 58th Floor
New York, New York 10166

1.3 Operator

GBC Metals, LLC, d/b/a Olin Brass
427 North Shamrock Street
East Alton, Illinois 62024

B.P. Caruso, Environmental Engineering & Loss Prevention
618/258-3353

1.4 Source Description

GBC Metals, LLC, d/b/a Olin Brass (GBC Metals, LLC), which is owned by Global Brass and Copper Acquisitions Company which is an affiliate of KPS Capital Partners, LP,, located at 427 North Shamrock Street, East Alton, in Madison County, produces more than 50 copper-based alloys which are utilized to make specialized sheet and strip products for a diverse array of industries. Worldwide markets for the high-performance copper-based alloy products include automotive, builder's hardware, microelectronics, communications, ammunition, and coinage. Major facilities at East Alton, Illinois include casting and rolling mills.

The process of manufacturing copper-based alloys begins after inspected raw materials are separated by alloy composition, compacted into bales and placed in melting furnaces. Most GBC Metals, LLC alloys are cast using a direct-chill technique which produces multiple ingots. Strict quality control procedures are used to verify chemistry of each melt. To form the ingots, molten metal is poured, cooled and solidified under closely controlled conditions.

After casting is complete, the ingots are reduced from seven inches thick to less than one inch by multiple passes on a hot-rolling mill. Through a series of computer-controlled passes, GBC Metals, LLC's cold-rolling tandem mill further reduces the strip thickness to one-tenth of an inch. Other mills are used to reduce the strip thickness even further in order to meet the customer's specifications.

GBC Metals, LLC's annealing equipment offers the high degree of versatility needed to meet precise customer metallurgical requirements. Strip thickness, alloy, final product specifications and other factors are considered in determining which of GBC Metals, LLC's annealing processes (strip annealing or bell annealing) are used. A computer controlled system closely monitors and controls exact operating parameters throughout the annealing process to ensure that the final anneal achieves the customer's desired mechanical properties and surface finish requirements.

Following final anneal and cleaning, if necessary, a portion of the metal is stamped, slit or drawn into its final shape with equipment at East Alton before it is shipped to the customer.

As described in Sections 4 and 7, GBC Metals, LLC utilizes a wide variety of particulate matter control devices on various processes; these include cyclones, baghouses, filters, mist eliminators and fume suppressants.

It should be noted that the GBC Metals, LLC facility was previously owned and operated by the Olin Corporation and the facility supplies various metal strip and components to the adjacent Olin Corporation's Winchester Division (I.D. No. 119020AAG) for use in the manufacture of ammunition. Correspondingly, the Olin Corporation provides various services to the GBC Metals, LLC facility in the course of its operation. (See Condition 5.1.2)

Note: This narrative description is for informational purposes only and is not enforceable.

1.5 Title I Conditions

As generally identified below, this CAAPP permit contains certain conditions for emission units at this source that address the applicability of permitting programs for the construction and modification of sources, which programs were established pursuant to Title I of the Clean Air Act (CAA) and regulations thereunder. These programs include PSD and MSSCAM, and are implemented by the Illinois EPA pursuant to Sections 9, 9.1, 39(a) and 39.5(7)(a) of the Illinois Environmental Protection Act (Act). These conditions continue in effect, notwithstanding the expiration date specified on the first page of this permit, as their authority derives from Titles I and V of the CAA, as well as Titles II and X of the Act. (See also Condition 8.7.)

- a. This permit contains "Title I conditions" that reflect Title I requirements established in permits previously issued for this source, which conditions are specifically designated as "T1."

- b. This permit contains Title I conditions that revise Title I requirements established in permits previously issued for this source, which conditions are specifically designated as "T1R."
- c. This permit contains Title I conditions that are newly established in this CAAPP permit, which conditions are specifically designated as "T1N."

2.0 LIST OF ABBREVIATIONS AND ACRONYMS COMMONLY USED

ACMA	Alternative Compliance Market Account
Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
ATU	Allotment Trading Unit
BAT	Best Available Technology
BACT	Best Available Control Technology
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
cfm	Cubic Feet per Minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CPDS	Certified Product Data Sheet
ERMS	Emissions Reduction Market System
DC	Direct Chill
°F	Degrees Fahrenheit
Ft ³	Cubic Foot
Gal	Gallon
Gm	Gram
HAP	Hazardous Air Pollutant
HF	Holding Furnace
Hp	horse power
Hr	Hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
°K	Degrees Kelvin
Kg	kilogram
kg/l	kilogram per liter
KW	Kilowatts
lbs	Pound
lb/gal	pound per gallon
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
mmcf	million cubic feet
MF	Melting Furnace
Mgal	One Thousand (1,000) Gallons
MG	Megagram (1,000,000 grams)
M	Meter
mmBtu	million British thermal units
mmBtu/hr	million British thermal units per hour
Mo	Month
MRF	Material Reclamation Facility
MSDS	Material Safety Data Sheets

MSSCAM	Major Stationary Sources Construction and Modification (35 IAC 203, New Source Review for non-attainment areas)
MW	Mega Watts(1,000,000 Watts)
N/A	Not Applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
Pb	Lead
PM	Particulate Matter
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 microns as measured by applicable test or monitoring methods
ppm	parts per million
PSD	Prevention of Significant Deterioration (40 CFR 52.21, New Source Review for attainment areas)
PSD	Prevention of Significant Deterioration
psia	pounds per square inch absolute
Ref.	Reference
RMP	Risk Management Plan
Scf	standard cubic foot
SO ₂	Sulfur Dioxide
T	Ton
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit
T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
VOL	Volatile Organic Liquid
VOM	Volatile Organic Material
Wt.	Weight
Yr	Year

3.0 CONDITIONS FOR INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

Brass Fabricating:

1	4000# Salem Annealing Furnace (AF-3C)
1	Fabricating Hot Water Heater #1 (HH-1)
1	Fabricating Hot Water Heater #2 (HH-2)

Brass Mill:

1	#8 Strip Anneal Annealing Furnace (SA-8)
1	Brass Mill Core Cutter (CC-1)
5	#12 Bell Anneal Furnaces (BAF-12)
6	#7 Bell Anneal Furnaces (BAF-7)
4	#13 Bell Anneal Furnaces (BAF-13)

4	Casting Plant: Knife Grinding and Core Drillers (G-1 to G-4)
1	Plant 3: Core Cutter (P3CC-1)
1	Plant 3: #3 Rolling/Cladding Mill - Brushing Unit (B-10)

3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

Brass Fabricating:

2	Hand Dip Tanks (T-1 and T-2)
12	Baird Barrels; Finishing (FBB-1 thru FBB-12)
2	4000# Rockwell Pickling Tanks (AT-1C & AT-2C)
1	Nickel Plating Line (NP-1)
1	4000# Salem Pickler (AT-4)
6	Baird Barrel (Cupping) (BB-1C thru BB-6C)

Brass Mill:

2	#6 Strip Anneal Cleaning Tanks (CT-12 & CT-13)
2	#1 Cleaning Line (CT-1 & CT-2)
2	#6 Cleaning Line (CT-5 & CT-6)
1	#8 Cleaning Line (CT-16)
2	Sulfuric Acid Storage Tanks (BAST-4 & BAST-5)
2	#3 Strip Anneal Cleaning Tanks (CT-8 & CT-9)
1	#9 Strip Anneal Furnace Cleaning (9FC-1)
1	#4 Strip Anneal Cleaning Tanks (CT-10)
1	#5 Strip Anneal Cleaning Tank (CT-11)
2	#7 Strip Anneal Cleaning Tanks (CT-14 & CT-15)

Casting Plant:

2	Coil Drilling Stations (TS-1 & TS-2)
1	Slug Melter (SM-1)
1	#2 Coil Miller System; Decast (DC-1)
1	Hot Mill System; Scrap Dump (SD-1)
1	#2 Coil Miller System; Uncoiler (UC-1)
1	#2 Coil Miller System; Flattener (FL-1)
1	Hot Mill System; Shear (SHR-1)
1	Casting Water Basket: Cleaning Operation (CWB-1)

Plant 3

1	BARCO; Acid Cleaning Line (CT-7 & RT-2)
1	Plant 3 Sulfuric Acid Tank (P3AST-1)
1	Brush Degreaser (BD-1)
1	No. 26 Line Welder (WD-26)
1	New BARCO; Degrease Cleaning Line (CT-6 & RT-1)

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Furnaces used for melting metals, other than beryllium, with a brim full capacity of less than 450 cubic inches by volume [35 IAC 201.210(a)(6)].

Storage tanks of organic liquids with a capacity of less than 10,000 gallons and an annual throughput of less than 100,000 gallons per year, provided the storage tank is not used for the storage of gasoline or any material listed as a HAP pursuant to Section 112(b) of the CAA [35 IAC 201.210(a)(10)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(11)].

Printing operations with aggregate organic solvent usage that never exceeds 750 gallons per year from all printing lines at the source, including organic solvent from inks, dilutents, fountain solutions, and cleaning materials [35 IAC 201.210(a)(14)].

Gas turbines and stationary reciprocating internal combustion engines of less than 112 kW (150 horsepower) power output [35 IAC 201.210(a)(15)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

Storage tanks of any size containing exclusively soaps, detergents, surfactants, glycerin, waxes, vegetable oils, greases, animal fats, sweeteners, corn syrup, aqueous salt solutions, or aqueous caustic solutions, provided an organic solvent has not been mixed with such materials [35 IAC 201.210(a)(17)].

Loading and unloading systems for railcars, tank trucks, or watercraft that handle only the following liquid materials, provided an organic solvent has not been mixed with such materials: soaps, detergents, surfactants, lubricating oils, waxes, glycerin, vegetable oils, greases, animal fats, sweetener, corn syrup, aqueous salt solutions, or aqueous caustic solutions [35 IAC 201.210(a)(18)].

- 3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability, such as 35 IAC 212.301 and 212.123 (See Condition 5.3.2), the Permittee shall comply with the following requirements, as applicable:

- 3.2.1 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322 (see Attachment 2) and 35 IAC Part 266. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
- 3.2.2 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or, if no odor nuisance exists, do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.
- 3.2.3 For each open burning activity, the Permittee shall comply with 35 IAC Part 237, including the requirement to obtain a permit

for open burning in accordance with 35 IAC 237.201, if necessary.

- 3.2.4 For each emission unit using sulfuric acid, with the exception of fuel combustion emission units, the Permittee shall comply with the applicable requirements of 35 IAC 214.303. Specifically, no person using sulfuric acid shall cause or allow the emission of sulfuric acid and/or sulfur trioxide from all other similar emission sources at a plant or premises to exceed: 45.4 grams in any one hour period for sulfuric acid usage less than 1180 Mg/yr (100 percent acid basis) (0.10 lbs/hr up to 1300 T/yr).
- 3.2.5 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 219.182.
- 3.2.6 For each storage tank that has a storage capacity greater than 946 liters (250 gallons) and, if no odor nuisance exists, that stores an organic material with a vapor pressure exceeding 2.5 psia at 70°F, the Permittee shall comply with the applicable requirements of 35 IAC 219.122, which requires use of a permanent submerged loading pipe, submerged fill, or a vapor recovery system.
- 3.2.7 For each emission unit required to be included in determining applicability of 35 IAC 219 Subpart TT, total VOM emissions from insignificant activities (including storage and handling of formulations) shall be included with the applicable emission units in Section 7.6 in order to determine applicability of 35 IAC 219 Subpart TT (See Condition 5.4.9). Compliance shall be determined based upon the recordkeeping, reporting and compliance procedures shown in Section 7.6.

3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 Significant Emission Units at This Source

Unit 01 - Casting Operations

Emission Unit	Description	Date Constructed or Modified	Emission Control Equipment
Casting Units	#1 D.C. Casting units (MF-11 to MF-15 & HF-3)	Modification 1998	Cyclone (MC-3), American air filter #2 Baghouse (BH-4)
	#4 D.C. Casting units (MF-17 to MF-21 & HF-5)	Modification 1998	
	#1 Ascast (Ascast furnace) (ASC-1)	Modification 07/2005	
	#2 Ascast (New Ascast furnace) (ASC-2)	Modification 01/2005	
	#2 D.C. Casting units (MF-1 to MF-5 & HF-1)	Modification 1998	Cyclone (MC-1), Wheelabrator #1 Baghouse (BH-1)
	#3 D.C. Casting units (MF-6 to MF-10 & HF-2)	Modification 1998	
	#5 D.C. Casting units ((MF-22 to MF-26 & HF-6)	Modification 1998	Cyclone (MC-2), Lear-Siegler #3 Baghouse (BH-5)
	#1 Horizontal (Technica-Guss) Caster ² (MF-27 & HF-7)	1982 Modified 2006	Carborundum Baghouse (BH-3)
	#2 Horizontal (Wertli) Casting Unit ² (MF-16 & HF-8)	1982 Modified 2006	
	Metals Research Laboratory (MRL) Furnace (MF-30)	2004	Spark Arrester, MRL Baghouse (BH-8)
Aerofall Mill & Feed Hopper	Aerofall Mill (AM-1,)	1976	Custom System Baghouse (BH-7)
	Aerofall Mill Feed Bin, Conveyor and Hopper (FSB-1, VF-1, & FH-1)		Pangborn Baghouse (BH-2)
Furnace Building Operations	1F Mix Muller (MM-3)	1983	Cartridge Filter System (CF-1) Modified 2005
	Low Profile Turbine Mixer (LP-1)	Modified 2005	
	Induction Form Stations 1 & 2 (IF-1 & IF-2)	1983 Modified 2005	
Abrasive cleaner	Abrasive cleaner (ABRC-1)	1975	Cyclone (ACCR-1) & Baghouse (ACBH-1)
Charcoal Burners	Charcoal burners (CB-1 thru CB-12), each 1.04 mmBtu/hr Charcoal fired	Modified after 1972	None

Unit 02 - Brass Operations

Description	Emission Control Equipment	Date Constructed/ Last Modified
Slab Heating Furnaces		
#1 Slab Furnace (SF-1)	None	Prior 1972
#2 Slab Furnace (SF-2)	None	1979
#3 Slab Furnace (SF-3)	None	1999
Hot Mill		
Hot Mill (HM-1)	None	Prior 1972/1998
Surface Milling Operations		
#2 Coil Miller (CM-1)	Skimmer (SK-1) and Collector (GS-4)	1973/2000
#3 Coil Miller (CM-2)	Skimmer (SK-2) and Baffled Settling Chamber (BSC-1)	1977/1998
Polygage Miller (RM-25) And Skive Line	Cyclone (CYC-1); and Drop- out Box (DOB-1); Moisture Separator (MS-1)	1986/1988
#1 Horizontal Caster Inline Miller (SM-2)	Chip Collector (SK-4)	1982
Solution Rolling Mills		
Old Tandem Mill (RM-1)	None	Prior 1972
New Tandem Mill (RM-7)	Mist Eliminator (FE-6)	1978/1999
4-Stand Tandem Mill (Mill 4)	Mist Eliminator (OME-4)	1993
#5 Rolling Mill (RM-2)	Mist Eliminator (FE-1)	Prior 1972/1995
#20 Rolling Mill (RM-6)	Mist Eliminator (FE-5)	1976/1999
Mineral Oil Rolling Mills		
#6 Rolling Mill (RM-9)	Mist Eliminator (FE-8)	1976/1995
#9 Rolling Mill (RM-3)	Mist Eliminator (FE-2)	Prior 1972/1994
#18 Rolling Mill (RM-4)	Mist Eliminator (FE-3)	Prior 1972/1999
#19 Rolling Mill (RM-5)	Mist Eliminator (FE-4)	1974/1999
#23 Rolling Mill (RM-8)	Mist Eliminator (FE-7)	1984/1995
#24 Rolling Mill (Mill-24)	Mist Eliminator (OME-24)	1988/1995
#29 Rolling Mill (Mill-29)	Mist Eliminator (OME-29)	2001
#34 Rolling Mill (Mill-28)	Mist Eliminator (OMC-28)	1988
Bell Anneals		
#7 Bell Anneal (BA-7)	None	Prior 1972/1999
#9 Bell Anneal (BA-9)	None	1984/2003
#11 Bell Anneal (BA-11)	None	1984
#12 Bell Anneal (BA-12)	None	1983/2002
#13 Bell Anneal (BA-13)	None	1993/1999
#31 Bell Anneal (BA-31)	None	2000/2003
Strip Anneals		
#3 Strip Anneal (SA-3)	None	Prior 1972
#4 Strip Anneal (SA-4)	None	Prior 1972/2003
#5 Strip Anneal (SA-5)	None	Prior 1972
#6 Strip Anneal (SA-6)	None	Prior 1972
#7 Strip Anneal (SA-7)	None	1976

Description	Emission Control Equipment	Date Constructed/ Last Modified
Bonding Mills		
#35 Rolling /Clad Bonding Mill (#35 Mill) (RCM-3)	3-Stage Filter System (SFS-3)	1985/1988
Posit Bond Bonding Mill (BM-2)	Filters (F-1 & F-2)	Prior 1972
Brushing Units		
#1 Posit Bond Brush Line (BM-1)	Rotoclone (RC-1)	1981
#2 Posit Bond Brush Line (BM-2)	Drop-out Box (PBDOB-1) & Baghouse (PBBH-1)	2002
Other Brass Mill Operations		
Hot Dip Tin Line (HD-1)	Fume Scrubber (SCRUB-1)	1987
#9 Cleaning Line (CT-17)	Fume Scrubber (FS-2)	1993

Unit 3 - Cold Cleaning/Degreasing

Description	Emission Control Equipment	Date Constructed
Posit Bond Brush Cleaner (PBBC-1)	None	May 1996 Modified: August 1999

Unit 04 - Other VOM Emission Units

Description	Emission Control Equipment	Date Constructed
Strip Lubrication, Drip-On Oil	None	Prior 1972
Strip Lubrication, Pre-Anneal Lubricant	None	Prior 1972
Strip Lubrication, Anti-Fretting Lubricant	None	1994
Fabricating Stamping Operations (SO-1 to SO-12)		
60 Ton Minster Press (SO-1)	None	1981
90 Ton Minster Press (SO-2)	None	1990
100 Ton Minster Press (SO-3)	None	1981
150 Ton Minster Press (SO-4)	None	1979 (est.)
180 Ton Minster Press (SO-5)	None	1999
200 Ton Minster Press (SO-6)	None	1986
300 Ton Minster Press (SO-7)	None	1997
100 Ton Bliss Press (SO-8)	None	1994
200 Ton Bliss Press (1) (SO-9)	None	prior to 1972
200 Ton Bliss Press (2) (SO-10)	None	1989
Model 675 Bliss Press (SO-11)	None	prior to 1972
800 Ton Aida Press (SO-12)	None	1994
Posit Bond Brushing Machines - Cleaning Tanks (PBCT-1 * PBCT-2)	None	PBCT-1 1972 PBCT-2 1999
Cleaning Solvents	None	--
BTA in Water Operations (BTA-1 to BTA-16)	None	1990 (est.)

Unit 05 - Gasoline Tanks

Description	Emission Control Equipment	Date Constructed
Zone 17 Gasoline Tank (AST-15); 500 gallons	None	01/1961
Zone 17 Onan Gasoline Tank (AST-16); 525 Gallons	None	01/1995
Zone 7 Gasoline Tank (AST-2); 500 Gallons	None	11/1993

Unit 06 - Fugitive emissions

Description	Emission Control Equipment	Date Constructed
Vehicular Mile Traveled (VMT) on Roads	None	
Material Storage Piles	None	
Contact Cooling Towers	None	
Casting Fugitives	None	

5.0 OVERALL SOURCE CONDITIONS

5.1 Applicability of Clean Air Act Permit Program (CAAPP)

5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of PM₁₀, PM_{2.5}, nitrogen oxides (NO_x), volatile organic material (VOM) and carbon monoxide (CO) emissions.

5.1.2 For purposes of the CAAPP, GBC Metals, LLC is considered a single source with Olin Corporation, I.D. No. 119020AAG, located at 427 North Shamrock Street, East Alton. The Permittees have elected to obtain separate CAAPP permits for their operations.

5.2 Area Designation

This permit is issued based on the source being located in an area that, as of the date of permit issuance, is designated nonattainment for the National Ambient Air Quality Standards for ozone (moderate nonattainment) and/or PM_{2.5} and attainment or unclassifiable for all other criteria pollutants (CO, lead, NO_x, PM₁₀, and SO₂).

5.3 Source-Wide Applicable Provisions and Regulations

5.3.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.

5.3.2 In addition, emission units at this source are subject to the following regulations of general applicability:

- a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.
- b. Pursuant to 35 IAC 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, except as allowed by 35 IAC 212.123(b) and 212.124.

5.3.3 Fugitive Particulate Matter

The permit is issued based upon the source being both an applicable operation (i.e., manufacturing) and being located in an area listed in 35 IAC 212.302(a) (i.e., Madison county - Wood River township). The Permittee shall comply with the applicable fugitive particulate matter requirements of 35 IAC Sections

212.304 through 212.310 and 212.312. These requirements include but are not limited to the following: [35 IAC 212.302(a)]

- a. Traffic Areas: All normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by Conditions 5.3.3(d) through (g) (see also 35 IAC 212.309, 212.310 and 212.312) [35 IAC 212.306].
- b. Materials Collected by Pollution Control Equipment: All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods [35 IAC 212.307].
- c. Spraying or Choke-Feeding Required: Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program [35 IAC 212.308].
- d. Operating Program: The emission units described in Condition 5.3.3 and 35 IAC 212.304 through 212.308 and 212.316 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 IAC 212.310 and 212.312, and prepared by the owner or operator and submitted to the IEPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter [35 IAC 212.309].
- e. Minimum Operating Program: Pursuant to 35 IAC 212.310, at a minimum the operating program shall include the following:
 - i. The name and address of the source [35 IAC 212.310(a)];
 - ii. The name and address of the owner or operator responsible for execution of the operating program [35 IAC 212.310(b)];
 - iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source [35 IAC 212.310(c)];

- iv. Location of unloading and transporting operations with pollution control equipment [35 IAC 212.310(d)];
 - v. A detailed description of the best management practices utilized to achieve compliance with this Subpart, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized [35 IAC 212.310(e)];
 - vi. Estimated frequency of application of dust suppressants by location of materials [35 IAC 212.310(f)]; and
 - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program [35 IAC 212.310(g)].
- f. Amendment to Operating Program: The operating program shall be amended from time to time by the owner or operator so that the operating program is current. Such amendments shall be consistent with Condition 2(c)(v) (see also 35 IAC Part 212 Subpart K) and shall be submitted to the Illinois EPA for its review [35 IAC 212.312].
- g. Particulate Collection Equipment: If particulate collection equipment is operated pursuant to 35 IAC 212.304 through 212.310 and 212.312, emissions from such equipment shall not exceed 68 mg/dscm (0.03 gr/dscf) [35 IAC 212.213].

Additional requirements have been included in Section 7, pursuant to the above.

5.3.4 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 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 40 CFR 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.3.5 Risk Management Plan (RMP)

Should this stationary source, as defined in 40 CFR 68.3, become subject to the federal regulations for Chemical Accident Prevention in 40 CFR Part 68, then the owner or operator shall submit the items below. This condition is imposed in this permit pursuant to 40 CFR 68.215(a)(2)(i) and (ii).

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
- b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the RMP, as part of the annual compliance certification required by Condition 9.8.

5.3.6 Future Emission Standards

- a. Should this stationary source become subject to a new or revised regulation under 40 CFR Parts 60, 61, 62, or 63, or 35 IAC Subtitle B after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by Condition 9.8. This permit may also have to be revised or reopened to address such new or revised regulations (see Condition 9.12.2).
- b. This permit and the terms and conditions herein do not affect the Permittee's past and/or continuing obligation with respect to statutory or regulatory requirements governing major source construction or modification under Title I of the CAA

5.3.7 Episode Action Plan

- a. Pursuant to 35 IAC 244.141, 244.142, and 244.143, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144 and is incorporated by reference into this permit.
- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert

or emergency be declared by the Director of the Illinois EPA or his or her designated representative.

- c. If an operational change occurs at the source which invalidates the plan, a revised plan shall be submitted to the Illinois EPA for review within 30 days of the change, pursuant to 35 IAC 244.143(d). Such plans shall be further revised if disapproved by the Illinois EPA.

5.4 Source-Wide Non-Applicability of Regulations of Concern

- 5.4.1 This source is not subject to 40 CFR Part 61, Subpart C: National Emission Standard for Beryllium, because the emission units at the source do not meet the applicability criteria in 40 CFR 61.30 (See Condition 5.5.1).

Specifically, the foundry operations at the source (See Section 7 of this permit) do not utilize alloys which contain beryllium at more than 0.1 percent beryllium by weight.

Further, the machining shop operations (See Section 7 of this permit) at the source do not process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight [40 CFR 61.30(b)].

Foundry means a facility engaged in the melting or casting of beryllium metal or alloy [40 CFR 61.31(f)].

Machine shop means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations [40 CFR 61.31(d)].

Beryllium alloy means any metal to which beryllium has been added in order to increase its beryllium content and which contains more than 0.1 percent beryllium by weight [40 CFR 61.31(j)].

- 5.4.2 This source is not subject to 40 CFR Part 63, Subpart MMMM, National Emission Standards for Hazardous Air Pollutants: Miscellaneous Metal Parts and Products Surface Coating Operations because the source is not a major source of HAP emissions (See Conditions 5.1.2, 5.6.2 and 5.6.3).
- 5.4.3 This source is not subject to 40 CFR Part 63, Subpart SSSS, National Emission Standards for Hazardous Air Pollutants: Metal Coil Surface Coating Operations because the source is not a major source of HAP emissions (See Conditions 5.6.2 and 5.6.3) and the materials applied in the strip lubrication operation (See Section 7.6) are not considered to be a coating as defined in 40 CFR 63.5110, i.e., "Decorative, protective, or functional materials that consist only of solvents, protective oils, acids, bases, or any combination of these substances are not considered coatings for the purposes of this subpart".

- 5.4.4 This source is not subject to 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants: Industrial, Commercial, and Institutional Boilers and Process Heaters because the source is not a major source of HAP emissions (See Conditions 5.1.2, 5.6.2 and 5.6.3).
- 5.4.5 This source is not subject to 40 CFR Part 63, Subpart FFFFFFF, National Emission Standards for Hazardous Air Pollutants for Secondary Copper Smelting Area Sources because the source is not a secondary copper smelter as defined in 40 CFR 63.11158.
- 5.4.6 The storage piles, along with associated conveyor loading operations to the piles and the normal traffic pattern access areas surrounding the piles, are not subject to 35 IAC 212.304 through 212.306 because uncontrolled emissions of fugitive particulate matter from all storage piles at the source are less than 50 tons/year [35 IAC 212.304].
- 5.4.7 Emissions units at this source are not subject to 35 IAC 212.316 and 212.324 because the source does not meet the applicability criteria in 35 IAC 212.316(a) and 212.324(a), respectively [35 IAC 212.316 and 212.324].
- 5.4.8 Emissions units at this source are not subject to 35 IAC Part 212 Subpart U because the source does not meet the applicability criteria in 35 IAC 212.700 [35 IAC 212.316].
- 5.4.9 The source is not subject to control requirements specified in 35 IAC 219 Subpart TT, because emissions of VOM from the affected emission units (as defined by Condition 7.6.3) as a group are limited to less than 100 tons per calendar year in Condition 7.6 [35 IAC 219.980(a)].

5.5 Source-Wide Control Requirements and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational and production limitations and/or work practice requirements:

- 5.5.1 Avoidance of Applicability of 40 CFR Part 61, Subpart C: National Emission Standard for Beryllium

Pursuant to Condition 5.4.1, the Permittee is prohibited from the following:

- a. Melting or casting of beryllium metal or alloy in the foundry operations at the source, as described in Section 7 of this permit and as defined in 40 CFR Part 61, Subpart C: National Emission Standard for Beryllium, which contain beryllium at more than 0.1 percent beryllium by weight.

- b. Machining shop operations at the source, as described in Section 7 of this permit and as defined in 40 CFR Part 61, Subpart C: National Emission Standard for Beryllium, shall not process beryllium, beryllium oxides, or any alloy when such alloy contains more than 5 percent beryllium by weight.

5.6 Source-Wide Production and Emission Limitations

5.6.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.6.1) are set for the purpose of establishing fees and are not federally enforceable (see Section 39.5(18) of the Act).

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	67.33
Sulfur Dioxide (SO ₂)	0.93
Particulate Matter (PM)	208.80
Nitrogen Oxides (NO _x)	108.52
HAP, not included in VOM or PM	2.00
Total	387.58

5.6.2 Emissions of Hazardous Air Pollutants

The emissions of HAPs from the source shall be less than 10 tons/year for each individual HAP and 25 tons/year for all HAPs combined. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). This condition is being imposed so that the source is not a major source of HAP emissions and the requirements of the following do not apply to the source (See Conditions 5.4.1 through 5.4.5, and 5.6.3):

- a. 40 CFR 63, Subpart MMMM: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Metal Parts and Products Surface Coating Operations
- b. 40 CFR 63, Subpart SSSS: National Emission Standards for Hazardous Air Pollutants: Metal Coil Surface Coating Operations
- c. 40 CFR 63, Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters

The Permittee shall fulfill the applicable testing, recordkeeping, and reporting requirements of Conditions 5.7.2, 5.9.2, and 5.10.3.

5.6.3 Other Source-Wide Production and Emission Limitations

Other source-wide emission limitations are not set for this source pursuant to the federal rules for PSD, state rules for MSSCAM, or Section 502(b)(10) of the CAA. However, there may be source wide limits set in the associated Olin Corporation CAAPP permit (ID No. 119020AAG) and in the unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.6.4 Source Wide Combustion of Natural Gas Equivalent Propane-Air Mixture

- a. The combustion of a natural gas equivalent propane-air mixture is allowed in any emission units permitted to combust natural gas as described in Section 7.
- b. Combustion of natural gas equivalent propane-air mixture is subject to the following limitations:

- i. Propane Consumption shall not exceed:

Propane Consumption	
<u>(Mgal/month)</u>	<u>(Mgal/year)</u>
2,000	5,809

- ii. Incremental Emission Limits for Propane-Air Mixture Combustion shall not exceed*

<u>Pollutant</u>	Incremental Emissions <u>(tons/year)</u>
NO _x	27.88
PM	N/A**
VOM	0.24
SO ₂	2.74
CO	N/A**

* Note that the flowmeters used to record gas flowrates to each combustion unit record the total gas flow to each unit (i.e., natural gas plus propane-air mixture). Therefore the calculation methods described in Section 7 will account for emissions from combustion of the propane-air mixture as if it were natural gas. Overall total emission rates from combustion units are determined by adding the emissions calculated using the incremental

emissions described in this condition to the combustion unit emission rate totals from Section 7.

** PM and CO emissions for combustion of the propane-air mixture are less than the natural gas emissions.

- c. Compliance with the source wide fuel combustion emission limits in this section shall be based upon the record-keeping and reporting requirements in Conditions 5.9.3(b) and 5.10.4, respectively, and the fuel-combustion emissions calculation procedures in Condition 5.12.2(b).
- d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1N].
- e. The above limitations are being established in this permit pursuant to Title I of the CAA, specifically MSSCAM and/or PSD. The source has requested that the Illinois EPA establish emission limitations and other appropriate terms and conditions in this permit that limit the NO_x, VOM, and SO₂ emissions from the affected source below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application [T1N].

5.7 Source-Wide Testing Requirements

5.7.1 Pursuant to 35 IAC 201.282 and Section 4(b) of the Act, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:

- a. Testing by Owner or Operator: The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests [35 IAC 201.282(a)].
- b. Testing by the Illinois EPA: The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control

equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary [35 IAC 201.282(b)].

- c. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

5.7.2 HAP Testing to Verify Minor Source Status

Pursuant to Condition 5.7.1 and to verify compliance with the requirements of Condition 5.6.2, that is that this source is not a major source of HAPs, the following testing requirements are established:

- a. If in the previous calendar year, emissions of HAPs exceeded 80% of major source threshold for individual or total HAPs (greater than 8 tons of a single HAP or greater than 20 tons of total HAPs), then testing for HAPs using USEPA Method 311 or Certified Product Data Sheets (See the definition in 40 CFR 63.801) or recertification of formulation data shall be conducted as follows:
 - i. Test or obtain supplier recertification of the top five coatings that make the largest contributions to individual and total HAP emissions. The largest contributions are defined as the product of usage and HAP content. If two coatings differ only in pigment, then both do not have to be tested.
 - ii. Excluding coatings, test or obtain supplier recertification of those material(s) that contribute to individual and total HAP emissions in excess of 5% of the total of individual and total HAP emissions.
- b. If testing is done, it may be conducted by either the supplier of the HAP-containing material or by the Permittee.
- c. The calculation as to whether the 80% of major source threshold was exceeded shall be based on records and procedures in Condition 5.9.2 and shall be completed by January 31 for the previous calendar year. If testing is required, this calculation shall be completed by March 15 for the previous calendar year.
- d. Any such tests are also subject to the Testing Procedures of Condition 8.5 set forth in the General Permit Conditions of Section 8.

5.8 Source-Wide Monitoring Requirements

Source-wide monitoring requirements are not set for this source. However, there may be provisions for unit specific monitoring set forth in Section 7 of this permit.

5.9 Source-Wide Recordkeeping Requirements

5.9.1 Annual Emission Records

The Permittee shall maintain records of total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit to demonstrate compliance with Condition 5.6.1, pursuant to Section 39.5(7)(b) of the Act.

5.9.2 Records for HAP Emissions

- a. The Permittee shall maintain records of individual and combined HAP emissions on a monthly and annual basis for the emission units covered by Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit to demonstrate compliance with Condition 5.6.2, pursuant to Section 39.5(7)(b) of the Act.
- b. If testing is required by Condition 5.7.2, the Permittee shall keep records of the testing, including the test date, conditions, methodologies, calculations, test results, and any discrepancies between the test results and formulation specifications of Condition 5.9.2(c) below.
- c. The Permittee shall keep an CPDS or equivalent document showing the formulation of each coating or HAP containing material, including content of all HAPs. These formulation sheets may be used to make the calculation of HAP emissions required by Condition 5.7.2. If the formulation sheet uses a maximum or range value (e.g., less than 1% or range of 2 - 3%) then the highest value shall be used.

5.9.3 Records for Other Source-Wide Emission Limitations

- a. The Permittee shall keep records, including supporting emission calculation, of uncontrolled fugitive particulate emissions of all storage piles at the source, along with associated conveyor loading operations to the piles and the normal traffic pattern access areas surrounding the piles, to show that uncontrolled fugitive particulate emissions are no less than 50 tons/years (See Condition 5.4.6).
- b. Pursuant to Condition 5.6.4, the Permittee shall compile and maintain the following:
 - i. Monthly records of propane usage (gal/month and gal/year).

- ii. Monthly records of incremental propane-air mixture combustion emissions (tons/month and tons/year) based upon compliance procedures in Condition 5.12.2.
- c. The Permittee shall retain and maintain documentation and records of the plans and monitoring and test results required pursuant to the requirements in Condition 5.3.3.
- d. The Permittee shall retain and maintain documentation and records of the beryllium content of the alloys melted, cast, and machined at the source (See Conditions 5.4.1 and 5.5.1). These records may included but are not limited to CPDS, MSDS, laboratory analyses utilizing USEPA methodologies (e.g., USEPA publication SW-846, entitled Test Methods for Evaluating Solid Waste, Physical/Chemical Methods), and/or material balance calculations.

5.9.4 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

As applicable the Permittee may use records obtained from the adjacent Olin Corporation Winchester Division (ID 119020AAG) for purposes of complying with the above.

5.10 Source-Wide Reporting Requirements

5.10.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the source with the permit requirements within 30 days, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken. There are also reporting requirements for unit specific emission units set forth in Section 7 of this permit.

5.10.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information, including HAP emissions, for the previous calendar year.

5.10.3 Annual Reporting of HAP Emissions

The Permittee shall submit an annual report, based upon the records and calculations required in Condition 5.6.2, to the Illinois EPA - Bureau of Air - Compliance Section, on HAP emissions from the source, including the following information, so as to demonstrate whether the source is being operated as a non-major source of HAP emissions. This report shall be submitted with the Annual Emissions Report (Condition 9.7).

- a. The annual emissions of individual HAPs for each month of the previous calendar year sufficient to demonstrate compliance with the 12 month running total of Condition 5.5.2, tons/year, (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all); and
- b. The total annual emissions of all HAPs combined for each month of the previous calendar year sufficient to demonstrate compliance with the 12 month running total of Condition 5.5.2, tons/year, (e.g., for the month of January, the emissions from February of the preceding calendar year through January; for the month of February, the emissions from March of the preceding calendar year through February; 12 months in all).

5.10.4 Source-Wide Reporting Requirements for Combustion of Natural Gas Equivalent Propane-Air Mixture:

a. Reporting of Deviations

- i. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the source with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken. Deviations can include but are not limited to the following:
 - A. Source-Wide operation of the affected source's emission units in excess of the limits specified in Conditions 5.6.4 within 30 days of such occurrence.

- ii. If there is a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report within 30 days after the deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the deviation and efforts to reduce emissions and future occurrences.

5.11 Source-Wide Operational Flexibility/Anticipated Operating Scenarios

Source-wide operational flexibility is not set for this source. However, there may be provisions for unit specific operational flexibility set forth in Section 7 of this permit.

5.12 Source-Wide Compliance Procedures

5.12.1 Procedures for Calculating Emissions

Except as provided in Condition 9.1.3, compliance with the source-wide emission limits specified in Condition 5.6 shall be addressed by the recordkeeping and reporting requirements of Conditions 5.9 and 5.10, and compliance procedures in Section 7 (Unit Specific Conditions for Specific Emission Units) of this permit.

5.12.2 Other Source-Wide Compliance Procedures

- a. Compliance with the source wide fugitive particulate matter limits in Conditions 5.3.2(a), 5.3.3, and 5.4.6 is based upon the operating program requirements of 5.3.3, the visual observation requirements in Section 7, and records required in Condition 5.9.3.
- b. Compliance with the source wide incremental propane fuel combustion emission limits in Condition 5.6.4 is based upon the record-keeping and reporting requirements in Conditions 5.9.3(b) and 5.10.4, respectively.

Incremental Emission Factors for Propane-Air Mixture Combustion

Emissions (tons/month) = Increase in Emissions when Combusting Propane (lb/10³ gal) x Monthly Propane Usage (10³ gal/month) x (1 ton / 2000 lb)

<u>Pollutant</u>	<u>Natural Gas Emission Factor** (lbs/mmBtu)</u>	<u>Propane Emission Factor*** (lbs/mmBtu)</u>	<u>Increase in Emissions when Combusting Propane**** (lb/10³ gal)</u>
NO _x	0.100	0.202	9.6
PM	0.008	0.006	N/A*

<u>Pollutant</u>	<u>Natural Gas Emission Factor** (lbs/mmBtu)</u>	<u>Propane Emission Factor*** (lbs/mmBtu)</u>	<u>Increase in Emissions when Combusting Propane**** (lb/10³ gal)</u>
VOM	0.006	0.006	0.08
SO ₂	0.001	0.011	0.94
CO	0.084	0.034	N/A*

* PM and CO emission factors for combustion of the propane-air mixture are less than the natural gas emission factors.

** Natural Gas Emission Factor (lbs/mmBtu) = Emission Factor (lbs/mmscf) / (1000 Btu/scf)

*** Propane Emission Factor (lbs/mmBtu) = Emission Factor (lbs/1000 gal) / (94 mmBtu / 1000 gal)

**** Increase in Emission when Combusting Propane = [Propane Emission Factor (lbs/mmBtu) - Natural Gas Emission Factor (lbs/mmBtu)] * (94 mmBtu / 1000 gal)

These incremental emission factors are derived from the emission factors for uncontrolled propane-air mixture combustion in boilers (<100 mmBtu/hr), Tables 1.5-1, AP-42, Volume I, Supplement B, October 1996. and the emission factors for uncontrolled natural gas combustion in boilers (<100 mmBtu/hr), Tables 1.4.1 and 1.4.2, AP-42, Volume I, Supplement D, March, 1998.

- c. Compliance with the source wide beryllium limits in Conditions 5.4.1 and 5.5.1 is based upon the records required in Condition 5.9.3.
- d. Compliance with the source wide HAP emissions limits in Conditions 5.6.2 and 5.6.3 is based upon the testing, recordkeeping, reporting requirements in Conditions 5.7.2, 5.9.2, and 5.10.3, respectively and the emission calculation procedures in Section 7.

6.0 CONDITIONS FOR EMISSIONS CONTROL PROGRAMS

This section is reserved for emissions control programs. As of the date of issuance of this permit, there are no such programs applicable to this source.

7.0 UNIT SPECIFIC CONDITIONS FOR SPECIFIC EMISSION UNITS

7.1 Unit 01 - Casting Operations

7.1.1 Description

Casting Units - (Direct Chill Casting No. 1 D.C. through No. 5, #1 & #2 Ascasts, and #1 & #2 Horizontal Casters)

Containers charged with scrap and virgin materials blended to meet an alloy specification are transported from the Raw Material department to the casting floor and then to the charging hopper that feeds a melting furnace.

Melting is done in low-frequency, channel induction furnaces. Since molten metal loops serve as the transformer's secondary circuit, the solid metal is always charged into a furnace partially full of molten metal.

A layer of carbonaceous or salt material typically covers the molten metal to protect it from oxidation and minimize heat loss. This cover is periodically skimmed off to remove dross and slag, and the melt is re-covered. The skimmings are normally recycled to recover the metal content for melting.

When the melting furnace (MF) is full, it is poured down a transfer trough to a much larger holding furnace that is similar to the melting furnaces in basic design and operation. The melting furnace, partially emptied, can then accept more solid metal and repeat its melting cycle.

When the holding furnace is poured, the molten metal flows down a short distributor and through ceramic tubes into the molds of the casting machine. In the direct chill (DC) Casting Units, up to four ingots can be cast during one pour. For the Ascast Systems, up to two ingots can be cast per pour. The #1 and #2 Horizontal Casters produce long horizontal metal strip that can be immediately upcoiled.

The ingots in the DC and Ascast Units are cast either into slabs, strips, or billets (castings) using a semi-continuous, direct chill method wherein the molten metal solidifies as a shell against a short, water cooled copper mold. The newly formed casting is lowered from the mold as solidification progresses and is passed through a water spray to complete solidification. The completed castings are removed from the casting machine by an overhead crane.

The production cycle continues as the partially emptied holding furnace is then available to accept the next batch of molten metal from the melting furnaces.

Each of the five (5) D.C. Casting Units and the two (2) Ascasts are served by an exhaust system consisting of a cyclone separator, a baghouse and induced draft fans. The Horizontal Casting systems are serviced by an exhaust system that has a baghouse and induced draft fan. The primary purpose of the cyclone separator is to drop out large hot particles to prevent them from entering the baghouse and igniting the bag material. The baghouses are the primary control device for removing particulate matter from the exhaust gases.

Metals Research Laboratory (MRL) Caster:

The MRL Caster is similar to the Ascast Casters in that the molten metal is poured directly from the melting furnace (MF-30) into the mold of a casting machine. However, because of the smaller capacity of the melt furnace and the absence of a holding furnace, only one bar will be cast per pour. The furnace is designed so that it can operate at either one of two test stations.

The MRL casting unit is served by a spark arrester and baghouse.

Aerofall Mill & Feed Hopper:

The purpose of the Aerofall Mill is to reclaim the metallic portion of the dross and slag that is skimmed off of the melting and holding furnaces in the casting operation.

The furnace skimmings are kept in piles which are segregated by alloy prior to being run through the Aerofall Mill. Material is scooped from the appropriate pile and taken to the mill where it is loaded into the mill either using the large external feed storage bin or by dumping the material directly onto the vibrating feeder conveyor.

The material then travels up the feeder conveyor to the feed hopper. From there it travels through a vibrating feeder and a drier and then enters the mill drum. As the drum rotates, the pieces of reclaim fall against each other which separates the dirt and fine particles from the metallic material being reclaimed.

As the dirt separates from the metal, it is sucked out of the mill drum through ductwork to the vertical classifier where the heavier particles fall to the bottom and are augured away to a container. The smaller and lighter particles continue through the ductwork to the cyclone separator where the heavier of the remaining particles fall out and are containerized. The remaining particles go to the baghouse where they are removed to a container.

The metallic reclaim material exits the mill drum onto a flat belt conveyor which in turn drops the material onto the incline belt conveyor. At the end of the incline belt conveyor, the

material falls onto the vibrating conveyor that takes the material under the magnetic separator where any iron is removed and scrapped. The good reclaim then proceeds to the end of the vibrating table where it falls into a drop bottom container. That container is taken to the raw materials department where the material is used back into good product on a controlled basis.

A second baghouse is used to remove particles from the Aerofall Mill Feed Hopper System.

Furnace Building Operations:

Furnace Building Operations consists two Mix Mullers and an Induction Form Removal Process. The Mix Mullers are designated as 1F Mix Muller (MM-3) and Low Profile Turbine Mixer (LP-1). The Induction Form Process are designated as IF-1 and IF-2.

Each of the Mix Mullers utilizes a batch process to mix refractory for the construction of electric induction furnaces for the casting operations. As shown in 220-CAAPP each Mix Muller has a different batch capacity. Only one of the Mix Mullers is operated at a time.

The Induction Form Removal Process consists of two stations. In the construction of the electric induction furnace, refractory mix is poured around a form in the shape of slots for metal to flow through the furnace and around the induction coils. These forms are either made of polystyrene or wood, depending on the structural stability needed when pouring the refractory. The forms must be removed in order to open a slot for the metal to flow. Removal is accomplished by applying a current to metal strips that have been manufactured into the form. As this metal strip heats up, it initiates the combustion of the form. Once the combustion starts, it takes approximately 5 - 45 minutes before the slot is fully open. The whole induction form process cycle takes approximately 3 hours.

Abrasive Cleaner:

The abrasive cleaning equipment is used to clean used mold liners prior to being rebuilt. The mold liners range in weight between 200 and 280 pounds each. It is estimated that it takes 20 minutes to clean each mold liner. Approximately 2 lbs. of scale and other built up material are removed from each used mold liner.

During the cleaning operation, the nozzle rate of the aluminum oxide abrasive material is approximately 672 pounds per hour in a 113 CFM air stream.

The emissions are exhausted to a cyclone reclaimier followed by a baghouse.

Charcoal Burners (CB-1 thru CB-12):

In order to control the metallurgical properties of the molten metal in holding furnaces in the casting operation, various types of furnace melt cover materials are spread over the top of the molten metal. The melt cover materials include various salts and carbonaceous materials. The melt cover material used varies from alloy to alloy and is dependent on the metallurgical characteristics of alloy being cast. One of the carbonaceous materials used as a furnace melt cover is charcoal made from hard woods. It is used on approximately 14% of the total pounds cast in the operations.

The charcoal material has to be ignited prior to being fed into the holding furnace as a melt cover. A device called a charcoal burner is used for this purpose. Charcoal is manually fed into the charcoal burner where it is ignited by the burning charcoal in the unit and then it is manually fed as required into the holding furnace.

The furnace melt cover material is a raw material which is part of the process weight rate for the casting process. Therefore, the emissions from the charcoal material are considered to be part of the allowable emissions from the casting process when it is used.

Note: This narrative description is for informational purposes only and is not enforceable.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Date Constructed or Modified	Emission Control Equipment
Casting Units	#1 D.C. Casting units (MF-11 to MF-15 and HF-3) *	Modification 1998 ¹	Cyclone (MC-3), American Air Filter #2 Baghouse (BH-4)
	#4 D.C. Casting units (MF-17 to MF-21 and HF-5) *	Modification 1998 ¹	
	#1 Ascast (Ascast furnace) (ASC-1) *	Modification 07/2005 ¹	
	#2 Ascast (New Ascast furnace) (ASC-2) *	Modification 01/2006	
	#2 D.C. Casting units (MF-1 to MF-5 and HF-1) *	Modification 1998 ¹	Cyclone (MC-1), Wheelabrator #1 Baghouse (BH-1)
	#3 D.C. Casting units (MF-6 to MF-10 and HF-2) *	Modification 1998 ¹	

Emission Unit	Description	Date Constructed or Modified	Emission Control Equipment
Casting Units (Continued)	#5 D.C. Casting units ((MF-22 to MF-26 & HF-6) *	Modification 1998 ¹	Cyclone (MC-2), Lear- Siegler #3 Baghouse (BH-5)
	#1 Horizontal (Technica-Guss) Caster ² (MF-27 & HF-7) *	1982 Modified 2006	Carborundum Baghouse (BH-3)
	#2 Horizontal (Wertli) Casting Unit ² (MF-16 & HF-8) *	1982 Modified 2006	
	Metals Research Laboratory (MRL) ³ Furnace (MF-30)	2004	Spark Arrester, MRL Baghouse (BH-8)
Aerofall Mill & Feed Hopper	Aerofall Mill(AM-1,)	1976	Custom System Baghouse (BH-7)
	Aerofall Mill Feed Bin, Conveyor and Hopper (FSB-1, VF-1, & FH-1)		Pangborn Baghouse (BH-2)
Furnace Building Operations	1F Mix Muller (MM-3)	1983 Modified 2005 ⁴	Cartridge Filter System (CF-1) Modified 2005 ⁴
	Low profile turbine mixer (LP-1)		
	Induction Form Stations 1 & 2 (IF-1 & IF-2)	1983 Modified 2005 ⁴	
Abrasive cleaner	Abrasive cleaner (ABRC-1)	1975	Cyclone (ACCR-1) & Baghouse (ACBH-1)
Charcoal Burners	Charcoal burners (CB-1 thru CB-12), each 1.04 mmBtu/hr Charcoal fired	Modified after 1972	None

* Low frequency channel induction furnaces.

1 See Construction Permit 03060079

2 See Construction Permit 04020062

3 See Construction Permit 04010031

4 See Construction Permit 04090009

7.1.3 Applicable Provisions and Regulations

- a. An "affected process emission unit" for the purpose of these unit-specific conditions are the emission units described in conditions 7.1.1 and 7.1.2.
- b. The affected process emission units (as defined by Condition 7.1.3(a)) constructed or modified on or after April 14, 1972 (i.e., all emission sources listed in condition 7.1.2), are subject to 35 IAC 212.321(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c) (See Attachment 2 - Emissions of Particulate Matter from Process Emission Units) [35 IAC 212.321(a)].

- c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from an affected process emission unit, except as provided in Sections 219.302, 219.303, 219.304 of this Part and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material [35 IAC 219.301].
- d. No person shall cause or allow the emission of sulfur dioxide (SO₂) into the atmosphere from any affected process emission unit to exceed 2000 ppm [35 IAC 214.301].
- e. The "affected furnaces" (#1 thru #5 D.C. Casting Units, #1 and #2 Ascast Casting Units, #1 and #2 Horizontal Casting Units, and MRL Casting Unit) are subject to the NSPS for Secondary Brass and Bronze Production Plants, 40 CFR 60 Subparts A and M, because the plant commenced construction or modification after June 11, 1973. The Illinois EPA administers the NSPS for subject sources in Illinois pursuant to a delegation agreement with the USEPA. Pursuant to the NSPS:

At all times the Permittee shall also, to the extent practicable, maintain and operate these sources, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

On and after the date on which the performance test required to be conducted by 40 CFR 60.8 is completed, no owner or operator subject to the provisions of this subpart

shall discharge or cause the discharge into the atmosphere from any blast (cupola) or electric furnace any gases which exhibit 10 percent opacity or greater [40 CFR 60.132(b)].

- f. As applicable, associated air pollution control equipment for the affected process emission units (as defined by Condition 7.1.3(a)) shall be included in the operating program required in Condition 5.3.3 and, as per Condition 5.3.3, they shall comply with the following:

- i. Materials Collected by Pollution Control Equipment: All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods [35 IAC 212.307].
- ii. Particulate Collection Equipment: If particulate collection equipment is operated pursuant to 35 IAC 212.304 through 212.310 and 212.312, emissions from such equipment shall not exceed 68 mg/dscm (0.03 gr/dscf) [35 IAC 212.213].

7.1.4 Non-Applicability of Regulations of Concern

- a. The charcoal burners are not subject to 35 IAC 217.121 for emissions of nitrogen oxides from new fuel combustion emission units, because the actual heat input of each unit is less than 73.2 MW (250 mmBtu/hr) and the charcoal burner is not by definition a fuel combustion emission unit (See 35 IAC 211.2470)
- b. The charcoal burners are not subject to 35 IAC 216.121, emissions of carbon monoxide from fuel combustion emission units, because a charcoal burner is not by definition a fuel combustion emission unit.

7.1.5 Control Requirements and Work Practices

The Permittee shall operate and maintain, as applicable, all air pollution control equipment in a manner that assures compliance with Conditions 5.3.2, 5.3.3, 7.1.3(e) and (f) and 7.1.6.

7.1.6 Production and Emission Limitations

- a. Emissions and operation of the Ascasts 1 and 2 and DC Casting Unit Numbers 1 through 5 and their associated air pollution control equipment shall not exceed the following limits:
 - i. The combined process rate of the affected Ascast furnaces 1 and 2 shall not exceed 24,000 lbs/hr and 70,000 tons/year [T1].

- ii. The combined process rate of all affected units (Ascasts 1 and 2 and DC Casting Unit Numbers 1 through 5) shall not exceed 244,000 lbs/hr and 447,000 tons/year [T1].
- iii. Emissions from the affected Ascast furnaces 1 and 2 shall not exceed the following limits:

Pollutant	Emission Factor	Tons/Month	Tons/Year
PM/PM ₁₀	0.28 Lb/Ton	1.0	9.8

These limits are based on the production limits in Condition 7.1.6(a)(i), information supplied in the permit application and the emission calculation procedures in Condition 7.1.12 [T1].

- iv. Emissions from the Ascast furnaces 1 and 2, melt furnaces on DC Casting Unit Numbers 1 through 5 and their associated air pollution control equipment combined shall not exceed the following limits:

Pollutant	Tons/Month	Tons/Year
PM/PM ₁₀	5.5	51.4

This limit replaces the emission limits in Operating Permit Application No. 73032221 and 98090026 as those limits applied to the affected emission units listed in Condition 7.1.6(a).

These limits are based on the production limits in Condition 7.1.6(a)(ii), information supplied in the permit application and the emission calculation procedures in Condition 7.1.12 [T1].

- v. This permit is issued based on negligible emissions of SO₂ and VOM from the affected units. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/year for each regulated air pollutant from each affected emission unit [T1].
- vi. This permit is issued based on negligible emissions of lead from the affected units. For this purpose, emissions shall not exceed nominal emission rates of 0.005 lb/hour and 0.025 tons/year [T1].
- vii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
- viii. The above limitations were established in Permit 03060079, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the

aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

b. Emissions and operation of the #1 and #2 Horizontal Casting Units with their associated Baghouse (BH-3) shall not exceed the following limits:

- i. The production capacity of each horizontal caster, determined as the output capacity of the molding unit, shall not exceed 3,500 lbs/hour.
- ii. The process rate of the #1 and #2 Horizontal Casting Units shall not exceed 19,920 tons/year, total.
- iii. Emissions from the #1 and #2 Horizontal Casting Units shall not exceed the following limits:

<u>Pollutant</u>	Casting (Stack and Fugitive) <u>(Lbs/Ton)</u>
PM/PM ₁₀	0.375

These limits are based on the production limits in Condition 7.1.6(b)(i & ii), information supplied in the permit application and the emission calculation procedures in Condition 7.1.12 [T1].

- iv. This permit is issued based on minimal emissions of SO₂, NO_x, and VOM for the affected units.
- v. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). [T1]
- vi. The above limitations were established in Permit 04020062, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

c. Emissions and operation of the Metals Research Laboratory (MRL) Furnace (MF-30) with the associated spark arrester and MRL Baghouse (BH-8) shall not exceed the following limits:

- i. At all times, the Permittee shall maintain and operate the MRL caster, including associated control system, in a manner consistent with good air pollution control practice for minimizing emissions.

- ii. This permit is issued based on negligible emissions of PM₁₀ from the MRL caster. For this purpose, emissions shall not exceed nominal emission rates of 0.2 lb/hour and 0.5 ton/year.
 - iii. This permit is issued based on the MRL caster only being used for research and development purposes and not for any production purposes.
 - iv. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
 - v. The above limitations were established in Permit 04010031, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].
- d. Emissions and operation of the 1F mix muller, low profile turbine mixer and induction form operations with the associated furnace building cartridge filter system (CF-1) shall not exceed the following limits:

i. Operational Limits:

Emission Unit	Process Rate
1F Mix Muller	4 batches/hour*
Low Profile Turbine Mixer	5.2 batches/hour*
Induction Form Operations	0.33 cycles/hour

* Only one mixer can operate at a time [T1].

- ii. Emissions from the 1F mix muller, low profile turbine mixer, and induction form operations shall not exceed the following limits:

Pollutant	Lbs/Hour	Tons/Year
PM/PM ₁₀	0.314	1.38
CO	2.00	8.80
VOM	1.82	7.97

These limits are based on the production limits in Condition 7.1.6(d)(i), information supplied in the permit application and the emission calculation procedures in Condition 7.1.12 [T1].

- iii. This permit is issued based on negligible emissions of SO_x and NO_x from the 1F mix muller, low profile turbine mixer, and induction form operations. For

this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 tpy [T1].

- iv. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
- v. The above limitations were established in Permit 04090009, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

7.1.7 Testing Requirements

Testing requirements are not set for the affected emission units. However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.1.8 Monitoring Requirements

The Permittee shall document the following as part of the recordkeeping and compliance procedures requirements in Conditions 7.1.9 and 7.1.12 and, as applicable, the sources standard operating procedures:

- a. Differential Pressure Monitoring: The Permittee shall monitor the differential pressure across each baghouse controlling an affected process emission unit (i.e., Casting Units, Aerofall Mill and Feed Hopper, and Abrasive Cleaner) according to the schedule shown in Attachment 5 (Pressure Drop Monitoring Schedule and Visible Emission Compliance Demonstration).
- b. Monthly Operational Inspections: The Permittee shall perform monthly operational inspections of the equipment that is important to the performance of the capture system for each affected process emission unit (as defined by Condition 7.1.3(a)) (e.g., pressure sensors, dampers, and damper switches, scrubber pumps, as applicable). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

Notwithstanding the above if an affected process emission unit (as defined by Condition 7.1.3(a)) is not operated during a month, the above inspections need not be performed provided however that such an inspection shall be conducted

as part of the resumption of operation of the affected process emission units.

c. Visible Emission Observations

The Permittee shall comply with the visible emission monitoring requirements for each affected process emission unit (as defined by Condition 7.1.3(a)) according to the procedures shown in Attachment 5 (Pressure Drop Monitoring Schedule and Visible Emission Compliance Demonstration).

For each process emission unit requiring visible emission observations as noted in Attachment 5, the Permittee shall comply with the following visible emission observation requirements:

- i. The Permittee shall conduct a qualitative visible emissions observation once each day during normal daylight operations when the process emission units and associated air pollution control equipment are in operation in order to observe for the presence of abnormal visible emissions. These observations shall be made and recorded by a trained employee. If such observations during operation do not detect observable emissions for a period of two weeks, the frequency of observations shall be reduced to once per week when operating. If the weekly observations do not detect observable emissions for a period of two months, the frequency of observations shall be reduced to once per month when operating. If abnormal visible emissions are detected the frequency of observations shall be increased to once a day. Observations thereafter may be reduced again if visible emissions are not detected for the period outlined above.

If abnormal visible emissions are observed, the Permittee shall initiate corrective actions to eliminate the abnormal visible emissions. If the Permittee cannot eliminate the abnormal visible emissions within 24 hours, the Permittee shall conduct opacity testing pursuant to the methods and procedures in Method 9 (40 CFR Part 60, Appendix A) within three days after the qualitative observation showing abnormal emissions.

- ii. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- iii. In the case of batch or discontinuous operations, readings shall be taken during that part of the

operation that would normally be expected to cause the greatest emissions.

- iv. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- v. The Permittee shall follow the sources standard operating procedures and manufactures specifications, as applicable, in order to correct periods of excess emissions. The program and/or the procedures for a specific emission units and associated air pollution control equipment shall contain troubleshooting contingency and response steps for when an abnormal emission are observed.

d. Broken Bag Observations

In the event of a bag failure that causes the Permittee to operate outside the parameters in the permit for pressure drop or to emit visible emissions, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the sources standard operating procedures and manufactures operating specifications shall be initiated, as applicable. For any failure with corresponding response steps and timetable not described in the program or procedures indicated above, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

It should be noted that the Permittee has been granted additional operating flexibility pursuant to the limitations in Condition 7.1.11.

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall document, maintain and retain records of the following items for the affected process emission unit (as defined by Condition 7.1.3(a)) to demonstrate compliance with Conditions 5.6.1, 7.1.6 and 7.1.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Casting plant operation:
 - i. D.C. and Ascast Casting Units
 - A. % Zinc of Alloy for each alloy at the casting units (% Zinc).

- B. Tons of each material at each casting unit (tons/day).
 - C. Material throughput (tons/month and tons/year).
 - D. Hours of operation of each casting unit (hours/day).
 - E. Tons of each alloy cast at the casting operations (tons/month).
 - F. PM, PM₁₀, VOM, SO₂, NO_x, CO, lead and HAP emissions for each casting unit (lbs/hour and tons/month) as calculated in Condition 7.1.12.
 - G. PM, PM₁₀, VOM, SO₂, NO_x, CO, lead and HAP emissions for the casting operations (tons/year) as calculated by summing the monthly emissions from each casting unit for each month and the preceding 11 months (running total).
- ii. Horizontal Caster Units
- A. Material throughput (tons/month and tons/year).
 - B. Hours of operation of each casting unit (hours/day).
 - C. PM, PM₁₀ and HAP emissions for each casting unit (lbs/hour and tons/month) as calculated in Condition 7.1.12.
 - D. PM, PM₁₀ and HAP emissions for emissions for the casting operations (tons/year) as calculated by summing the monthly emissions from each casting unit for each month and the preceding 11 months (running total).
 - E. Capacity of the molding unit lbs/hour, with supporting documentation.
- iii. MRL Caster
- A. PM, PM₁₀ and HAP emissions for each casting unit (lbs/hour and tons/month) as calculated in Condition 7.1.12.
 - B. PM, PM₁₀ and HAP emissions for emissions for the casting operations (tons/year) as calculated by summing the monthly emissions from each casting unit for each month and the preceding 11 months (running total).

- C. The Permittee shall keep an operating log for each "pilot plant" scale furnace and casting unit for the Metals Research Laboratory (MRL) which includes date and time of each startup and shutdown.
- iv. Charcoal Burners
 - A. Tons of Charcoal used each month (tons/month); and
 - B. PM, PM₁₀, VOM, SO₂, NO_x, and CO emissions (tons/month) as calculated in Condition 7.1.12.
- b. Air Pollution Control Equipment:

The Permittee shall document, maintain and retain records of the following:

 - i. Baghouse pressure monitoring, visible emission observations, and operational inspections required in Condition 7.1.8 and a log of all repairs and corrective actions implemented as a result of the above.
 - ii. For each baghouse listed in Condition 7.1.2, baseline measurements or manufacturers specifications used to determine possible malfunction (e.g., baseline baghouse pressure drop).
 - iii. The date and reason any required inspection was not performed.
- c. 40 CFR 60 Subpart M - Standards of Performance for Secondary Brass and Bronze Production Plants:
 - i. The Permittee shall document, maintain and retain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative [40 CFR 60.7(b)].
 - ii. The Permittee shall document, maintain and retain records of all tests performed pursuant to 40 CFR 60.18 and 40 CFR 60 Subpart M.

7.1.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected process

emission unit (as defined by Condition 7.1.3(a)) with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions of PM, PM₁₀, VOM, SO₂, NO_x, CO, lead and HAP and visible emissions from the affected process emission unit (as defined by Condition 7.1.3(a)) in excess of the limits specified in Conditions 7.1.3 and 7.1.6 within 30 days of such occurrence.
- ii. Operation of the affected process emission unit (as defined by Condition 7.1.3(a)) in excess of the limits specified in Conditions 7.1.3, 7.1.5, 7.1.6 and 7.1.11 within 30 days of such occurrence.

If there is a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report within 30 days after the deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the deviation and efforts to reduce emissions and future occurrences.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected process emission unit (as defined by Condition 7.1.3(a)) without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

- a. For the baghouses listed below, individual compartments may be isolated for off-line cleaning, maintenance, or repairs without removing the emission units that are controlled by these baghouses from service. The minimum number of baghouse compartments that must remain in service when the #1 to #5 D.C. Casting units and #1 and #2 Ascast units are in operation is stated below:

<u>Baghouse Number</u>	<u>Minimum Number of Compartments in Operation</u>
No. 1 Baghouse (BH-1)	4
No. 2 Baghouse (BH-4)	4
No. 3 Baghouse (BH-5)	2

7.1.12 Compliance Procedures

- a. Compliance with the fugitive particulate matter and visible emissions limits in Conditions 5.3.2(a), 5.3.3 and 7.1.3(f) and the opacity limitations of Conditions 5.3.2(b) and 7.1.3(e) is based upon the operating program requirements of 5.3.3 and the air pollution control equipment and visible emissions monitoring required in Condition 7.1.8.
- b. Compliance with the PM emissions limits in Conditions 7.1.3(b), (e) and (f) is assured and achieved by the proper operation and maintenance of the air pollution control equipment as required in Condition 7.1.5, the operational limitations in Conditions 7.1.6 and 7.1.11 and visible emissions and air pollution control equipment monitoring required in Condition 7.1.8 and the work-practices inherent in operation of the affected process emission units (as defined by Condition 7.1.3(a)).
- c. Compliance with the sulfur dioxide (SO₂) limit in Condition 7.1.3(d) is assured based upon the limitations on fuel usage in Condition 7.1.6.
- d. Compliance with the emission limits in Conditions 5.6.1, 7.1.3(b), and 7.1.6 from the casting emission units shall be calculated based on the following emission factors and formulas, or other calculation methods as approved by the IEPA, and the recordkeeping requirements in Condition 7.1.9.

i. Casting units and furnaces:

- #1 D.C. Casting units (MF-11 to MF-15 & HF-3)
- #4 D.C. Casting units (MF-17 to MF-21 & HF-5)
- #1 Ascast furnace (ASC-1)
- #2 Ascast furnace (ASC-2)
- #2 D.C. Casting units (MF-1 to MF-5 & HF-1)
- #3 D.C. Casting units (MF-6 to MF-10 & HF-2)
- #5 D.C. Casting units (MF-22 to MF-26 & HF-6)

Particulate Matter (lb/month) = (0.18 lb PM/ton + ([Sum of (% Zinc in each Alloy Cast x Tons of each Alloy Cast for the month)]/(% Zinc in Alloy 260 x Tons Cast for the month)) x 0.10 lb PM/ton) x (Tons Cast for the month)

Fugitive PM = 0.155 lb/ton
Fugitive PM₁₀ = 0.095 lb/ton

HAP Emissions (lb HAP/month) = 0.004 (lb HAP/lb PM) x Particulate Matter Emissions (lb PM/month)

The above formulas were developed from stack test data dated July 20, 1993 and October 26, 1993:

ii. #1 & #2 Horizontal Casting Units and MRL Caster

Particulate Matter = 0.28 lb/ton

Fugitive PM = 0.155 lb/ton

Fugitive PM₁₀ = 0.095 lb/ton

The above formulas were developed from stack test data dated July 20, 1993 and October 26, 1993.

iii. Other Equipment

Description	Emission Control Equipment	Emission Factor**
Aerofall Mill(AM-1,)	Custom System Baghouse (BH-7)	PM = 1.0 lbs/hr ¹
Aerofall Mill Feed Bin, Conveyor and Hopper (FSB-1, VF-1, & FH-1)	Pangborn Baghouse (BH-2)	
1F Mix Muller (MM-3)	Cartridge Filter System (CF-1)	PM = 0.038 lb/cycle ² or 0.15 lb PM/hr @ 4 batches per hour
Low profile turbine mixer (LP-1)		PM = 0.055 lb/cycle ³ or 0.29 lb PM/hr @ 5.2 batches per hour
Induction Form Operations (IF-1 and IF-2)		PM ₁₀ = 0.083 lb/cycle ⁴ CO = 6.06 lb/cycle SO ₂ = 0.01 lb/cycle NO _x = 0.062 lb/cycle VOM = 5.50 lb/cycle HAP = 0.0004 lb/cycle
Abrasive Cleaner (ABRC-1)	Zero Baghouse (ACBH-1)	PM = 0.024 lbs/hr ⁵

Emissions (tons/month) = Emission Rates (lbs/hour) x Hours of Operation (hours/month)/(2,000 lbs/ton).

1 Aerofall Mill (AM-1,) and Aerofall Mill Feed Bin, Conveyor and Hopper (FSB-1, VF-1, & FH-1) emission factor is based upon total emissions from both the Custom System Baghouse (BH-7) and Pangborn Baghouse (BH-2).

The Custom System Baghouse (BH-7) emissions were estimated using the maximum dust collection rate (140.0 lb/hr) and the maximum collection efficiency (99.9%) which equaled a PM emission rate of 0.14 lb/hr.

Pangborn Baghouse (BH-2) emissions were estimated using a maximum grain loading of 2 grains/ft³, maximum volumetric flow (5000 ft³/min), (60 min/hr) and the maximum control efficiency (99%) which equals a PM emission rate of 0.86 lb/hr.

- 2 1F Mix Muller (MM-3) with Cartridge Filter System (CF-1) emissions were estimated using a maximum grain loading of 4 grains/ft³, maximum volumetric flow (1,200 ft³/min), maximum batch mixing (5.5 min/batch) and the maximum Cartridge Filter System (CF-1) control efficiency (99%).
- 3 Low profile turbine mixer (LP-1) with Cartridge Filter System (CF-1) emissions were estimated using a maximum grain loading of 4 grains/ft³, maximum volumetric flow (1,200 ft³/min), maximum batch mixing (8 min/batch) and the maximum Cartridge Filter System (CF-1) control efficiency (99%).
- 4 Induction Form Operations (IF-1 and IF-2) emissions were estimated using Tables 1.9-1 for uncontrolled wood combustion, AP-42, Volume I, Supplement B, October 1996; a process rate of 48 lbs of wood per cycle; and a cycle rate 1 cycle per 3 hours and the maximum Cartridge Filter System (CF-1) control efficiency (PM₁₀ = 99%).
- 5 Abrasive cleaner (ABRC-1) with Zero Baghouse (ACBH-1) emissions were estimated using a calculated maximum cyclone emission rate of 7.92 lbs/hour and the maximum baghouse control efficiency of 99.7%.

iv. Charcoal Burning Processes

<u>Pollutant</u>	<u>Emission Factor</u>	
	<u>lbs/mmBtu¹</u>	<u>lbs/ton²</u>
Particulate Matter	0.40	2.7 ³
Carbon Monoxide	0.60	15.6
Nitrogen Oxide	0.49	12.7
Sulfur Dioxide	0.025	0.65
Organic Material	0.17	0.44

- 1 USEPA AP 42 emission factors for dry wood combustion 4th Edition, September 1985, Table 1.6-1, 1.6-2, and 1.6-3.
- 2 The lbs/ton emission factors are based on emission factors for dry wood combustion taken from USEPA AP-42 and the heat content for charcoal (13,000 Btu/lb) obtained from Perry's Chemical Engineering Handbook, 7th Edition.
- 3 The PM emission factor assumes that twenty-five percent (25%) of the total emissions are from the Charcoal Burners with the balance of the emissions coming from the holding furnaces which are controlled by baghouses BH-1, BH-4 and BH-5. Particulate emissions from the holding furnaces shall be included with the particulate emissions reported for baghouses BH-1, BH-4 and BH-5.

v. For Emission Factors based on Material Throughput:

$$\text{Emissions (ton/month)} = \text{Emission Factor (lb/ton)} \times \text{Material Throughput (ton/month)} / (2,000 \text{ lb/ton}).$$

vi. Annual Emissions

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

7.2 Unit 02 - Brass Operations

7.2.1 Description

Slab Heating Furnaces (SF-1, SF-2, & SF-3):

The slab heating furnaces are used to heat cast bars of copper alloy metal to the proper hot working temperature for the hot rolling process. The slab heating furnaces are normally natural gas fired but may also be fired with a propane-air mixture.

Hot Mill (HM-1):

The hot mill rolling process consists of passing metal maintained above its recrystallization temperature between two work rolls revolving in opposite directions and spaced such that the distance between the rolls is somewhat less than the incoming material's thickness, thereby applying force and reducing the metal's thickness. Because the material is worked above its recrystallization temperature, strain hardening does not occur and large overall reductions in thickness are possible. This particular hot mill is a reversing mill, and approximately a dozen passes are used to reduce the ingot thickness from approximately 6 inches to about 1/2 inch. After being rolled to final thickness, the hot metal strip is quenched by water sprays and coiled in an upcoiler.

During the hot rolling process, the work rolls are flooded with water to prevent heat build-up in the rolls. This water then flows by gravity back to a recirculating cooling water system.

A small percentage of the metal processed on the Hot Mill is a beryllium copper alloy. Olin has installed additional emission controls which are placed in service only while processing the beryllium copper alloy. These additional emission controls are not required to meet any applicable rules but the equipment is maintained in order protect workers from exposure beryllium dust.

No. 2 and No. 3 Coil Millers (CM-1 & CM-2):

The Coil Milling operation uses miller knives to mechanically remove oxides formed on the metal strip's surface during Slab Reheating and Hot Rolling. Rotating arbors carrying milling knife inserts mechanically scalp the top and bottom strip surfaces clean, and edge millers are sometimes used to remove the oxide from the strip edges. Additional milling passes may be made in order to remove any residual superficial surface defects. The metal chips removed during milling are collected and recycled. The miller knives are cooled and lubricated by a recirculating emulsified oil solution.

The metal chips and soluble oil solution removed during milling are pneumatically conveyed thru duct work to various control

equipment. Air flow from the No. 2 Coil Miller is ducted to AAF Skimmer (SK-1), a low-pressure-drop centrifugal precipitator, then to collector/filter (GS-4) and then out to a stack. Air flow from the No. 3 Coil Miller is ducted to Torin Skimmer (SK-2), a low-pressure-drop centrifugal precipitator, then to baffled settling chamber (BSC-1) and then out to a stack.

#1 Horizontal Caster Inline Miller Skimmer (SM-2):

The #1 Horizontal Caster produces long horizontal metal strips that can be immediately upcoiled (See the description in Section 7.1.1). The horizontal casting is transferred from their respective holding furnaces and then through the associated inline miller skimmer (SM-2) which is used to remove metal oxides from the casting. Emissions from the millers are controlled with the Chip Collector (SK-4).

Polygage Miller (RM-25) And Skive Line:

Olin Polygage products are made on this machine. A Polygage product is coiled strip having two or more thicknesses across the width, rather than a rectangular cross-sectional area. The profiling is done by means of milling and/or skiving. In either case, metal is removed continuously as the strip is passed under shaped tooling. Both types of metal removal require cooling which is done by flooding the tools and the strip with a water soluble lubricant. The milled chips and lubricant are removed from the milling process thru an exhaust and chip collection system (i.e., Cyclone (CYC-1), Drop box (DOB-1), Moisture separator (MS-1)).

Soluble Oil Rolling Mills:

Rolling mills are used to reduce the thickness of varying gauge copper alloys by using a cold rolling process. This is done by passing the strip through two work rolls which are supported by larger back up rolls. A cooling solution of soluble oil is applied to the rolls and the strip for cooling and to reduce friction. The solution is filtered to remove tramp oil and recirculated. Mist eliminators are used to reduce particulate matter emissions from some of the process emission units.

- Old Tandem Mill (RM-1): No Control
- New Tandem Mill (RM-7): A mist eliminator (FE-6) is used to reduce particulate matter emissions from the process emission unit.
- 4-Stand Tandem Mill (Mill 4): The mill is capable of processing strip with a width up to 32". This is a one way mill meaning that metal cannot go in a reverse direction through the mill. A mist eliminator (OME-4) is used to reduce particulate matter emissions from the process emission unit.
- #5 Rolling Mill (RM-2): The mill is capable of processing strip with a width up to 5" to 32". This is a one way mill

meaning metal can not go in the reverse direction through the mill. A mist eliminator (FE-1) is used to reduce particulate matter emissions from the process emission unit.

- #20 Rolling Mill (RM-6): The mills are capable of processing strip with a width up to 5" to 32". This mill is capable of rolling strip in either direction. A mist eliminator (FE-5) is used to reduce particulate matter emissions from the process emission unit.

Mineral Oil Rolling Mills:

Rolling mills are used to reduce the thickness of varying gauge copper alloys by using a cold rolling process. This is done by passing the strip through two work rolls which are supported by larger back up rolls. A cooling solution of soluble oil is applied to the rolls are cooled with mineral oil. The solution is filtered and recirculated. All of the mineral oil mills are reversible and are controlled by mist eliminators.

- #6 Rolling Mill (RM-9): Mist Eliminator (FE-8)
- #9 Rolling Mill (RM-3): Mist Eliminator (FE-2)
- #18 Rolling Mill (RM-4): Mist Eliminator (FE-3)
- #19 Rolling Mill (RM-5): Mist Eliminator (FE-4)
- #23 Rolling Mill (RM-8): Mist Eliminator (FE-7)
- #24 Rolling Mill (Mill-24): Mist Eliminator (OME-24)
- #29 Rolling Mill (Mill-29): Mist Eliminator (OME-29)
- #34 Rolling Mill (RM-28): Mist Eliminator (OMC-28)

Bell Anneals:

Bell Anneals are batch-type furnaces used for annealing metal in coil form. The metal is stacked on a base and covered by a retort or "bell" to seal it from the atmosphere. A natural gas fired furnaces is then placed over the retort and the batch is heated to the proper temperature and held for a given period of time. After the annealing cycle has been completed, water can be used to cool the retort at a desired rate. The bell anneal is purged with a non-oxidizing atmosphere (nitrogen or hydrogen) during the annealing and cooling cycle to minimize oxidation of the metal.

- #7 Bell Anneal (BA-7): 13 bases & 6 furnaces
- #9 Bell Anneal (BA-9): 12 bases & 6 furnaces
- #11 Bell Anneal (BA-11): 9 bases & 4 furnaces
- #12 Bell Anneal (BA-12): 10 bases & 5 furnaces
- #13 Bell Anneal (BA-13): 8 bases & 4 furnaces
- #31 Bell Anneal (BA-31): 2 bases & 1 furnaces

The furnaces are normally natural gas fired, but may also be fired with a propane-air mixture.

Strip Anneals:

The purpose of the strip anneals is to anneal a bar of copper alloy which is heated in a controlled atmosphere to relieve stress in the strip induced by cold working. This is a continuous machine in which the coil is unwound and fed at a specified speed through a furnace at a given temperature. After annealing, the metal receives an acid clean and rinse. Looping towers are at the entry and exit ends to allow for continuous movement of material through the furnace.

- #3 Strip Anneal (SA-3)
- #4 Strip Anneal (SA-4)
- #5 Strip Anneal (SA-5)
- #6 Strip Anneal (SA-6)
- #7 Strip Anneal (SA-7)

No. 35 Rolling/Bonding Mill:

This machine performs two functions: cold rolling and bonding. In the cold rolling mode, copper alloy strip is reduced in thickness by means of two opposed parallel steel rollers which rotate and apply force to each surface of the strip. A lubricant is applied to the rolls and the strip for cooling and to reduce friction. The lubricant is continuously recirculated and filtered. Multiple passes on a given coil are possible by reversing the direction of the strip travel until the desired strip hardness or thickness are obtained.

In the bonding mode, two or more strips are threaded into the rolls. A heavy reduction in thickness is provided by the rolls, under high pressure. The combination of pressure and the increase in length of the strip (as a result of thickness reduction) caused the materials to adhere at the interface. A small amount of lubricant is applied to the rolls to prevent the brass alloys from sticking to the roll surface.

Particulate matter emissions are controlled with a #3 Stage filter (SFS-3).

Posit Bond Mill:

The purpose of this rolling mill is to produce a clad material from three strips of metal. Three strips are simultaneously fed into the roll bite of the mill. A reduction in thickness is provided by the rolls, under high pressure. The reduction causes the materials to adhere at the interface. Soluble oil in water is used to cool and lubricate the rolls and an oil is dripped onto the bonded coil as it is wound to prevent sticking. The lubricating oil is collected and recirculated. A mist eliminator (Filters (F-1 & F-2)) is used to reduce particulate matter emissions from the process emission unit.

Posit Bond Brushing Machines:

The purpose of the posit bond brushing machines is to clean the surface of copper and cupro-nickel strips and prepare the surface for bonding. The strips are individually fed through the machine where it is brushed in a detergent tank and rinsed. The detergent tank is continually overflowed to float out contaminants and filtered and recirculated. The strip passes through a drier oven and then through a series of wire brushes that "scratch" the surface to allow the strips to adhere better when bonded. For the #1 Posit Bond Brush Line (BM-1) a rotoclone (RC-1) collects copper dust and detached brush wires from surface "scratching" operation. For the #2 Posit Bond Brush Line (BM-2), a Drop-out Box (PDBOB-1) & Baghouse (PBBH-1) collects copper dust and detached brush wires

Hot Dip Tin Line:

The Hot Dip Tin Line consists of a flux tank (FT-1) followed by a hot dip tin tank (HD-1) and an air cooler. The hot dip tin tank is interchanged with a solder tank (ST-1) that is used for different applications of copper based alloy strip. Fumes from the flux tank and the hot dip tin tank (or the solder tank) are controlled by passing them through a venturi fume scrubber (SCRUB-1).

Cleaning Lines:

Cleaning Lines are used to clean any oxidation or discoloration from the surface of the copper alloy strip or to remove oil from a coil. A coil is unwound and fed through sulfuric acid tanks, brushed with an aggressive nylon brush, then rinsed and dried before recoiling.

Emissions from the process are collected by exhaust hoods which are vented to a fume scrubber.

Note: This narrative description is for informational purposes only and is not enforceable.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Description	Emission Control Equipment	Date Constructed/ Last Modified
Slab Heating Furnaces		
#1 Slab Furnace (SF-1)**	None	Prior 1972
#2 Slab Furnace (SF-2)**	None	1979
#3 Slab Furnace (SF-3)**	None	1999
Hot Mill		
Hot Mill (HM-1)	None	Prior 1972/1998

Description	Emission Control Equipment	Date Constructed/ Last Modified
Surface Milling Operations		
#2 Coil Miller (CM-1)	Skimmer (SK-1) and Collector (GS-4)	1973/2000
#3 Coil Miller (CM-2)	Skimmer (SK-2) and Baffled Settling Chamber (BSC-1)	1977/1998
Polygage Miller (RM-25) And Skive Line	Cyclone (CYC-1); and Drop-out Box (DOB-1); Moisture Separator (MS-1)	1986/1988
#1 Horizontal Caster Inline Miller (SM-2)	Chip Collector (SK-4)	1982
Solution Rolling Mills		
Old Tandem Mill (RM-1)	None	Prior 1972
New Tandem Mill (RM-7)	Mist Eliminator (FE-6)	1978/1999
4-Stand Tandem Mill (Mill 4)	Mist Eliminator (OME-4)	1993
#5 Rolling Mill (RM-2)	Mist Eliminator (FE-1)	Prior 1972/1995
#20 Rolling Mill (RM-6)	Mist Eliminator (FE-5)	1976/1999
Mineral Oil Rolling Mills		
#6 Rolling Mill (RM-9)	Mist Eliminator (FE-8)	1976/1995
#9 Rolling Mill (RM-3)	Mist Eliminator (FE-2)	Prior 1972/1994
#18 Rolling Mill (RM-4)	Mist Eliminator (FE-3)	Prior 1972/1999
#19 Rolling Mill (RM-5)	Mist Eliminator (FE-4)	1974/1999
#23 Rolling Mill (RM-8)	Mist Eliminator (FE-7)	1984/1995
#24 Rolling Mill (Mill-24)	Mist Eliminator (OME-24)	1988/1995
#29 Rolling Mill (Mill-29)	Mist Eliminator (OME-29)	2001
#34 Rolling Mill (Mill-28)	Mist Eliminator (OMC-28)	1988
Bell Anneals		
#7 Bell Anneal (BA-7)**	None	Prior 1972/1999
#9 Bell Anneal (BA-9)**	None	1984/2003
#11 Bell Anneal (BA-11)**	None	1984
#12 Bell Anneal (BA-12)**	None	1983/2002
#13 Bell Anneal (BA-13)**	None	1993/1999
#31 Bell Anneal (BA-31)**	None	2000/2003

Description	Emission Control Equipment	Date Constructed/ Last Modified
Strip Anneals		
#3 Strip Anneal (SA-3)**	None	Prior 1972
#4 Strip Anneal (SA-4)**	None	Prior 1972/2003
#5 Strip Anneal (SA-5)**	None	Prior 1972
#6 Strip Anneal (SA-6)**	None	Prior 1972
#7 Strip Anneal (SA-7)**	None	1976
Bonding Mills		
#35 Rolling /Clad Bonding Mill (#35 Mill) (RCM-3)	3-Stage Filter System (SFS-3)	1985/1988
Posit Bond Bonding Mill (BM-2)	Filters (F-1 & F-2)	Prior 1972
Brushing Units		
#1 Posit Bond Brush Line (BM-1)	Rotoclone (RC-1)	1981
#2 Posit Bond Brush Line (BM-2)	Drop-out Box (PDBOB-1) & Baghouse (PBBH-1)	2002
Other Brass Mill Operations		
Hot Dip Tin Line (HD-1)	Fume Scrubber (SCRUB-1)	1987
#9 Cleaning Line (CT-17)	Fume Scrubber (FS-2)	1993

** Normally Natural gas firing, but may be fired with a natural gas equivalent propane-air mixture.

7.2.3 Applicable Provisions and Regulations

- a. An "affected process emission units" for the purpose of the unit-specific conditions in Section 7.2 is an emission unit described in conditions 7.2.1 and 7.2.2.
- b. The affected process emission units constructed or modified on or after April 14, 1972 (i.e., all emission units listed in condition 7.2.2, except for the Old Tandem Mill; #3, #5, and #6 Strip Anneals; and Posit Bond Bonding Mill) are subject to 35 IAC 212.321(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.321(c) (See Attachment 2 - Emissions of Particulate Matter from Process Emission Units) [35 IAC 212.321(a)].

- c. The affected process emission units constructed or modified prior to April 14, 1972 (i.e., Tandem Mill; #3, #5, and #6 Strip Anneals; and Posit Bond Bonding Mill) are subject to 35 IAC 212.322(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in 35 IAC 212.322(c) (See Attachment 2 - Emissions of Particulate Matter from Existing Process Emission Units) [35 IAC 212.322(a)].

- d. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from an affected process emission unit (as defined by Condition 7.2.3(a)), except as provided in 35 IAC 219.302, 219.303, 219.304 and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material [35 IAC 219.301].
- e. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm [35 IAC 214.301].
- f. For each emission unit using sulfuric acid (i.e., #9 Cleaning Line (CT-17)), with the exception of fuel combustion emission units, the Permittee shall comply with the applicable requirements of 35 IAC 214.303. Specifically, no person using sulfuric acid shall cause or allow the emission of sulfuric acid and/or sulfur trioxide from all other similar emission sources at a plant or premises to exceed: 45.4 grams in any one hour period for sulfuric acid usage less than 1180 Mg/yr (100 percent acid basis) (0.10 lbs/hr up to 1300 T/yr) [35 IAC 214.303].
- g. As applicable, associated air pollution control equipment for the emission units shall be included in the operating program required in Condition 5.3.3 and, as per Condition 5.3.3, they shall comply with the following:
- i. Materials Collected by Pollution Control Equipment: All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods [35 IAC 212.307].

- ii. Particulate Collection Equipment: If particulate collection equipment is operated pursuant to 35 IAC 212.304 through 212.310 and 212.312, emissions from such equipment shall not exceed 68 mg/dscm (0.03 gr/dscf) [35 IAC 212.213].

7.2.4 Non-Applicability of Regulations of Concern

- a. The #1 to #3 Slab Furnaces; #3 through # 7 Strip Anneals; and #7, #9, #11 to #13, and #31 Bell Anneals are not subject to 35 IAC 217.121 for emissions of nitrogen oxides from new fuel combustion emission sources, because the actual heat input of each unit is less than 73.2 MW (250 mmBtu/hr). Additionally, the #1 to #3 Slab Furnaces and the #3 through # 7 Strip Anneals are not subject to 35 IAC 217.121 because these Slab Furnaces and Strip Anneals are not by definition fuel combustion emission units as per 35 IAC 211.2470.
- b. The #3 through # 7 Strip Anneals; and #7, #9, #11 to #13, and #31 Bell Anneals are not subject to 35 IAC 216.121, emissions of Carbon Monoxide from fuel combustion emission units, because the actual heat input of each unit is less than 2.9 MW (10 mmBtu/hr). Additionally, #1 to #3 Slab Furnaces and #3 through # 7 Strip Anneals are not subject to 35 IAC 216.121 because the Slab Furnaces and Strip Anneals are not by definition fuel combustion emission units as per 35 IAC 211.2470.
- c. The affected process emission units (as defined by Condition 7.2.3(a)) are not subject to the NSPS for Standards of Performance for Secondary Brass and Bronze Production Plants, 40 CFR 60 Subparts A and M, because, the aforementioned emission units do not meet the applicability criteria for the NSPS, i.e., 40 CFR 60.130.

7.2.5 Control Requirements and Work Practices

The Permittee shall operate and maintain, as applicable, all air pollution control equipment in a manner that assures compliance with Conditions 5.3.3, 7.2.3(f) and 7.2.6.

7.2.6 Production and Emission Limitations

In addition to the source-wide emission limitations in Condition 5.6, the affected process emission units (as defined by Condition 7.2.3(a)) are subject to the following:

- a. i. Emissions and operation of the Slab Furnace Operations (SF-1, SF-2, & SF-3) (See Permit # 98090026) shall not exceed the following limits:

Natural Gas Usage**
 (mmft³/month) (mmft³/Year)

65.52 655.2

<u>Emissions</u>	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
NO _x	3.28	32.8
PM	0.25	2.5
VOM	0.18	1.8
SO ₂	0.02	0.2
CO	2.75	27.5

These limits are based on the maximum natural gas limit provided in the permit application and the emission calculation procedures in Condition 7.2.12 [T1R].

** Normally Natural gas firing, but may be fired with a natural gas equivalent propane-air mixture.

- ii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].
 - iii. The above limitations contain revisions to previously issued Permit 98090026. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically MSSCAM and/or PSD. These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the above limits reduce the previously allowed emission limit based upon the revised emission factors shown in Tables 1.4.1 and 1.4.2, AP-42, Volume I, Supplement D, March, 1998 (See Condition 7.2.12) [T1R].
- b. i. Emissions and operation of the Hot Mill (See Permit #98040084) and their associated air pollution control equipment shall not exceed the following limits:

<u>Throughput</u> <u>(Lbs/Hour)</u>	<u>Particulate Matter Emissions</u> <u>(Lbs/Hour)</u>	<u>(Tons/Year)</u>
210,000	4.08	8.18

These limits are based on the information provided in the permit application and the emissions calculation procedures in Condition 7.2.12 [T1R].

- ii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].
 - iii. The above limitations were established in Permits 98040084, pursuant to PSD. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically MSSCAM and/or PSD. These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the above limits reduce the previously allowed emission limit based upon the reduction in surface area per ton of metal processed [T1R].
- c. Emissions and operation of the #2 and #3 Coil Millers (See Permit #00080019) and their associated air pollution control equipment shall not exceed the following limits:

i Operational and Production Limits and Work Practices

Maximum hourly throughput for the #2 and #3 Coil Millers shall not exceed the following limits:

Coil Miller #2: 250,000 pounds/hour.

Coil Miller #3: 262,000 pounds/hour.

- ii. The PM emissions from the #2 and #3 Coil millers (combined) shall not exceed the following limits:

<u>(Tons/Month)</u>	PM Emissions	<u>(Tons/Year)</u>
2.5		20.1

These limits are based on the maximum throughput, emission factors and the compliance procedures specified in Condition 7.2.12 [T1].

- iii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
 - iv. The above limitations were established in Permit 00080019, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].
- d. Emissions and operation of the 4-Stand Tandem Mill (See Permit #93010016) and their associated air pollution control equipment shall not exceed the following limits:
- i. This permit is issued based on negligible emissions of particulate matter from 4-stand tandem mill. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year [T1].
 - iii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
 - iv. The above limitations were established in Permit 93010016, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].
- e. Emissions and operation of the #29 Rolling Mill With Mist Eliminator (See Permit # 01010072) and their associated air pollution control equipment shall not exceed the following limits:
- i. Annual throughput of metal rolled on #29 rolling mill shall not exceed 132,720 tons/year [T1].
 - ii. Particulate matter emissions of #29 rolling mill shall not exceed 0.51 lb/hour and 2.14 tons/year. These limits are based on uncontrolled emission factor from similar unit at the source (3.22 lb/ton metal rolled) and control efficiency of mist

eliminator (99%) as provided in the application [T1].

- iii. At all times the Permittee shall, to the extent practicable, maintain, and operate the mist eliminator, in a manner consistent with good air pollution control practice for minimizing emissions.
 - iv. This permit is issued based on negligible emissions of volatile organic material from #29 rolling mill. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year [T1].
 - v. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
 - vi. The above limitations were established in Permits 01010072, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].
- f. Emissions and operation of the Bell Anneal process emission units (See Permit #07010037) shall not exceed the following limits:
- i. Natural gas or a propane/air equivalent mix shall be the only fuels used by the affected bell anneal processes.
 - ii. The maximum firing rates for each bell anneal furnace shall not exceed 9.9 million Btu/hour.
 - iii. The total annual bell annealing throughput for the affected bell anneal processes shall not exceed 310,000 tons.
 - iv. Particulate matter, PM, emissions from the affected bell anneal processes shall not exceed the following limits:

Process	Lbs/Hr	Tons/Mo	Tons/Yr
Total From All Bell Annealing Processes	---	1.5	14.55

These limits are based on the usage limits in Condition 7.2.6(f)(iii), and the emission factors and

compliance procedures specified in Condition 7.2.12 [T1].

- v. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
 - vi. The above limitations were established in Permits 07010037, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].
- g. Emissions and operation of the #4 Strip Anneal (See Permit #03030083) shall not exceed the following limits:
- i. Natural gas or a propane-air equivalent mix shall be the only fuels used by the #4 Strip Anneal.
 - ii. Annual natural gas usage for the #4 Strip Anneal shall not exceed 45.26 million SCF.
 - iii. Emissions from the #4 Strip Anneal shall not exceed the following limits:

Pollutant	Lbs/Hour	Tons/Month	Tons/Year
PM	8.69	0.21	2.09
CO	----	40.70	407.30
NO _x	----	1.50	14.77
VOM	----	0.02	0.22
SO ₂	----	0.01	0.10

These limits are based on the usage limits above, and information supplied in the permit application.

- iv. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
 - v. The above limitations were established in Permits 03030083, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].
- h. Emissions and operation of the #1 Posit Bond Brushing Machine (BM-1) (See Permit #98120051) and associated air

pollution control equipment shall not exceed the following limits:

- i. Emission of particulate matter from the #1 Posit Bond Brushing Machine shall not exceed 0.44 lb/hr and 1.85 tons/year. These limits are based on maximum material throughput (18,750 lb/hr and 78,750 tons/year), operating hours(8,400 hours/year), and overall reduction efficiency (93.0%).

Compliance with the particulate matter limitations in this section is assured and achieved by the proper operation and maintenance of the Rotoclone as required by this permit and the work practices inherent in operation of the #1 Posit Bond Brushing Machine.

- ii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
- iii. The above limitations were established in Permits 98120051, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

- i. Emissions and operation of the #2 Posit Bond Brushing Machine (BM-2) (See Permit #99070007) and associated air pollution control equipment shall not exceed the following limits:

- i. This permit is issued based on negligible emissions of particulate matter from the #2 Posit Bond Brushing Machine with drop out box and baghouse. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.

- ii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].

- iii. The above limitations were established in Permits 99070007, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

j. Emissions and operation of the Hot Dip Tin Line (HD-1) (See Permit #04120083) and associated air pollution control equipment shall not exceed the following limits:

- i. This permit is issued based on negligible emissions of particulate matter (PM) from the hot dip tin line. For this purpose, PM emissions shall not exceed 0.1 lbs/hour and 0.44 tons/year.
- ii. Emissions of hydrogen chloride (HCl) from the hot dip tin line shall not exceed 0.024 lbs/hour and 0.1 tons/year.
- v. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
- vi. The above limitations were established in Permits 04120083, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

k. Emissions and operation of the #9 Cleaning Line (See Permit #93080004) and associated air pollution control equipment shall not exceed the following limits:

- i. Emissions of sulfuric acid and/or sulfuric acid trioxide (H₂SO₄) from the #9 Cleaning Line acid cleaning tank (CT-17) with fume scrubber (FS-2) shall not exceed the following limits:

<u>Operating Hours</u> <u>(Hours/Year)</u>	<u>H₂SO₄ Emissions</u> <u>(Lbs/Hour)</u>	<u>(Tons/Year)</u>
8,400	0.1	0.42

- ii. This permit is issued based upon negligible emissions of NO_x and CO from the No. 9 Cleaning Line gas fired dryer (D-7). For this purpose emissions of each pollutant shall not exceed 0.1 lbs/hour and 0.44 tons/year.
- iii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
- iv. The above limitations were established in Permits 93080004, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the

aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

1. Emissions and operation of the #1 Horizontal Caster Inline Miller (SM-2) with their associated Chip Collector (SK-4) shall not exceed the following limits:

- i. Emissions

<u>(Lbs/Hour)</u>	PM/PM ₁₀ Emissions <u>(Tons/Month)</u>	<u>(Tons/Year)</u>
0.51	0.29	2.90

These limits are based on the production limits for the Horizontal Casters in 7.1.6(b) and the emission calculation procedures in Condition 7.2.12 [T1R].

- ii. Emissions of carbon monoxide (CO) from the strip annealing process (the key downstream unit) shall not exceed 18,000 lb per million scf of natural gas used [T1].
- iii. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].
- iv. The above limitations were established in Permit 04020062, pursuant to PSD. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically MSSCAM and/or PSD. These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the emission limits were revised using the production limits for the Horizontal Casters (See Condition 7.1.6(b)) and the previously permitted #1 Horizontal Caster Inline Miller (SM-2) emission rates (0.2921 lbs PM/ton) in Permit 04020062 and the emission calculation procedures in Condition 7.2.12 [T1R].

7.2.7 Testing Requirements

Testing requirements are not set for the affected process emission units (as defined by Condition 7.2.3(a)). However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.2.8 Monitoring Requirements

The Permittee shall document the following as part of the recordkeeping and compliance procedures requirements in Conditions 7.2.9 and 7.2.12 and, as applicable, the sources standard operating procedures:

- a. Differential Pressure Monitoring: The Permittee shall monitor the differential pressure across each baghouse controlling an affected process emission unit (as defined by Condition 7.2.3(a)) according to the schedule shown in Attachment 5 (Pressure Drop Monitoring Schedule and Visible Emission Compliance Demonstration).
- b. Monthly Operational Inspections: The Permittee shall perform monthly operational inspections of the equipment that is important to the performance of the capture system for each affected process emission unit (as defined by Condition 7.2.3(a)) (e.g., pressure sensors, dampers, and damper switches, scrubber pumps, as applicable). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

Notwithstanding the above if an affected process emission unit (as defined by Condition 7.2.3(a)) is not operated during a month, the above inspections need not be performed provided however that such an inspection shall be conducted as part of the resumption of operation of the aforementioned affected process emission unit.

c. Visible Emission Observations

The Permittee shall comply with the visible emission monitoring requirements for each affected process emission unit (as defined by Condition 7.2.3(a)) according to the procedures shown in Attachment 5 (Pressure Drop Monitoring Schedule and Visible Emission Compliance Demonstration).

For each emission source requiring visible emission observations as noted in Attachment 5, the Permittee shall comply with the following visible emission observation requirements:

- i. The Permittee shall conduct a qualitative visible emissions observation once each day during normal daylight operations when the process emission units and associated air pollution control equipment are in operation in order to observe for the presence of abnormal visible emissions. These observations shall be made and recorded by a trained employee. If such observations during operation do not detect observable emissions for a period of two weeks, the frequency of observations shall be reduced to once per week when operating. If the weekly observations do not detect observable emissions for a period of two months, the frequency of observations shall be reduced to once per month when operating. If abnormal visible emissions are detected the frequency of observations shall be increased to once a day. Observations thereafter may be reduced again if visible emissions are not detected for the period outlined above.

If abnormal visible emissions are observed, the Permittee shall initiate corrective actions to eliminate the abnormal visible emissions. If the Permittee cannot eliminate the abnormal visible emissions within 24 hours, the Permittee shall conduct opacity testing pursuant to the methods and procedures in Method 9 (40 CFR Part 60, Appendix A) within three days after the qualitative observation showing abnormal emissions.

- ii. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- iii. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- iv. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- v. The Permittee shall follow the sources standard operating procedures and manufactures specifications, as applicable, in order to correct periods of excess emissions. The program and/or the procedures for a specific emission units and associated air pollution control equipment shall contain troubleshooting contingency and response steps for when an abnormal emission are observed.

d. Broken Bag Observations

In the event of a bag failure that causes the Permittee to operate outside the parameters in the permit for pressure drop or to emit visible emissions, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the sources standard operating procedures and manufactures operating specifications shall be initiated, as applicable. For any failure with corresponding response steps and timetable not described in the program or procedures indicated above, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall document, maintain and retain records of the following items for the affected process emission units (as defined by Condition 7.2.3(a)) to demonstrate compliance with Conditions 5.6.1, 7.2.6 and 7.2.8, pursuant to Section 39.5(7)(b) of the Act:

a. Hot Mill Operations:

- i. Tons of material hot milled at the hot milling unit (tons/day).
- ii. Hours of operation of the hot milling unit (hours/day).
- iii. PM emissions for hot milling unit (lbs/hour and tons/month) based on the emission calculation procedures in Condition 7.2.12, with supporting calculations.
- iv. PM emissions for the hot rolling operations (tons/year) as calculated by summing the monthly emissions from the hot milling unit for each month and the preceding 11 months (running total).

b. Coil Miller #2 and #3:

- i. Throughput for each Coil Miller (pounds/day and tons/month);
- ii. Hours of operation of each coil miller (hours/day);
- iii. PM emissions for #2 and #3 Coil Millers, combined (pounds/hour, tons/month and tons/year) based on the

emission calculation procedures in Condition 7.2.12, with supporting calculations.

c. Bell Anneal Operations:

- i. A file that identifies the maximum process weight rate of each affected bell anneal processes and associated maximum hourly particulate matter emission, with supporting documentation and calculations. This file shall be updated whenever there is a change in a process that could significantly alter particulate matter emissions, e.g.; change in usage rate or retention of oil.
- ii. Operating logs for the affected bell anneal processes.
- iii. Records of the following items for the affected bell anneal processes:
 - A. Material annealed (tons/month and tons/year).
 - B. Emissions of PM (tons/month and tons/year).

d. Posit Bond Brushing Machines (BM-1 & BM-2):

- i. Records for periodic inspection of the Rotoclone and drop out box and baghouse, as applicable, with date, individual performing the inspection, and nature of inspection; and
- ii. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
- iii. The aggregate monthly and annual PM emissions from the Posit Bond brushing machines based on the emission calculation procedures in Condition 7.2.12, with supporting calculations.

e. #29 rolling mill with mist eliminator:

- i. Tons of metal rolled on #29 rolling mill (tons/month and tons/year); and
- ii. The aggregate monthly and annual PM emissions based on the emission calculation procedures in Condition 7.2.12, with supporting calculations.
- iii. A maintenance log for the mist eliminator detailing all routine and non-routine maintenance performed including dates and duration of any outages.

- f. Fuel Combustion Records:
 - i. Natural Gas usage (ft³/month and ft³/year);
 - ii. Capacity or Rating for each fuel burner (e.g., BTU/hour); and
 - iii. Emission Calculations (ton/month and ton/year) based on the emission calculation procedures in Condition 7.2.12, with supporting calculations.

- g. Hot Dip Tin Line:
 - i. A file containing the following:
 - A. The amount of HCl in the flux.
 - B. The maximum uncontrolled HCl emissions.
 - C. The scrubber efficiency.
 - ii. Records of flux usage (lbs/hour and tons/year).
 - iii. Logs of inspection, maintenance, and repairs for the Hot Dip Tin Line.
 - iv. Records for upsets or deviations in operation of the Hot Dip Tin Line that would increase emissions, with estimate of the excess emissions and supporting calculations.

- h. Air Pollution Control Equipment:

The Permittee shall document, maintain and retain records of the following:

 - i. Baghouse pressure monitoring, visible emission observations, and operational inspections required in Condition 7.2.8 and a log of all repairs and corrective actions implemented as a result of the above.
 - ii. For each baghouse listed in Condition 7.2.2, baseline measurements or manufactures specifications used to determine possible malfunction (e.g., baseline baghouse pressure drop).
 - iii. The date and reason any required inspection was not performed.

- i. All Other Equipment:
 - i. Production and Material throughput records;

- ii. Emission Calculations (tons/month and tons/year) for each emission unit or each emission unit grouping, as applicable, based on the emission calculation procedures in Condition 7.2.12, with supporting calculations.

7.2.10 Reporting Requirements

a. Reporting of Deviations

- i. The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected process emission units (as defined by Condition 7.2.3(a)) with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken. Deviations can include but are not limited to the following:
 - A. Emissions of PM, PM₁₀, VOM, SO₂, NO_x, CO and visible emissions from the affected process emission units (as defined by Condition 7.2.3(a)) in excess of the limits specified in Conditions 7.2.3 and 7.2.6 within 30 days of such occurrence.
 - B. Operation of the affected process emission units (as defined by Condition 7.2.3(a)) in excess of the limits specified in Conditions 7.2.3, 7.2.5, and 7.2.6 within 30 days of such occurrence.
- ii. If there is a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report within 30 days after the deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the deviation and efforts to reduce emissions and future occurrences.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected process emission units (as defined by Condition 7.2.3(a)). However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.2.12 Compliance Procedures

- a. Compliance with the fugitive particulate matter and visible emissions limits in Conditions 5.3.2(a), 5.3.3 and 7.2.3(g) and the opacity limitations of Conditions 5.3.2(b) is based

upon the operating program requirements of 5.3.3 and the air pollution control equipment and visible emissions monitoring required in Condition 7.2.8.

- b. Compliance with the PM emissions limits in Conditions 7.2.3(b), (c), and (f) is assured and achieved by the proper operation and maintenance of the air pollution control equipment as required in Condition 7.2.5, the operational limitations in Conditions 7.2.6 and visible emissions and air pollution control equipment monitoring required in Condition 7.2.8 and the work-practices inherent in operation of the affected process emission units (as defined by Condition 7.2.3(a)).
- c.
 - i. Compliance with the sulfur dioxide (SO₂) limit in Condition 7.2.3(e) is assured based upon the limitations on fuel usage in Condition 7.2.6.
 - ii. Compliance with the sulfuric acid and/or sulfur trioxide limit for the #9 Cleaning Line (CT-17) in Condition 7.2.3(f) and 7.2.6(k) is assured based upon the use of the control equipment listed in Condition 7.2.1 and 7.2.2 (i.e., Fume Scrubber (FS-2)). (See Condition 7.2.12(h) below).
- d. To determine compliance with Conditions 5.6.1 and 7.2.6, emissions from the fuel burning emission units (i.e., Slab Heating Furnaces), shall be calculated based on the following emission factors and formulas or the current version of AP-42, or other calculation methods as approved by the IEPA:

i. Natural Gas

<u>Pollutant</u>	<u>Emission Factor (lb/10⁶ ft³)</u>
NO _x	100.0
PM	7.6
VOM	5.5
SO ₂	0.6
CO	84.0

These are the emission factors for uncontrolled natural gas combustion in boilers (<100 mmBtu/hr), Tables 1.4.1 and 1.4.2, AP-42, Volume I, Supplement D, March, 1998.

Natural Gas Combustion Emissions (lb) = (Natural Gas Consumed, ft³) x (The Appropriate Emission Factor)

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the

current month plus the preceding 11 months (i.e., a running 12 month total of emissions).

- e. To determine compliance with Conditions 5.6.1, 7.2.6(b)(i), particulate matter emissions from the hot mill shall be calculated based on the following or other calculation methods as approved by the IEPA:

$$\text{PM Hot Mill (lb/hr)} = 0.0389 \times (\text{Throughput rate}/2000)$$

$$\text{PM Hot Mill (lb/month)} = 0.0389 \times (\text{Tons of Material Hot Milled for the month})$$

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

The Hot Mill emission factor is based upon a March 27, 1991 stack test where average PM emissions = 0.433 lb/bar of metal processed and the average bar weight equaled 7.5 tons. Note that this emission factor has been adjusted to account for the change in surface area per ton of metal processed that has occurred since the stack test was completed.

- f. To determine compliance with Conditions 5.6.1 and 7.2.6(c), particulate matter emissions from the coil milling operation shall be calculated based on the following emission factors, or other calculation methods as approved by the IEPA:

$$\text{PM \#2 Coil Miller (lb/hr)} = 0.040 \times (\text{Throughput rate}/2000)$$

$$\text{PM \#3 Coil Miller (lb/hr)} = 0.073 \times (\text{Throughput rate}/2000)$$

$$\text{PM \#2 Coil Miller (lb/month)} = 0.040 \times (\text{Tons of Material Coil Milled for the month})$$

$$\text{PM \#3 Coil Miller (lb/month)} = 0.073 \times (\text{Tons of Material Coil Milled for the month})$$

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

The No. 2 Coil Miller emissions factor is based upon the August 18, 2004 stack test for the No. 2 Coil Miller (0.040 lb PM/ton).

The No. 3 Coil Miller emission factor is based upon the August 17, 2004 stack test for the No. 3 Coil Miller (0.073 lb PM/ton).

g. To determine compliance with Conditions 5.6.1 and 7.2.6(f), PM emissions from the Bell Anneal Operations shall be calculated based on the following emission factors and formulas or other calculation methods as approved by the IEPA:

i. Bell Anneal BA-7, BA-9, BA-12, and BA-31B = 0.099 lb/ton

ii. Bell Anneal BA-11 = 0.028 lb/ton

iii. Bell Anneal BA-13 = 0.020 lb/ton

Emissions (ton/month) = Emission Factor (lb/ton) x Material Throughput (ton/month)/(2,000 lb/ton).

Where Material Throughput (tons/month) equals the amount of stripped annealed in each unit.

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

Note these factors are developed based on the surface area per ton of strip multiplied by the rate of oil used per square feet.

h. To determine compliance with Conditions 5.6.1 and 7.2.6, emissions from the affected process emission units (as defined by Condition 7.2.3(a)) shall be calculated based on the following emission factors for each type of process emission unit, or other calculation methods as approved by the IEPA:

Description	Emission Control Equipment	Emission Factor
Surface Milling Operations		
#1 Horizontal Caster Inline Miller (SM-2)	Chip Collector (SK-4)	lbs PM/ton = 0.292 ¹
Polygage Miller (RM-25) and Skive Line	Cyclone (CYC-1); and Drop-out Box (DOB-1); Moisture Separator (MS-1)	lbs PM/hr = 0.025
Solution Rolling Mills		
Old Tandem Mill (RM-1)	None	0.01 lbs PM/tons rolled ³

Description	Emission Control Equipment	Emission Factor
New Tandem Mill (RM-7)	Mist Eliminator (FE-6)	0.00005 lbs PM/tons rolled ⁴
4-Stand Tandem Mill (Mill 4)	Mist Eliminator (OME-4)	
#5 Rolling Mill (RM-5)	Mist Eliminator (FE-1)	
#20 Rolling Mill (RM-6)	Mist Eliminator (FE-5)	
Mineral Oil Rolling Mills		
#6 Rolling Mill (RM-9)	Mist Eliminator (FE-8)	0.0322 lbs PM/tons rolled ⁵
#9 Rolling Mill (RM-3)	Mist Eliminator (FE-2)	
#18 Rolling Mill (RM-4)	Mist Eliminator (FE-3)	
#19 Rolling Mill (RM-5)	Mist Eliminator (FE-4)	
#23 Rolling Mill (RM-8)	Mist Eliminator (FE-7)	
#24 Rolling Mill (Mill-24)	Mist Eliminator (OME-24)	
#29 Rolling Mill (Mill-29)	Mist Eliminator (OME-29)	
#34 Rolling Mill (Mill-28)	Mist Eliminator (OMC-28)	
Bell Anneals		
#7 Bell Anneal (BA-7)	None	lbs PM/ton = 0.099 ⁶
#9 Bell Anneal (BA-9)	None	
#12 Bell Anneal (BA-12)	None	
#31 Bell Anneal (BA-31)	None	
#11 Bell Anneal (BA-11)	None	lbs PM/ton = 0.028 ⁷
#13 Bell Anneal (BA-13)	None	lbs PM/ton = 0.020 ⁸

Description	Emission Control Equipment	Emission Factor
Strip Anneals		
#3 Strip Anneal (SA-3) #4 Strip Anneal (SA-4) #5 Strip Anneal (SA-5) #6 Strip Anneal (SA-6) #7 Strip Anneal (SA-7)	None	PM = 52.2 lb/mmcf ⁹ NO _x = 368.7 lb/mmcf ⁹ SO ₂ = 2.5 lb/mmcf ⁹ CO = 18,000 lb/mmcf ⁹ VOM = 5.5 lb/mmcf ⁹
Bonding Mills		
#35 Rolling /Clad Bonding Mill (#35 Mill) (RCM-3)	3-Stage Filter System (SFS-3)	Mode 1 - Rolling: PM = 0.46 lb/hr ¹⁰ Mode 2 - Bonding: PM = 0.043 lb/hr ¹¹
Posit Bond Bonding Mill (BM-2)	Filters (F-1 & F-2)	PM = 0.039 lb/hr ¹²
Brushing Units		
#1 Posit Bond Brushing Machine (BM-1)	Rotoclone (RC-1)	PM = 0.44 lb/hr ¹³
#2 Posit Bond Brushing Machine (BM-2)	Drop-out Box (PBDOB-1) & Baghouse (PBBH-1)	PM = 0.0021 lb/hr ¹⁴
Hot Dip Tin Line (HD-1)	Fume Scrubber (SCRUB-1)	HCl = 0.013 lb HCl/hr ¹⁵ PM = 0.031 lb/hr ¹⁵
#9 Cleaning Line (CT-17)	Fume Scrubber (FS-2)	PM = 0.021 lb/hr ¹⁶

i. For Emission Factors based on hourly emission rate:

$$\text{Emissions (ton/month)} = \frac{\text{Emission Rates (lbs/hr)} \times \text{Hours of Operation (hrs/month)}}{(2,000 \text{ lb/ton})}$$

ii. For Emission Factors based on Material Throughput:

$$\text{Emissions (ton/month)} = \frac{\text{Emission Factor (lb/ton)} \times \text{Material Throughput (ton/month)}}{(2,000 \text{ lb/ton})}$$

iii. Annual Emissions

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

1. The #1 Horizontal Caster Inline Miller emission factor is based upon engineering estimate (See Permit 04020062).
2. The Polygage Miller (RM-25) and Skive Line emission factor is based upon engineering estimate, using the maximum oil solution pumping rate (2 gal/min), 5% oil solution density (8.3 lb/gal) and the maximum overall control efficiency of the Cyclone (CYC-1) - 90%; and Drop-out Box (DOB-1) - 50%; Moisture Separator (MS-1) - 99% or 99.95%.
3. The Old Tandem Mill (RM-1) factor is based upon engineering estimate using historical records of the amount of soluble oil added to the Old Tandem Mill (Old TM) per ton of strip processed (0.1 lb/ton) and an estimated oil loss rate of 10%.
4. Solution Rolling Mills factor is based upon engineering estimate using historical records of the amount of soluble oil added to the Old Tandem Mill (Old TM) per ton of strip processed (0.1 lb/ton), an estimated oil loss rate of 10% and an estimated mist eliminator control efficiency of 99.5%.
5. The Mineral Oil Rolling Mills is based upon engineering estimate using historical records of the amount of soluble oil returned from the mist eliminators (5 gal/hr) while the mills were processing 22,900 lbs/hr of metal strip, an estimated mist eliminator control efficiency of 99%, and an mineral oil density of 7.3 lb/gal.
6. The PM emission factor for the #7, #9, #12 & #31 Bell Anneals (BA-7, BA-9, BA-12, & BA-31) is based upon engineering estimate using a maximum residual oil deposit rate 0.02 grams/ft², a calculated average metal strip surface area per ton strip of 4509 ft²/ton and estimated stack oil vapor condensation rate of 50%.

7. The PM emission factor for the #11 Bell Anneal (BA-11) is based upon engineering estimate using a maximum residual oil deposit rate 0.02 grams/ft², a calculated average metal strip surface area per ton strip of 1288 ft²/ton and estimated stack oil vapor condensation rate of 50%.
8. The PM emission factor for the #13 Bell Anneal (BA-13) is based upon engineering estimate using a maximum residual oil deposit rate 0.02 grams/ft², a calculated average metal strip surface area per ton strip of 902 ft²/ton and estimated stack oil vapor condensation rate of 50%.
9. The Strip anneal fuel combustion factors are based upon the results of PM, NO_x, and SO₂ stack tests for the #6 strip anneal (PM = 0.350 lb/hr, NO_x = 2.470 lb/hr and SO₂ = 0.017 lb/hr) and an estimated fuel use rate of 6,700 scf per hour; CO emissions factor is based upon a mass balance calculation and the VOM emission factor is the VOM emission factor found in AP-42 for the uncontrolled natural gas combustion in boilers (<100 mmBtu/hr), Tables 1.4.1 and 1.4.2, AP-42, Volume I, Supplement D, March, 1998.
10. The #35 Rolling /Clad Bonding Mill (#35 Mill) (RCM-3) - Mode 1 emissions are based upon engineering estimate using historical records of the amount of soluble oil returned from the mist eliminators (5 gal/hr) while the mills were processing 22,900 lbs/hr of metal strip, a mineral oil density of 7.3 lb/gal and an estimated mist eliminator collection and control efficiency of 98.7%.
11. The #35 Rolling /Clad Bonding Mill (#35 Mill) (RCM-3) - Mode 2 emissions are based upon engineering estimate of maximum polyethylene glycol lubricant application rate of 6.66 lb/hr, a 50% evaporation rate and an estimated mist eliminator collection and control efficiency of 98.7%.
12. The Posit Bond Bonding Mill (BM-2) emissions are based upon engineering estimate using maximum oil usage rate 2,237 gal/yr), 8760 hr/yr of operation, an oil density of 7.54 lb/gal, a soluble oil loss rate of 10% and an estimated filter collection and control efficiency of 98%.

13. The #1 Posit Bond Brushing Machine (BM-1) emissions are based upon engineering estimate using maximum dust and debris collection rate of 5.83 lb/hr, and an estimated collection and control efficiency of 93%. Maximum uncontrolled emissions are estimated at 6.27 lb/hr.
14. The #2 Posit Bond Brushing Machine (BM-2) emissions are based upon engineering estimate using maximum dust and debris collection rate of 3.85 lb/hr, and an estimated Drop-out Box (PBD0B-1) & Baghouse (PBBH-1) collection and control efficiency of 99.95%.
15. The Hot Dip Tin Line (HD-1) HCl emissions are based upon engineering estimate using maximum flux usage rate of 15 lb/hr, flux HCl content of 17%, an un-reacted HCl release rate of 25%, and an estimated Fume Scrubber (SCRUB-1) collection and control efficiency of 98%. PM emissions are based metal oxide emission factor of 0.0065 pound per pound of tin used, a tin usage rate of 240 lb tin/hr, and an estimated Fume Scrubber (SCRUB-1) collection and control efficiency of 98%.
16. The #9 Cleaning Line (CT-17) emissions are based upon engineering estimate using maximum H₂SO₄ concentration of 15%, actual H₂SO₄ usage rates for #1, #6, and # 8 cleaning lines (53 lb/hr) and the emission factors from Modern Pollution Control Technology, Volume 1, pg. 7-11 and 7-23 (2% loss of makeup H₂SO₄) and an estimated Fume Scrubber (FS-2) collection and control efficiency of 98%.

7.3 Unit 3 - Cold Cleaning/Degreasing

7.3.1 Description

The cold cleaning/degreasing emission units utilize solvents for the purpose of cleaning soils from metal surfaces.

Posit Bond Brush Cleaner (PBBC-1):

The Posit Bond Brushing Cleaner is used to clean the brushes used on the Posit Bond Brushing Machines. One brush is cleaned at a time in an enclosed cabinet. Clean solvent is placed in the bottom of the cabinet and the ends of the brush are spun in the solvent solution until cleaned. Following the spinning cycle, the brush cleaning unit is allowed to drain solvent back into the bottom of the cabinet. The spent solvent is eventually collected and stored in a closed drum.

Note: This narrative description is for informational purposes only and is not enforceable.

7.3.2 List of Emission Units and Air Pollution Control Equipment

Description	Emission Control Equipment	Date Constructed
Posit Bond Brush Cleaner (PBBC-1)	None	May 1996 Modified August 1999

7.3.3 Applicable Provisions and Regulations

- a. The "affected emission unit" for the purpose of the unit-specific conditions in Section 7.3, are described in Conditions 7.3.1 and 7.3.2.
- b. 35 IAC 219 Subpart E: Solvent Cleaning

The Posit Bond Brush Cleaning unit is subject to the requirements for cold cleaning under 35 IAC 219.182. Therefore, the aforementioned affected emission unit must comply with the following:

- i. No person shall operate a cold cleaning degreaser unless [35 IAC 219.182(a)]:
 - A. Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;
 - B. The cover of the degreaser is closed when parts are not being handled; and

- C. Parts are drained until dripping ceases.
- ii. Equipment Requirements: No person shall operate a cold cleaning degreaser unless [35 IAC 219.182(b)]:
 - A. The degreaser is equipped with a cover which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counter-weights or a powered system if [35 IAC 219.182(b)(1)]:
 - 1. The solvent vapor pressure is greater than 2 kPa (15 mmHg or 0.3 psi) measured at 38°C (100°F);
 - 2. The solvent is agitated; or
 - 3. The solvent is heated above ambient room temperature.
 - B. The degreaser is equipped with a device for draining cleaned parts. The drainage device shall be constructed so that parts are enclosed under the cover while draining unless [35 IAC 219.182(b)(2)]:
 - 1. The solvent vapor pressure is less than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F); or
 - 2. An internal drainage device cannot be fitted into the cleaning system, in which case the drainage device may be external.
 - C. The degreaser is equipped with one of the following control devices if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F) or if the solvent is heated above 50°C (120°F) or its boiling point [35 IAC 219.182(b)(3)]:
 - 1. A freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less; or
 - 2. Any other equipment or system of equivalent emission control as approved by the Illinois EPA and further processed consistent with 35 IAC 219.108. Such a system may include a water cover, refrigerated chiller or carbon absorber.

- D. A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser [35 IAC 219.182(b)(4)]; and
- E. If a solvent spray is used, the degreaser is equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray [35 IAC 219.182(b)(5)].

iii. Material Requirements [35 IAC 219.182(c)(3)]:

On and after May 30, 2007, no person shall:

- A. Cause or allow the sale of solvent with a vapor pressure which exceeds 1.0 mmHg (0.019 psi) measured at 20°C (68°F) in units greater than five gallons, for use in cold cleaning degreasing operations located in the area covered by Section 219.103, unless the purchaser provides a copy of a valid State or federal construction or operating permit or a copy of the Federal Register demonstrating that the purchaser is in compliance with the control requirements of 35 IAC 219.182(c)(4) or is exempt under 35 IAC 219.182(f) or (g) [35 IAC 219.182(c)(3)(A)].
- B. Operate a cold cleaning degreaser with a solvent vapor pressure which exceeds 1.0 mmHg (0.019 psi) measured at 20°C (68°F), unless the person is in compliance with the control requirements of 35 IAC 219.182(c)(4) or is exempt under 35 IAC 219.182(f) or (g) [35 IAC 219.182(c)(3)(B)].

Note: At the time of issuance of this permit, the affected emission unit (as defined under Condition 7.3.3(a) was not equipped with a control device indicated in 35 IAC 219.182(b)(3) and 219.182(c)(4), nor was it exempt under 35 IAC 219.182(f) or (g). (See the solvent vapor pressure limits in Condition 7.3.6(c))

- c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from process emission unit, except as provided in 35 IAC 219.302, 219.303, 219.304 and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material [35 IAC 219.301].

In regard to the above, "Photochemically reactive material" means any organic material with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or the composition of which

exceeds any of the following individual percentage composition limitations. Whenever any photochemically reactive material or any constituent of any organic material may be classified from its chemical structure into more than one of the above groups of organic materials, it shall be considered as a member of the most reactive group, that is, the group having the least allowable percent of the total organic materials [35 IAC 211.4690].

A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic types of unsaturation: 5 percent. This definition does not apply to perchloroethylene or trichloroethylene.

A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

A combination of ethylbenzene, ketones having branched hydrocarbon structures or toluene: 20 percent.

7.3.4 Non-Applicability of Regulations of Concern

- a. Posit Bond Brushing Cleaner is not subject to 40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning, because the emission unit does not meet the applicability criteria shown in 40 CFR 63.460. (See Condition 7.3.6(b))
- b. Posit Bond Brushing Cleaner is not subject to control requirements specified in 35 IAC 219 Subpart TT, because the emission unit does not meet the applicability criteria shown in 35 IAC 219.980(a). Specifically, 35 IAC 219 Subpart TT does not apply to VOM emission units included within the category specified in 35 IAC 219 Subpart E: Solvent Cleaning [35 IAC 219.980(a)].
- c. Posit Bond Brushing Cleaner is not subject to control requirements specified in 35 IAC 219.182(b)(3) and 219.182(c)(4), because solvent vapor pressure for the unit is limited to less than 1.0 mmHg (0.019 psi) measured at 20°C (68°F) and because the solvent is not heated. (See Condition 7.3.6(c))

7.3.5 Control Requirements and Work Practices

Control requirements and work practices are not set for the Posit Bond Brushing Cleaner. However, there may be requirements for source-wide control requirements and work practices set forth in Condition 5.5.

7.3.6 Production and Emission Limitations

a. Emissions and operation of the Posit Bond Brushing Cleaner shall not exceed the following limits:

i. Posit bond brush cleaner (PBBC-1); Solvent

VOM Emissions	
<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
0.25	2.0

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

iii. The above limitations contain revisions to previously issued Permit 99070007, pursuant to PSD. These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for PSD [T1].

b. This permit is issued based upon the Posit Bond Brush Cleaner not using any solvent containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent.

The above limitations are being established in this permit in order to ensure that the Posit Bond Brush Cleaner is not subject to 40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning, i.e., they ensure that the solvent cleaning unit do not meet the applicability criteria shown in 40 CFR 63.460. (See Condition 7.3.4(a))

c. This permit is issued based upon the Posit Bond Brush Cleaner the solvent in the unit not being heated or using any solvent with a solvent vapor pressure which exceeds 1.0 mmHg (0.019 psi) measured at 20°C (68°F). (See Conditions 7.3.3(b) and 7.3.4(c))

7.3.7 Testing Requirements

a. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(b) of the Act, the vapor pressure of the cleaning solvent, the exhaust ventilation rates, and the

performance of any control devices shall be determine according to the methods specified in Condition 7.3.7(b).

- b. The following test methods shall be used to demonstrate compliance with 35 IAC 219 Subpart E:
 - i. Vapor pressures shall be determined by using the procedure specified in 35 IAC 219.110 [35 IAC 219.186(a)];
 - ii. Exhaust ventilation rates shall be determined by using the procedures specified in 35 IAC 219.105(f)(3) [35 IAC 219.186(b)]; and
 - iii. The performance of control devices shall be determined by using the procedures specified in 35 IAC 219.105(f) [35 IAC 219.186(c)].

7.3.8 Monitoring Requirements

Monitoring requirements are not set for the affected emission unit (as defined by Condition 7.3.3(a)). However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.3.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected emission unit (as defined by Condition 7.3.3(a)) to demonstrate compliance with Conditions 5.6.1, 7.3.3, and 7.3.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Records required as per 35 IAC 219.182 - Cold Cleaning [35 IAC 219.182(d)]:
 - i. The name and address of the solvent supplier;
 - ii. The date of purchase;
 - iii. The type of solvent;
 - iv. The vapor pressure of the solvent measured in mmHg at 20°C (68°F); and
 - v. For any mixture of solvents, the vapor pressure of the mixture, as used, measured in mmHg at 20°C (68°F).
- b. General Records
 - i. Records of the amount of solvent used and recovered from the Posit Bond Brush Cleaner, lb/mo and lb/yr;

- ii. The operating schedule (i.e., number of cycles per month and per year);
- iii. Records of monthly and annual aggregate VOM and HAP emissions from Posit Bond Brush Cleaner shall be maintained, based on solvent consumption and VOM and HAP content of the solvent, with supporting calculations; and
- iv. Certified Product Data Sheet (CPDS) (as defined in 40 CFR 63.801, substituting VOM content for VHAP content) or Material Safety Data Sheets (MSDS) for the solvents used.

7.3.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected emission unit (as defined by Condition 7.3.3(a)) with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions of VOM or HAP from the affected emission unit (as defined by Condition 7.3.3(a)) in excess of the limits specified in Condition 7.3.6(a) within 30 days of such occurrence.
- ii. Operation of the affected emission unit (as defined by Condition 7.3.3(a)) in excess of the limits specified in Conditions 7.3.3(b) and (c) and 7.3.6(b) within 30 days of such occurrence.
- iii. 35 IAC 219.182(d)(5) & (6):
 - A. Notification of the Illinois EPA at least 30 days before changing the method of compliance between 35 IAC 219.182(c)(3) and (c)(4). Such notification shall include a demonstration of compliance with the newly applicable requirements in 35 IAC 219.182(c)(4).
 - B. Notification of the Illinois EPA at least 30 days following the occurrence of a violation of the applicable requirements in 35 IAC 219.182(b) or (c) by sending a description of the violation and copies of records documenting such violations to the Illinois EPA.

7.3.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected emission unit (as defined by Condition 7.3.3(a)). However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.3.12 Compliance Procedures

- a. Compliance with the HAP and solvent limits in Condition 5.6.3 and 7.3.6(b) & (c) is addressed by the records required in Conditions 5.9.2 and 7.3.9 and the emissions calculation procedure in Conditions 7.3.12(b) through (d).
- b. For determination of compliance with the limits of this permit, solvent usage shall be determined by the following equation:

$$U = V - W$$

Where:

U = Solvent usage for compliance determinations (gallons).

V = Virgin solvent added to the degreaser (gallons), as determined by daily addition log sheets.

W = Waste solvent removed from the degreasers and sent off-site for reclamation or disposal, as determined by monthly records. The waste solvent is not mixed with any other solvents, therefore the solvent content is the same as the virgin solvent (V).

- c. Compliance with the monthly VOM emission limits shall be calculated using the solvent density as specified in the Material Safety Data Sheet, and the solvent usage (U) (gallon/month), as follows:

$$\text{VOM Emission (ton/month)} = \text{Solvent usage (U)} \\ \text{(gallon/month)} \times \text{Solvent density (lb/gallon)} / 2,000 \text{ lb/ton}$$

- d. Annual VOM emissions shall be determined by:

$$E_{at} = \sum_{i=1}^n E_{mti}$$

where

Summation (i) from current month plus the 11 previous months (n=12).

E_{at} = annual emissions of VOM from Posit Bond Brush Cleaner
(tons/year).

e. HAP Emissions

- i. Monthly HAP emissions from the Posit Bond Brush Cleaner shall be determined by speciation of the individual HAP emissions as a percentage of each solvent throughputs and calculating individual HAP emissions as in procedures shown above. Total monthly HAP emissions will be based on the sum of the emissions for each individual HAP.
- ii. Annual HAP emissions shall be calculated based upon the summation of the total of all HAP emissions.

7.4 Unit 04: Other VOM Emission Units

7.4.1 Description

This section applies to the source's VOM emission units, which are not included within any of the other emission units described in Section 7.

Strip Lubrication - Brass Mill Drip-On Oil Process (DOP-5):

The Brass Mill Drip-On Oil Process consists of application of a lubricant oil onto the metal strip prior to recoil. The lubricant oils can be applied at various locations throughout the Brass Operations. These include but are not limited to the following: 5 Rolling Mill; No. 20 Rolling Mill; No. 4 Tandem Mill; No. 21 Tandem Mill; Posit Bond; No. 8 Strip Anneal; No. 9. Strip Anneal and Four Stand Tandem Mill.

Pre-Annealing Lubricant Process (PAL):

A pre-annealing lubricant oil can be dripped onto to copper alloy strip after the rolling process prior to recoil. The pre-annealing lubricant oil is applied specifically to copper alloy strip that will be bell annealed. The lubricant oils can be applied at various locations, these include but are not limited to the following: No. 6 Strip Anneal; 8 Strip Anneal; No. 9. Strip Anneal; No. 6 Cleaning Line; No. 8 Cleaning Line; No. 10 Cleaning Line; No. 19 Mill; No. 23 Z-Mill; No. 3 Rewind; No. 22 MG Slitter; No. 6 MG Slitter; No. 9 Mg Slitter; and No 14 Slitter at the Brass Mill and No. 28 Rolling Mill (Z-Mill); No. 35 Rolling Mill and No. 34 Strip Anneal at Plant 3.

Anti-Fretting Lubricant Application (AFA):

Wide coils of Hot Dipped Brass Strip are uncoiled and fed through a rotary head slitter that slits the metal into multiple, narrow width strips. As the wide width strip enters the slitter head, Anti-Fretting Lubricant can be applied to the top surface of the strip. A wipe at the entry side of the slitter head distributes the lubricant across the strip. After slitting, the lubricated, narrow width strips are re-coiled at the take-up reel. Anti-Fretting Lubricant may also be applied as the strip is re-coiled at rewind or inspection stations. The lubricant oils can be applied at various locations, these include but are not limited to the following: No. 4 Slitter; No. 5 Slitter; No. 9 Slitter; No. 20 Slitter; at the Brass Mill and No. 30L Slitter and inspection lines at Plant 3.

Fabricating Stamping Operations (SO-1 to SO-12):

Fabricating Stamping operations consists of presses that use a lubricant for stamping out parts from a metal strip. A portion of the products require a lubricant that that does not leave any oily residue following the stamping operation in accordance with

customer specifications. For this type of product a special lubricant is used that lubricates during the stamping operation and then evaporates without leaving any oily residual.

Fabricating Stamping operations consists of presses (SO-1 to SO-12) that use a lubricant for stamping out parts from a metal strip. Some products require a lubricant that evaporates without leaving any oily residual. The lubricant is assumed to be 100% evaporated as VOM emissions.

Posit Bond Brushing Machines - Cleaning Tanks (PBCT-1 & PBCT-2):

As preparation for the copper alloy strip bonding operation, the metal strip must be thoroughly cleaned prior to the brushing process. Each of the two Posit Bond Brushing Lines has a cleaning tank where a caustic cleaner is used to remove any residual oils from the surface of the metal strip. Cleaning solution is added to a make-up tank where the proper concentration is maintained and the solution is recirculated. The cleaning solution can also contain up to 10% volatile organics. After the cleaning tank the metal strip passes through a rinse tank and dryer before it enters the brushing section.

Cleaning Solvents:

Cleaning solvents are used throughout the facility. Emissions from clean-up operations are determined on a plant-wide basis using a material balance.

BTA in Water Operations:

BTA in water operations consists of a process that provides a temporary oxidation barrier for brass strip. A product containing Benzotriazole (BTA) is diluted to less than 1% BTA with water in a rinse tank or rinse solution. The brass strip is either immersed or sprayed with the diluted solution. In its diluted state, the BTA product provided by the supplier has up to 55% isopropyl alcohol and 45% BTA. The application of BTA in water usually occurs in the final step of a cleaning or slitting process so that the brass strip reaches the customer or the next stage of processing with a minimal surface oxidation. The BTA in water process can occur at 16 locations (BTA-1 to BTA-16) as listed below.

3 Strip Anneal	BTA-1
4 Strip Anneal	BTA-2
5 Strip Anneal	BTA-3
6 Strip Anneal	BTA-4
7 Strip Anneal	BTA-5
8 Strip Anneal	BTA-6
9 Strip Anneal	BTA-7
1 Cleaning Line	BTA-8
6 Cleaning Line	BTA-9

8 Cleaning Line	BTA-10
9 Cleaning Line	BTA-11
Barco Cleaning Line	BTA-12
10 Slitter	BTA-13
14 Slitter	BTA-14
18 Slitter	BTA-15
2 Tension Leveler	BTA-16

Note: This narrative description is for informational purposes only and is not enforceable.

7.4.2 List of Emission Units and Air Pollution Control Equipment

Description	Emission Control Equipment	Date Constructed
Strip Lubrication, Drip-On Oil	None	Prior 1972
Strip Lubrication, Pre-Anneal Lubricant	None	Prior 1972
Strip Lubrication, Anti-Fretting Lubricant	None	1994
Fabricating Stamping Operations (SO-1 to SO-12)		
60 Ton Minster Press (SO-1)	None	1981
90 Ton Minster Press (SO-2)	None	1990
100 Ton Minster Press (SO-3)	None	1981
150 Ton Minster Press (SO-4)	None	1979 (est.)
180 Ton Minster Press (SO-5)	None	1999
200 Ton Minster Press (SO-6)	None	1986
300 Ton Minster Press (SO-7)	None	1997
100 Ton Bliss Press (SO-8)	None	1994
200 Ton Bliss Press (1) (SO-9)	None	prior to 1972
200 Ton Bliss Press (2) (SO-10)	None	1989
Model 675 Bliss Press (SO-11)	None	prior to 1972
800 Ton Aida Press (SO-12)	None	1994
Posit Bond Brushing Machines - Cleaning Tanks (PBCT-1 * PBCT-2)	None	PBCT-1 1972 PBCT-2 1999
Cleaning Solvents	None	--
BTA in Water Operations (BTA-1 to BTA-16)	None	1990 (est.)

7.4.3 Applicable Provisions and Regulations

- a. An "affected other emission unit" for the purpose of the unit-specific conditions in Section 7.4 is an emission unit described in conditions 7.4.1 and 7.4.2.
- b. The affected other emission units (as defined by Condition 7.4.3(a)) meet the applicability criteria in 35 IAC 219

Subpart TT: Other Emission Units (35 IAC 219.980(a)) but are excluded from being applicable to the subpart under 35 IAC 219.980(a)(2).

- i. The requirements of 35 IAC 219 Subpart TT shall apply to a source's VOM emission units, which are not included within any of the categories specified in 35 IAC 219 Subparts B, E, F, H, Q, R, S, T, V, X, Y, Z, AA, BB, PP, QQ, or RR, or are not exempted from permitting requirements pursuant to 35 Ill. Adm. Code 201.146, if the source is subject to 35 IAC 219 Subpart TT. A source is subject to 35 IAC 219 Subpart TT if it contains process emission units, not regulated by 35 IAC 219 Subparts B, E, F (excluding Section 219.204(1) of this Part), H (excluding Section 219.405 of this Part), Q, R, S, T, (excluding Section 219.486 of this Part), V, X, Y, Z or BB of this Part, which as a group both [35 IAC 219.980(a)]:
 - A. Have maximum theoretical emissions of 91 Mg (100 tons) or more per calendar year of VOM if no air pollution control equipment were used; [35 IAC 219.980(a)(1)] and
 - B. Are not limited to less than 91 Mg (100 tons) of VOM emissions per calendar year in the absence of air pollution control equipment, through production or capacity limitations contained in a federally enforceable permit or a SIP revision [35 IAC 219.980(a)(2)].
- ii. Pursuant to Conditions 7.4.4(a) and 7.4.6, the source is excluded from the requirements of 35 IAC 219 Subpart TT, since the Permittee has elected to impose federally enforceable production and/or capacity limitations on the affected other emission units (as defined by Condition 7.4.3(a)), as a group, which limit VOM emissions to less than 100 tons per calendar year in the absence of air pollution control equipment.
- iii. For the purposes of 35 IAC 219 Subpart TT, an emission unit shall be considered regulated by a Subpart if it is subject to the limits of that Subpart. An emission unit is not considered regulated by a Subpart if it is not subject to the limits of that Subpart, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met [35 IAC 219.980(d)].
- iv. No person shall violate any condition in a permit when the condition results in exclusion of the source

or an emission unit from 35 IAC 219 Subpart TT [35 IAC 219.983].

- c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lb/hr) of organic material into the atmosphere from an affected other emission unit (as defined by Condition 7.4.3(a)), except as provided in 35 IAC 219.302, 219.303, 219.304 and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material [35 IAC 219.301].

7.4.4 Non-Applicability of Regulations of Concern

- a. The source is not subject to control requirements specified in 35 IAC 219 Subpart TT, because the Permittee has elected to impose federally enforceable production and/or capacity limitations on the affected other emission units (as defined by Condition 7.4.3(a)) which limit VOM emissions to less than 100 tons per calendar year in the absence of air pollution control equipment. An emission unit is not considered regulated by 35 IAC 219 Subpart TT if it is not subject to the limits of that 35 IAC 219 Subpart TT, e.g., the emission unit is covered by an exemption in the Subpart or the applicability criteria of the Subpart are not met. (See Conditions 7.4.3(b) and 7.4.6) [35 IAC 219.980(a) & (d)].
- b. The affected other emission units (as defined by Condition 7.4.3(a)) are not subject to control requirements specified in 40 CFR 60 Subpart TT - Standards of Performance for Metal Coil Surface Coating, because the emission units do not meet the applicability criteria shown in 40 CFR 60.460(a).

7.4.5 Control Requirements and Work Practices

Control requirements and work practices are not set for the affected other emission units (as defined by Condition 7.4.3(a)). However, there may be requirements for source-wide control requirements and work practices set forth in Condition 5.5.

7.4.6 Production and Emission Limitations

In addition to the source-wide emission limitations in Condition 5.6, the affected other emission units (as defined by Condition 7.4.3(a)) are subject to the following:

- a. The following limitations were established in Permits 93050056 and 99030110, respectively [T1].

Description	VOM Usage and Emissions	
	Tons/Mo	Tons/Yr
Strip Lubrication - Antifretting Lubricant	0.20	2.0
Fabricating Stamping Operations (SO-1 to SO-12) - Evaporative Lubricant	2.65	14.0

These limits are based on the VOM content, the amount of material applied or used, and the testing, recordkeeping, and compliance procedures specified in Conditions 7.4.7, 7.4.9, and 7.4.12, respectively.

- b. The following limitations are being established in this permit:

Description	VOM Usage and Emissions	
	Tons/Mo	Tons/Yr
Strip Lubrication - Drip-On Oil	0.88	8.84
Strip Lubrication - Pre-Annealing Lubricant	0.40	4.00
Posit Bond Brushing Machines - Cleaning Tanks (PBCT-1 * PBCT-2)	0.50	4.90
Cleaning Solvents	2.30	22.60

These limits are based on the VOM content, the amount of material applied or used, and the testing, recordkeeping, and compliance procedures specified in Conditions 7.4.7, 7.4.9, and 7.4.12, respectively.

The above limitations contain revisions to previously issued Permits 78010031, and 99030110. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically MSSCAM and/or PSD. These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, applicant has requested adjustment to the above referenced limits in order to allow additional flexibility and in order to demonstrate compliance with the limits in 35 IAC 219.204 [T1R].

- c. VOM emissions from the affected other emission units (as defined by Condition 7.4.3(a)) shall not exceed 99.0 tons per calendar year in the absence of air pollution control equipment.

This limit is being established in this permit to ensure that the affected other emission units are not subject to the control requirements of 35 IAC Part 219, Subpart TT [T1N].

- d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1 & T1N].

7.4.7 Testing Requirements

Testing for VOM content of each solvent and/or lubricant shall be performed as follows [35 IAC 219.105(a), 219.211(a), and Section 39.5(7)(b) of the Act]:

- a. Testing or recertification of reformulation data shall be done at least once every five years, or whenever there is a change in the formulation, for each coating or cleaning solvent. Initially, if this 5-year testing or recertification cycle condition is not met, testing will be completed within one year of permit issuance.
 - i. The VOM content of each solvent and/or evaporative (vanishing) lubricant on the affected other emission units (as defined by Condition 7.4.3(a)) shall be determined by one of the following methods (Any solvent or other VOM added after the VOM content has been determined must be measured and accounted for in the calculations specified in 7.4.12 in order to calculate the "as applied" VOM content):
 - A. Testing in accordance with USEPA Reference Methods 24 and 24A of 40 CFR 60 Appendix A and the procedures of 35 IAC 219.105(a); or
 - B. Calculations based on a supplier provided Certified Product Data Sheet (as defined in 40 CFR 63.801) that includes sufficient information to calculate the VOM content of the solvent and/or lubricant; or
 - C. Calculations based on formulation information certified and dated by the supplier that includes sufficient information to calculate the VOM content of the solvent and/or lubricant; or

- D. Calculations based on supplier provided data on the density or specific gravity of the solvent or lubricant using 100% as the VOM content of the solvent or lubricant.

"In the event of any inconsistency between a Method 24 test and a facility's formulation data, the Method 24 test will govern" [35 IAC 219.105(a)(2)(A)].

- ii. If testing is done, it may be performed by either the supplier of a material or by the Permittee. Appropriate documentation for such testing must be maintained in the Permittee's records pursuant to Condition 7.4.9 that directly reflects the application of such material and separately accounts for any additions of solvent.
 - iii. Upon written request from the Permittee, the Illinois EPA may waive this requirement on a case-by-case basis, if prior testing shows a margin of compliance and no significant changes in sealants, marking paints, lubricant or solvent supplies have occurred.
- b. Upon reasonable request by the Illinois EPA, the VOM content of specific solvents and/or evaporative (vanishing) lubricants used on the affected other emission units (as defined by Condition 7.4.3(a)) shall be determined according to USEPA Reference Methods 24 and 24A of 40 CFR 60 Appendix A and the procedures of 35 IAC 219.105(a) [35 IAC 219.105(a) and 219.211(a)].

7.4.8 Monitoring Requirements

Monitoring requirements are not set for the affected other emission units (as defined by Condition 7.4.3(a)). However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.4.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for each affected other emission unit (as defined by Condition 7.4.3(a)) to demonstrate compliance with Conditions 5.6.1, 7.4.3, and 7.4.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Records of the testing or certification of VOM and HAP content of each sealant, marking paint, lubricant or solvent pursuant to Condition 7.4.7, which include the following [Section 39.5(7)(e) of the Act]:
 - i. Identification of material tested or certified;

- ii. Results of analysis or supplier certifications of the VOM content;
 - iii. Documentation of analysis methodology or dated supplier information; and
 - iv. Person performing analysis or source of information.
- b. Pursuant to 35 IAC 219.211(c)(2), the Permittee shall collect and record all of the following information each day for the affected other emission units (as defined by Condition 7.4.3(a)) and maintain the information at the source for a period of three years:
 - i. The name and identification number of each sealant, marking paint, lubricant or solvent as applied on each affected other emission units (as defined by Condition 7.4.3(a)); and
 - ii. The weight of VOM (lb/gal) and HAP per volume of each sealant, marking paint, lubricant or solvent (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each affected other emission units (as defined by Condition 7.4.3(a)).
 - iii. Certified Product Data Sheet (CPDS) (as defined in 40 CFR 63.801, substituting VOM content for VHAP content) for the solvents and lubricants used are acceptable for weight of VOM records.
- c. General Records:
 - i. Records of the amount of sealant, marking paint, lubricant or solvent used for each affected other emission unit, ton/mo and ton/yr;
 - ii. As applicable, waste solvent content of waste materials (i.e., waste lubricants, solvents, cobmeal, ...etc.) for each affected other emission unit; and
 - iii. Records of monthly and annual aggregate VOM and HAP emissions from each affected other emission unit, based on records required above and the compliance procedures in Condition 7.4.12.

7.4.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected other emission units (as defined by Condition 7.4.3(a)) with the permit requirements as follows, pursuant to Section

39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. Emissions of VOM or HAP from the affected other emission unit (as defined by Condition 7.4.3(a)) in excess of the limits specified in Condition 7.4.6(a) within 30 days of such occurrence.
 - ii. Operation of the affected other emission unit (as defined by Condition 7.4.3(a)) in excess of the limits specified in Conditions 7.4.3(b) and (c) within 30 days of such occurrence.
- b. Upon request by the Illinois EPA, the Permittee owner or operator of an emission unit which is exempt from the requirements of 35 IAC 219 Subparts TT shall submit records to the Illinois EPA within 30 calendar days from the date of the request that document that the emission unit is exempt from those requirements (See Condition 7.4.6(c)) [35 IAC 219.990].

7.4.11 Operational Flexibility/Anticipated Operating Scenarios

Usage of sealants, marking paints, lubricants, thinners, or cleaning solvents at this source with various VOM and HAP contents provided that the materials are tested in accordance with Condition 5.7.2 and 7.4.7, the emission limitations in Conditions 5.6.1, 5.6.2, 5.6.3, and 7.4.6 are not exceeded.

7.4.12 Compliance Procedures

Compliance with the emission limits of Conditions 5.6.1, 7.4.3, and 7.4.6 shall be based on the recordkeeping requirements in Condition 7.4.9 and formulas listed below:

- a. Compliance with the HAP and VOM limits in Condition 5.6.2, 5.6.3 and 7.4.6 is addressed by the records required in Conditions 5.9.2 and 7.4.9 and the emissions calculation procedure in Conditions 7.4.12(b) through (f).
- b. VOM Emissions and Usage per Emission Unit

Mass Balance Calculation

VOM (ton/month) = (Solvent or Evaporating Lubricant Usage, gal/month) x VOM Content (VOM lb/gal) x (1 ton/2,000 lbs)

c. VOM Emissions and Usage from Cleaning Solvent

Mass Balance Calculation

VOM Emission (ton/year) = Solvent Usage (gal/yr) x Solvent Density (lb/gal) - Solvent Quantity Reclaimed (gal/yr) x VOM Content of Reclaimed Solvent (lb VOM/gal)

d. VOM Emissions and Usage from the Glycol Preheat System (GT-1)

Using the resulting emission factor (0.25 lb/gal) from the Chemical Engineering vapor displacement equations provided in the application.

VOM Emission (ton/year) = Waste Glycol Usage (gal/mo or gal/yr) x 0.25 lb/gal

e. Annual VOM emissions and Usage shall be determined by:

$$E_{at} = \sum_{i=1}^n E_{mti}$$

where

Summation (i) from current month plus the 11 previous months (n=12).

E_{at} = annual emissions of VOM from each affected other emission unit (as defined by Condition 7.4.3(a)) tons/yr).

f. HAP Emissions

i. Monthly HAP emissions from the affected other emission units (as defined by Condition 7.4.3(a)) shall be determined by speciation of the individual HAP emissions as a percentage of each solvent throughputs and calculating individual HAP emissions as in procedures shown above. Total monthly HAP emissions will be based on the sum of the emissions for each individual HAP.

ii. Annual HAP emissions shall be calculated based upon the summation of the total of all HAP emissions.

7.5 Unit 05: Gasoline Tanks

7.5.1 Description

The small gasoline storage tanks are used to dispense gasoline to plant vehicles.

Note: This narrative description is for informational purposes only and is not enforceable.

7.5.2 List of Emission Units and Air Pollution Control Equipment

Description	Emission Control Equipment	Date Constructed
Zone 17 Gasoline Tank (AST-15); 500 gallons	None	01/1961
Zone 17 Onan Gasoline Tank (AST-16); 525 Gallons	None	01/1995
Zone 7 Gasoline Tank (AST-2); 500 Gallons	None	11/1993

7.5.3 Applicable Provisions and Regulations

- a. The "affected storage tank", for the purpose of the unit-specific conditions in Section 7.5 is an emission unit described in conditions 7.5.1 and 7.5.2.
- b. No person shall cause or allow the loading of any organic material in any stationary tank having a storage capacity of greater than 946 liter (250 gallon), unless such tank is equipped with a permanent submerged loading pipe [35 IAC 219.122(b)].

Except as provided in the following exemptions: If the tank is a pressure tank then the limitations of 35 IAC 219.122(b) shall not apply [35 IAC 219.121(a)] or if no odor nuisance exists then the limitation of 35 IAC 219.122(b) shall only apply when the tank is used to store a volatile organic liquid with a vapor pressure of 2.5 psia or greater at 70°F [35 IAC 219.122(c)].

- c. No person shall cause or allow the transfer of gasoline from any delivery vessel into any stationary tank at gasoline dispensing operation, unless such tank is equipped with a submerged loading pipe [35 IAC 219.583(a)(1)].

7.5.4 Non-Applicability of Regulations of Concern

- a. The affected storage tanks (as defined by Condition 7.5.3(a)) are not subject to the requirements of 35 IAC 219.121, because the capacity of each tank is less than 40,000 gal [35 IAC 219.121].

- b. The affected storage tanks (as defined by Condition 7.5.3(a)) are not subject to the requirements of 35 IAC 219.122(a), because the capacity of each tank is less than 40,000 gal [35 IAC 219.122(a)].
- c. The affected storage tanks (as defined by Condition 7.5.3(a)) are not subject to the requirements of 35 IAC 219.583(a)(2) and (3), because the capacity of each tank is less than 575 gal [35 IAC 219.583(b)].
- d. The affected tanks (as defined by Condition 7.5.3(a)) are not subject to control requirements specified in 35 IAC 219 Subpart TT, because the affected tanks do not meet the applicability criteria shown in 35 IAC 219.980(a). Specifically, 35 IAC 219 Subpart TT does not apply to VOM emission units included within the category specified in 35 IAC 219 Subparts B (Organic Emissions from Storage and Loading Operations) and Y (Gasoline Distribution) [35 IAC 219.980(a)].

7.5.5 Control Requirements and Work Practices

Each affected storage tank (as defined by Condition 7.5.3(a)) is subject to the applicable provisions of Condition 7.5.3. The affected storage tank (as defined by Condition 7.5.3(a)) shall be equipped and operated with a submerged loading pipe, submerged fill, or an equivalent device approved by the Illinois EPA, pursuant to 35 IAC 219.122(b) and/or 219.583(a).

The Illinois EPA has not approved use of other equivalent equipment in lieu of a submerged loading pipe or submerged loading fill.

7.5.6 Production and Emission Limitations

Production and emission limitations are not set for the affected storage tanks (as defined by Condition 7.5.3(a)). However, there are source-wide production and emission limitations set forth in Condition 5.6.

7.5.7 Testing Requirements

Testing requirements are not set for the affected storage tanks (as defined by Condition 7.5.3(a)). However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.5.8 Monitoring Requirements

Monitoring requirements are not set for the affected storage tanks (as defined by Condition 7.5.3(a)). However, there may be provisions for source-wide monitoring requirements set forth in Condition 5.8 of this permit.

7.5.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for each affected storage tanks (as defined by Condition 7.5.3(a)) to demonstrate compliance with Conditions 5.6.1, 7.5.5 and 7.5.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Design information for the tank showing the presence of a submerged loading pipe or submerged fill;
- b. Maintenance and repair records for the tank, as related to the repair or replacement of the loading pipe;
- c. The throughput of the affected storage tanks (as defined by Condition 7.5.3(a)), gal/yr; and
- d. The annual VOM emissions from the affected storage tanks (as defined by Condition 7.5.3(a)) based on the material stored, the tank throughput, and the applicable emission factors and formulas with supporting calculations.

7.5.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected storage tanks (as defined by Condition 7.5.3(a)) with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Operation of the affected storage tanks (as defined by Condition 7.5.3(a)) in excess of the limits specified in Conditions 7.5.3 and 7.5.5 within 30 days of such occurrence.

7.5.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected storage tanks (as defined by Condition 7.5.3(a)) without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

- a. Changes to components related to either the "submerged loading pipe or submerged fill", including addition of new components and repair and replacement of components; and
- b. Changes in the material stored in a tank provided the tank continue to comply with the Conditions 7.5.5 of this permit.

7.5.12 Compliance Procedures

Compliance with the emission limits in condition 5.5 and 7.5.6 shall be based on the recordkeeping requirements in Condition 7.5.9 and the emission factors and formulas listed below:

- a. For the purpose of estimating VOM emissions from the affected gasoline storage tank (as defined by Condition 7.5.3(a)), the methods and procedures in Chapter 5.2 of AP-42 and/or the methods and procedures provided in the Illinois EPA annual emission report instructions, which are based upon the AP-42 procedures, are acceptable, or any subsequent procedure or method submitted by the Permittee and approved by Illinois EPA.

7.6 Unit 06: Fugitive emissions

7.6.1 Description

Fugitive emissions are defined as those emissions, which would not reasonably pass through a stack, vent or other functionally equivalent opening.

7.6.2 List of Emission Units and Air Pollution Control Equipment

Description	Emission Control Equipment	Date Constructed
Vehicular Mile Traveled (VMT) on Roads	None	--
Material Storage Piles	None	--
Contact Cooling Towers	None	--
Casting Fugitives	None	--

7.6.3 Applicable Provisions and Regulations

- a. The "affected fugitive emission sources" for the purpose of the unit-specific conditions in Section 7.6, are emission sources described in Conditions 7.6.1 and 7.6.2.
- b. As applicable, affected fugitive emission sources (as defined by Condition 7.6.3(a)) shall comply with the requirements and regulations shown in Condition 5.3.2(a) and 5.3.3. These include but are not limited to the following:
 - i. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.
 - ii. As required under 35 IAC 212.302(a) and as required by the operating program required in Condition 5.3.3:
 - A. Traffic Areas: All normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program required by Conditions

5.3.3(d) through (g) (see also 35 IAC 212.309, 212.310 and 212.312) [35 IAC 212.306].

- B. Materials Collected by Pollution Control Equipment: All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods [35 IAC 212.307].
- C. Spraying or Choke-Feeding Required: Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke-feeding or be treated by an equivalent method in accordance with an operating program [35 IAC 212.308].

7.6.4 Non-Applicability of Regulations of Concern

- a. The affected fugitive road emission sources and material storage piles (as defined by Condition 7.6.3(a)) are not subject to the requirements of 35 IAC 212.321, Emissions of Particulate Matter from Process Emission Units, because the fugitive road emission sources are not considered to be process emissions unit and because material storage piles are considered to be unique process in which the rules cannot reasonably be applied.
- b. The storage piles, along with associated conveyor loading operations to the piles and the normal traffic pattern access areas surrounding the piles, are not subject to 35 IAC 212.304 through 212.306 because uncontrolled emissions of fugitive particulate matter from all storage piles at the source are less than 50 tons/year [35 IAC 212.304].

7.6.5 Control Requirements and Work Practices

Control requirements and work practices are not set for the affected fugitive emission sources (as defined by Condition 7.6.3(a)). However, there may be requirements for source-wide control requirements and work practices set forth in Condition 5.5.

7.6.6 Production and Emission Limitations

Production and emission limitations are not set for the affected fugitive emission sources (as defined by Condition 7.6.3(a)). However, there are source-wide production and emission limitations set forth in Condition 5.6.

7.6.7 Testing Requirements

Testing requirements are not set for the affected fugitive emission sources (as defined by Condition 7.6.3(a)). However, there are source-wide testing requirements in Condition 5.7 and general testing requirements in Condition 8.5.

7.6.8 Monitoring Requirements

The Permittee shall document the following as part of the recordkeeping and compliance procedures requirements in Conditions 7.6.9 and 7.6.12 and, as applicable, the sources standard operating procedures:

a. Visible Emission Observations

The Permittee shall comply with the visible emission monitoring requirements for the affected fugitive emission sources (as defined by Condition 7.6.3(a)) according to the procedures shown in Attachment 5 (Pressure Drop Monitoring Schedule and Visible Emission Compliance Demonstration).

For each emission source requiring visible emission observations as noted in Attachment 5, the Permittee shall comply with the following visible emission observation requirements:

- i. The Permittee shall conduct a qualitative visible emissions observation once each day during normal daylight operations when the process emission units and associated air pollution control equipment are in operation in order to observe for the presence of abnormal visible emissions. These observations shall be made and recorded by a trained employee. If such observations during operation do not detect observable emissions for a period of two weeks, the frequency of observations shall be reduced to once per week when operating. If the weekly observations do not detect observable emissions for a period of two months, the frequency of observations shall be reduced to once per month when operating. If abnormal visible emissions are detected the frequency of observations shall be increased to once a day. Observations thereafter may be reduced again if visible emissions are not detected for the period outlined above.

If abnormal visible emissions are observed, the Permittee shall initiate corrective actions to eliminate the abnormal visible emissions. If the Permittee cannot eliminate the abnormal visible emissions within 24 hours, the Permittee shall conduct opacity testing pursuant to the methods and procedures in Method 9 (40 CFR Part 60, Appendix A)

within three days after the qualitative observation showing abnormal emissions.

- ii. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- iii. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- iv. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- v. The Permittee shall follow the sources standard operating procedures and manufactures specifications, as applicable, in order to correct periods of excess emissions. The program and/or the procedures for a specific emission units and associated air pollution control equipment shall contain troubleshooting contingency and response steps for when an abnormal emission are observed.

7.6.9 Recordkeeping Requirements

In addition to the records required by Condition 5.9, the Permittee shall maintain records of the following items for the affected fugitive emission sources (as defined by Condition 7.6.3(a)) to demonstrate compliance with Conditions 5.6.1 and 7.6.7, pursuant to Section 39.5(7)(b) of the Act:

- a. Paved and unpaved roads (VMT/mo, VMT/yr)*;
- b. Storage pile activity (T/mo, T/yr)*;
- c. Cooling tower flow rate (gallons/mo, gallons/yr)*; and
- d. Emissions as calculated by Condition 7.6.12 (T/mo, T/yr).

* These quantities may be estimated as described in the permit application.

- e. The Permittee shall document, maintain and retain records of the following:
 - i. Visible emission observations, and operational inspections required in Condition 7.6.8 and a log of all repairs and corrective actions implemented as a result of the above.

- ii. The date and reason any required inspection was not performed.

7.6.10 Reporting Requirements

a. Reporting of Deviations

The Permittee shall promptly notify the Illinois EPA, Air Compliance Unit, of deviations of the affected fugitive emission sources (as defined by Condition 7.6.3(a)) with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- i. If there is a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report within 30 days after the deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the deviation and efforts to reduce emissions and future occurrences.

7.6.11 Operational Flexibility/Anticipated Operating Scenarios

Operational flexibility is not set for the affected fugitive emission sources (as defined by Condition 7.6.3(a)). However, there may be provisions for source-wide operational flexibility set forth in Condition 5.11 of this permit.

7.6.12 Compliance Procedures

- a. Compliance with the fugitive particulate matter and visible emissions limits in Conditions 5.3.2(a), 5.3.3 and 7.6.3(b) is based upon the operating program requirements of Conditions 5.3.3 and the air pollution control procedures in Condition 7.6.3(b) and visible emissions monitoring required in Condition 7.6.8.
- b. Compliance with the limits in Conditions 5.6.1 shall be based on the recordkeeping requirements in Condition 7.6.9 and the emission factors listed below:

- i. PM Emissions from Vehicular Mile Traveled (VMT) on roads:

PM Emission factors for paved roads:

<u>Zone</u>	<u>PM Emission Factor lb/VMT</u>
1	0.13
2	0.15
4 & 5	0.066
17	0.34

PM Emission factors for unpaved roads:

<u>Zone</u>	<u>PM Emission Factor lb/VMT</u>
2	1.75
17	3.35

The above emission factors and rates are from the application derived from various USEPA publications such as AP-42, Control of Open Dust Sources (EPA-450/3-88-008) and AIRS.

ii. PM Emissions from storage piles:

Total emissions = adding to pile + wind erosion during storage + removing from pile

<u>Material</u>	<u>Batch pickup/drop Lb/ton</u>	<u>Wind erosion g/m²</u>
Salt	0.0016	48.7
Cinders	0.0016	48.7
Skimmings - Conical Pile	0.0010	541.8
Skimmings - Rectangle Pile	0.0010	883.2
Skimmings - Flat Pile	0.0010	170.2

The above emission factors and rates are from the application derived from various USEPA publications such as AP-42, Control of Open Dust Sources (EPA-450/3-88-008) and AIRS.

iii. PM Emissions from contact cooling towers:

D.C. Casting 0.001773 lbs/1000 gallons
 Hot Mill 0.001773 lbs/1000 gallons

The above emission factors are from the application derived from USEPA publication AP-42, Table 13.4-1, Fifth edition, January 1995.

iv. Fugitive PM Emissions from Casting Operations

PM Emissions (ton/month) = 0.14 (lb PM/ton) x Tons of Metal Cast per Month (ton/month) / 2000

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after September 19, 2007 (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this permit, provided that [Section 39.5(12)(a)(i) of the Act]:

- a. The changes do not violate applicable requirements;
- b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test

methods), recordkeeping, reporting, or compliance certification requirements;

- c. The changes do not constitute a modification under Title I of the CAA;
- d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and
- e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:
 - i. Describe the physical or operational change;
 - ii. Identify the schedule for implementing the physical or operational change;
 - iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
 - iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
 - v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods if applicable test methods are not specified by the applicable regulations or otherwise identified in the conditions of this permit.

Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Conditions 8.6.3 and 8.6.4.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

Reports summarizing required monitoring as specified in the conditions of this permit shall be submitted to the Illinois EPA

every six months as follows, unless more frequent submittal of such reports is required in Sections 5 or 7 of this permit [Section 39.5(7)(f) of the Act]:

<u>Monitoring Period</u>	<u>Report Due Date</u>
January - June	September 1
July - December	March 1

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;
- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- d. The specific determinations of emissions and operation that are intended to be made, including sampling and monitoring locations;
- e. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The

test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;
- d. The name of the company that performed the tests and/or analyses;
- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and
- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

- a. Unless otherwise specified in the particular provision of this permit or in the written instructions distributed by the Illinois EPA for particular reports, reports and notifications shall be sent to the Illinois EPA - Air Compliance Unit with a copy sent to the Illinois EPA - Air Regional Field Office.
- b. As of the date of issuance of this permit, the addresses of the offices that should generally be utilized for the submittal of reports and notifications are as follows:
 - i. Illinois EPA - Air Compliance Unit

Illinois Environmental Protection Agency
Bureau of Air
Compliance & Enforcement Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276
 - ii. Illinois EPA - Air Quality Planning Section

Illinois Environmental Protection Agency
Bureau of Air
Air Quality Planning Section (MC 39)
P.O. Box 19276
Springfield, Illinois 62794-9276

iii. Illinois EPA - Air Regional Field Office

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

iv. USEPA Region 5 - Air Branch

USEPA (AR - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604

- c. Permit applications should be addressed to the Air Permit Section. As of the date of issuance of this permit, the address of the Air Permit Section is as follows:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506

8.7 Title I Conditions

Notwithstanding the expiration date on the first page of this CAAPP permit, Title I conditions in this permit, which are identified by a T1, T1N, or T1R designation, remain in effect until such time as the Illinois EPA takes action to revise or terminate them in accordance with applicable procedures for action on Title I conditions. This is because these conditions either: (a) incorporate conditions of earlier permits that were issued by the Illinois EPA pursuant to authority that includes authority found in Title I of the CAA (T1 conditions), (b) were newly established in this CAAPP permit pursuant to authority that includes such Title I authority (T1N conditions), or (c) reflect a revision or combination of conditions established in this CAAPP permit (T1R conditions). (See also Condition 1.5.)

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule.

9.1.2 In particular, this permit does not alter or affect the following [Section 39.5(7)(j)(iv) of the Act]:

- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
- d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, pursuant to Section 39.5(7)(j) and (p) of the Act, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless this permit provides for such continued operation consistent with the Act and applicable Illinois Pollution Control Board regulations [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated there under.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents as may be required by law and in accordance with constitutional limitations, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Sections 4 and 39.5(7)(a) and (p)(ii) of the Act]:

- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located 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 during hours of operation any sources, equipment (including monitoring and air pollution control equipment),

practices, or operations regulated or required under this permit;

- d. Sample or monitor any substances or parameters at any location:
 - i. At reasonable times, for the purposes of assuring permit compliance or applicable requirements; or
 - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any regulated activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. At a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit including any logs, plans, procedures, or instructions required to be kept by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Air Quality Planning Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Unit, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the

certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.

- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act and applicable regulations [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as Attachment 1 to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence [Section 39.5(7)(k) of the Act]:

- i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency.

Note: For this purpose, emergency means a situation arising from sudden and reasonably unforeseeable events beyond the control of the source, as further defined by Section 39.5(7)(k)(iv) of the Act.

- ii. The permitted source was at the time being properly operated;
- iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed

description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.

b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations [Section 39.5(7)(k)(iv) of the Act].

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, revoked, reopened and reissued, or terminated for cause in accordance with applicable provisions of Section 39.5 of the Act. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit.
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program.
- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or limitations, or other terms or conditions of this permit.

- d. The Illinois EPA or USEPA determines that this permit must be revised or revoked to ensure compliance with the applicable requirements.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation and reissuance under Section 39.5(15) of the Act, pursuant to Sections 39.5(5)(e) and (i) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable. In the event of a challenge to any portion of the permit, other portions of the permit may continue to be in effect. Should any portion of this permit be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected and the rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

Upon the expiration of this permit, if the source is operated, it shall be deemed to be operating without a permit unless a timely and complete CAAPP application has been submitted for renewal of this permit. However, if a timely and complete application to renew this CAAPP permit has been submitted, the terms and all conditions of this CAAPP permit will remain in effect until the issuance of a renewal permit [Section 39.5(5)(l) and (o) of the Act].

Note: Pursuant to Sections 39.5(5)(h) and (n) of the Act, upon submittal of a timely and complete renewal application, the permitted source may continue to operate until final action is taken by the Illinois EPA on the renewal application, provided, however, that this protection shall cease if the applicant fails to submit any additional information necessary to evaluate or take final action on the renewal

application as requested by the Illinois EPA in writing. For a renewal application to be timely, it must be submitted no later than 9 months prior to the date of permit expiration.

9.15 General Authority for the Terms and Conditions of this Permit

The authority for terms and conditions of this permit that do not include a citation for their authority is Section 39.5(7)(a) of the Act, which provides that the Illinois EPA shall include such provisions in a CAAPP permit as are necessary to accomplish the purposes of the Act and to assure compliance with all applicable requirements. Section 39.5(7)(a) of the Act is also another basis of authority for terms and conditions of this permit that do include a specific citation for their authority.

Note: This condition is included in this permit pursuant to Section 39.5(7)(n) of the Act.

10.0 ATTACHMENTS

Attachment 1 Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

Attachment 2 Emissions of Particulate Matter from Process Emission Units

- a. New Process Emission Units for Which Construction or Modification Commenced On or After April 14, 1972 [35 IAC 212.321].
- i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].
- ii. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.321(b)]:

$$E = A(P)^B$$

where:

P = Process weight rate; and
 E = Allowable emission rate; and,

A. Up to process weight rates of 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.214	2.54
B	0.534	0.534

B. For process weight rate greater than or equal to 408 Mg/hr (450 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	11.42	24.8
B	0.16	0.16

iii. Limits for Process Emission Units For Which Construction or Modification Commenced On or After April 19, 1972 [35 IAC 212.321(c)]:

Metric P <u>Mg/hr</u>	E <u>kg/hr</u>	English P <u>T/hr</u>	E <u>lb/hr</u>
0.05	0.25	0.05	0.55
0.1	0.29	0.10	0.77
0.2	0.42	0.2	1.10
0.3	0.64	0.30	1.35
0.4	0.74	0.40	1.58
0.5	0.84	0.50	1.75
0.7	1.00	0.75	2.40
0.9	1.15	1.00	2.60
1.8	1.66	2.00	3.70
2.7	2.1	3.00	4.60
3.6	2.4	4.00	5.35
4.5	2.7	5.00	6.00
9.0	3.9	10.00	8.70
13.0	4.8	15.00	10.80
18.0	5.7	20.00	12.50
23.0	6.5	25.00	14.00
27.0	7.1	30.00	15.60
32.0	7.7	35.00	17.00
36.0	8.2	40.00	18.20
41.0	8.8	45.00	19.20
45.0	9.3	50.00	20.50
90.0	13.4	100.00	29.50
140.0	17.0	150.00	37.00
180.0	19.4	200.00	43.00
230.0	22.0	250.00	48.50
270.0	24.0	300.00	53.00
320.0	26.0	350.00	58.00
360.0	28.0	400.00	62.00
408.0	30.1	450.00	66.00
454.0	30.4	500.00	67.00

b. Existing Process Emission Units for Which Construction or Modification Prior to April 14, 1972 [35 IAC 212.322].

i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any process emission unit for which construction or modification commenced prior to April 14, 1972, which, either alone or in combination with the emission of particulate matter from all other similar process emission units at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.322 [35 IAC 212.322(a)].

ii. Interpolated and extrapolated values of the data in subsection (c) of 35 IAC 212.321 shall be determined by using the equation [35 IAC 212.322(b)]:

$$E = C + A(P)^B$$

where:

P = Process weight rate; and
 E = Allowable emission rate; and,

A. Up to process weight rates up to 27.2 Mg/hr (30 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	1.985	4.10
B	0.67	0.67
C	0	0

B. For process weight rate in excess of 27.2 Mg/hr (30 T/hr):

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lb/hr
A	25.21	55.0
B	0.11	0.11
C	- 18.4	- 40.0

iii. Limits for Process Emission Units For Which Construction or Modification Commenced Prior to April 14, 1972 [35 IAC 212.322(c)]:

Metric P <u>Mg/hr</u>	E <u>kg/hr</u>	English P <u>T/hr</u>	E <u>lb/hr</u>
0.05	0.27	0.05	0.55
0.1	0.42	0.10	0.87
0.2	0.68	0.2	1.40
0.3	0.89	0.30	1.83
0.4	1.07	0.40	2.22
0.5	1.25	0.50	2.58
0.7	1.56	0.75	3.38
0.9	1.85	1.00	4.10
1.8	2.9	2.00	6.52
2.7	3.9	3.00	8.56
3.6	4.7	4.00	10.40
4.5	5.4	5.00	12.00
9.0	8.7	10.00	19.20
13.0	11.1	15.00	25.20
18.0	13.8	20.00	30.50
23.0	16.2	25.00	35.40
27.2	18.15	30.00	40.00
32.0	18.8	35.00	41.30
36.0	19.3	40.00	42.50
41.0	19.8	45.00	43.60
45.0	20.2	50.00	44.60
90.0	23.2	100.00	51.20
140.0	25.3	150.00	55.40
180.0	26.5	200.00	58.60
230.0	27.7	250.00	61.00
270.0	28.5	300.00	63.10
320.0	29.4	350.00	64.90
360.0	30.0	400.00	66.20
400.0	30.6	450.00	67.70
454.0	31.3	500.00	69.00

Attachment 3 Compliance Assurance Monitoring (CAM) Plan

There are no specific emission units that require a CAM plan as identified in the Monitoring Requirements of Subsection 8 for each Section 7, Unit Specific Conditions for Specific Emission Units.

Attachment 4 Guidance

The Illinois has prepared guidance for sources on the Clean Air Act Permit Program (CAAPP) that is available on the Internet site maintained by the Illinois EPA, www.epa.state.il.us. This guidance includes instructions on applying for a revision or renewal of the CAAPP permit.

Guidance On Revising A CAAPP Permit:

www.epa.state.il.us/air/caapp/caapp-revising.pdf

Guidance On Renewing A CAAPP Permit:

www.epa.state.il.us/air/caapp/caapp-renewing.pdf

The application forms prepared by the Illinois EPA for the CAAPP are also available from the Illinois EPA's Internet site:

www.epa.state.il.us/air/caapp/index.html

These CAAPP application forms should also be used by a CAAPP source when it applies for a construction permit. For this purpose, the appropriate CAAPP application forms and other supporting information, should be accompanied by a completed Application For A Construction Permit form (199-CAAPP) and Fee Determination for Construction Permit Application form (197-FEE):

www.epa.state.il.us/air/caapp/199-caapp.pdf

www.epa.state.il.us/air/permits/197-fee.pdf

MED:psj

Attachment 5 Pressure Drop Monitoring Schedule and Visible Emission
Compliance Demonstration

Unit 01 - Casting Operations

Description	Emission Control Equipment	Date Constructed	Visible Emission & Opacity *Compliance w/ 5.3.2 & 7.1.12	Pressure Drop Compliance w/ 7.1.8
#1 D.C. Casting Units (MF-11 to MF-15 & HF-3)	Cyclone (MC-3), American Air Filter #2 Baghouse (BH-4)	Modification 1998	1, 2, 7	Weekly
#4 D.C. Casting Units (MF-17 to MF-21 & HF-5)		Modification 1998	1, 2, 7	
#1 Ascast Furnace (ASC-1)		Modification 07/2005	1, 2, 7	
#2 Ascast Furnace (ACS-2)		Modification 01/2005	1, 2, 7	
#2 D.C. Casting Units (MF-1 to MF-5 & HF-1)	Cyclone (MC-1) Wheelabrator #1 Baghouse (BH-1)	Modification 1998	1, 2, 7	Weekly
#3 D.C. Casting Units (MF-6 to MF-10 & HF-2)		Modification 1998	1, 2, 7	
#5 D.C. Casting Units (MF-22 to MF-26 & HF-6)	Cyclone (MC-2), Lear-Siegler #3 Baghouse (BH-5)	Modification 1998	1, 2, 7	Weekly
#2 Horizontal Caster (MF-16 & HF-8)	Carborundum Baghouse (BH-3)	1982 Modified 2006	1, 2, 7	Weekly
#1 Horizontal Caster (MF-27 & HF-7)		1982 Modified 2006	1, 2, 7	
Metals Research Lab (MRL) Caster (MF-29)	AAF Baghouse (BH-8)	2004	1, 2	Monthly
Aerofall Mill (AM-1, FSB-1, VF-1, FH-1)	Custom System Baghouse (BH-7) & Pangborn Baghouse (BH-2)	1976	1	Monthly
1F Mix Muller (MM-3)	Cartridge Filter System (CF-1)	1983	1	Monthly
Low Profile Turbine Mixer (LP-1)		1983	1	
Induction Form Operations (IF-1 & IF-2)		1983	1	
2F Mix Muller (MM-1)	Rotoclone (RC-1)	1974	1, 5	N/A

Description	Emission Control Equipment	Date Constructed	Visible Emission & Opacity *Compliance w/ 5.3.2 & 7.1.12	Pressure Drop Compliance w/ 7.1.8
Abrasive Cleaner (ABRC-1)	Cyclone (ACCR-1) & Baghouse (ACBH-1)	1975	1, 5	Monthly
Charcoal Burners (CB-1 To CB-12)	None	Prior 1972	5	N/A

Unit 02 - Brass Operations

Description	Emission Control Equipment	Date Constructed/ Last Modified	Visible Emission & Opacity *Compliance w/ 5.3.2 & 7.2.12	Pressure Drop Compliance w/ 7.2.8
Slab Heating Furnaces				
#1 Slab Furnace (SF-1)	None	Prior 1972	3, 4	N/A
#2 Slab Furnace (SF-2)	None	1979	3, 4	N/A
#3 Slab Furnace (SF-3)	None	1999	3, 4	N/A
Hot Mill (HM-1)	None	Prior 1972/1998	2, 3	N/A
Surface Milling Operations				
#2 Coil Miller (CM-1)	Skimmer (SK-1) and Collector (GS-4)	1973/2000	1, 2	N/A
#3 Coil Miller (CM-2)	Skimmer (SK-2) and Baffled Settling Chamber BSC-1	1977/1998	1, 2	N/A
#1 Horizontal Caster Inline Miller (SM-2)	Chip Collector (SK-4)	1982	1	N/A
Polygauge Miller (RM-25) and Skive Line	Cyclone (CYC-1); and Drop-out Box (DOB-1); Moisture Separator (MS-1)	1986/1988	1	N/A
Solution Rolling Mills				
Old Tandem Mill (RM-1)	None	Prior 1972	3	N/A
New Tandem Mill (RM-7)	Mist Eliminator (FE-6)	1978/1999	1	N/A
4-Stand Tandem Mill (Mill 4)	Mist Eliminator (OME-4)	1993	1	N/A
#5 Rolling Mill (RM-2)	Mist Eliminator (FE-1)	Prior 1972/1995	1	N/A

Description	Emission Control Equipment	Date Constructed/ Last Modified	Visible Emission & Opacity *Compliance w/ 5.3.2 & 7.2.12	Pressure Drop Compliance w/ 7.2.8
#20 Rolling Mill (RM-6)	Mist Eliminator (FE-5)	1976/1999	1	N/A
Mineral Oil Rolling Mills				
#6 Rolling Mill (RM-9)	Mist Eliminator (FE-8)	1976/1995	1	N/A
#9 Rolling Mill (RM-3)	Mist Eliminator (FE-2)	Prior 1972/1994	1	N/A
#18 Rolling Mill (RM-4)	Mist Eliminator (FE-3)	Prior 1972/1999	1	N/A
#19 Rolling Mill (RM-5)	Mist Eliminator (FE-4)	1974/1999	1	N/A
#23 Rolling Mill (RM-8)	Mist Eliminator (FE-7)	1984/1995	1	N/A
#24 Rolling Mill (Mill-24)	Mist Eliminator (OME-24)	1988/1995	1	N/A
#29 Rolling Mill (Mill-29)	Mist Eliminator (OME-29)	2001	1	N/A
#34 Rolling Mill (Mill-28)	Mist Eliminator (OMC-28)	1988	1	N/A
Bell Anneals				
#7 Bell Anneal (BA-7)	None	Prior 1972/1999	3	N/A
#9 Bell Anneal (BA-9)	None	1984/2003	3	N/A
#12 Bell Anneal (BA-12)	None	1983/2002	3	N/A
#31 Bell Anneal (BA-31)	None	2000/2003	3	N/A
#11 Bell Anneal (BA-11)	None	1984	3	N/A
#13 Bell Anneal (BA-13)	None	1993/1999	3	N/A
Strip Anneals				
#3 Strip Anneal (SA-3)	None	Prior 1972	3, 4	N/A
#4 Strip Anneal (SA-4)	None	Prior 1972/2003	3, 4	N/A
#5 Strip Anneal (SA-5)	None	Prior 1972	3, 4	N/A
#6 Strip Anneal (SA-6)	None	Prior 1972	3, 4	N/A
#7 Strip Anneal (SA-7)	None	1976	3, 4	N/A

Description	Emission Control Equipment	Date Constructed/ Last Modified	Visible Emission & Opacity *Compliance w/ 5.3.2 & 7.2.12	Pressure Drop Compliance w/ 7.2.8
Bonding Mills				
#35 Rolling /Clad Bonding Mill (#35 Mill) (RCM-3)	3-Stage Filter System (SFS-3)	1985/1988	1	N/A
Posit Bond Bonding Mill (BM-2)	Filters (F-1 & F-2)	Prior 1972	1	N/A
Brushing Units				
#1 Posit Bond Brush Line	Rotoclone (RC-1)	1981	1	N/A
#2 Posit Bond Brush Line (BM-2)	Drop-out Box (PBDOB-1) & Baghouse (PBBH-1)	2002	1	Monthly
Other Brass Mill Operations				
Hot Dip Tin Line (HD-1)	Fume Scrubber (SCRUB-1)	1987	1	N/A
#9 Cleaning Line (CT-17)	Fume Scrubber (FS-2)	1993	1	N/A

Unit 06 - Fugitive Emissions

Description	Emission Control Equipment	Date Constructed	Visible Emission & Opacity *Compliance w/ 5.3.2 & 7.6.12	Pressure Drop Compliance w/ 7.6.8
Vehicle Mile Traveled (VMT) on Roads	None		3	N/A
Material Storage Piles	None		3	N/A
Contact Cooling Towers	None		3	N/A
Casting Fugitives	None		3, 7	N/A

* Compliance with this requirement shall be demonstrated by one or a combination of the following:

1. By normal work practices and maintenance activities of the emission source's pollution control equipment as demonstrated by historical operation.
2. Previous Stack Test.
3. By normal work practices as demonstrated by historical operation.
4. The exclusive burning of clean fuels.
5. Exhausts inside the building.
6. By compliance with the Operation and Maintenance Plan required by 40 CFR 63.342(f)(3).
7. The Permittee shall conduct a qualitative visible emissions observation in accordance with the procedures of Conditions 7.1.8(c), 7.2.8(c), and 7.6.8(a), as applicable.