

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION**

October 17, 2006



STATE REGISTRATION NUMBER
B1501

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: September 22, 2006	
DATE PERMIT TO INSTALL APPROVED: October 17, 2006	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	Btu	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H ₂ S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	NO _x	Oxides of Nitrogen
MAP	Malfunction Abatement Plan	PM	Particulate Matter
MDEQ	Michigan Department of Environmental Quality	PM-10	Particulate Matter less than 10 microns diameter
MIOSHA	Michigan Occupational Safety & Health Administration	pph	Pound per hour
MSDS	Material Safety Data Sheet	ppm	Parts per million
NESHAP	National Emission Standard for Hazardous Air Pollutants	ppmv	Parts per million by volume
NSPS	New Source Performance Standards	ppmw	Parts per million by weight
NSR	New Source Review	psia	Pounds per square inch absolute
PS	Performance Specification	psig	Pounds per square inch gauge
PSD	Prevention of Significant Deterioration	scf	Standard cubic feet
PTE	Permanent Total Enclosure	sec	Seconds
PTI	Permit to Install	SO ₂	Sulfur Dioxide
RACT	Reasonable Available Control Technology	THC	Total Hydrocarbons
ROP	Renewable Operating Permit	tpy	Tons per year
SC	Special Condition Number	µg	Microgram
SCR	Selective Catalytic Reduction	VOC	Volatile Organic Compounds
SRN	State Registration Number	yr	Year
TAC	Toxic Air Contaminant		
VE	Visible Emissions		

* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **[R336.1201(1)]**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **[R336.1201(4)]**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **[R336.1201(6)(b)]**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **[R336.1201(8), Section 5510 of Act 451, PA 1994]**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R336.1219. The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **[R336.1219]**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **[R336.1901]**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **[R336.1912]**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.
11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R336.1303. **[R336.1301]**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this permit to install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R336.1370(2). **[R336.1370]**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **[R336.2001]**

SPECIAL CONDITIONS

Emission Unit Identification

Emission Unit ID	Emission Unit Description	Stack Identification
EU-RF1	Rotary Furnace #1 controlled by a Wheelabrator baghouse	SV-BH1
EU-SF21	Sweat Furnace #21 controlled by a Wheelabrator baghouse	SV-BH1
EU-SF22	Sweat Furnace #22 controlled by a Wheelabrator baghouse	SV-BH1
EU-MILLING	Milling System controlled by a Flex-Clean baghouse	SV-BH2
EU-MIXER	Mixing System controlled by a Wheelabrator baghouse	SV-BH1
EU-KETTLES	Kettle "A", #15, #16 and #17	NA
Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290.		

Flexible Group Identification

Flexible Group ID	Emission Units Included in Flexible Group	Stack Identification
FG-FURNACES	EU-RF1, EU-SF21, EU-SF22, and EU-MIXER	SV-BH1

The following conditions apply to: EU-KETTLES

Material Usage Limits

- 1.1 The permittee shall only melt zinc ingot, slab, block, sow or clean scrap in the EU-Kettles. [R336.1224, R336.1301, R336.1331]

The following conditions apply to: EU-MILLING

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement
2.1a	PM	EU-MILLING	10.6 pph	Test Method	GC 13, SC 3.1b	R336.1331
2.1b	PM	EU-MILLING	0.06 lb / 1000 lb exhaust gas	Test Method	GC 13	R336.1331

Equipment

- 2.2 The permittee shall not operate EU-MILLING unless the baghouse is installed, maintained, and operated in a satisfactory manner. [R336.1205, R336.1301, R336.1331]

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
2.3a	SV-BH2	40	23	R336.1225
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

The following conditions apply to: FG-FURNACES

Emission Limits

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirement
3.1a	PM	FG-FURNACES	9.3 pph	Test Method	GC 13, SC 2.1b	R336.1331
3.1b	PM	FG-FURNACES	0.06 lb / 1000 lb exhaust gas	Test Method	GC 13	R336.1331

Process/Operational Limits

3.2 The permittee shall maintain and operate FG-FURNACES according to the procedures outlined in the preventative maintenance plan attached as Appendix A. **[R336.1910, R336.1911]**

Equipment

3.3 The permittee shall not operate FG-FURNACES unless the baghouse is installed, maintained, and operated in a satisfactory manner. **[R336.1205(1)(a) and (3), R336.1301, R336.1331]**

Stack/Vent Restrictions

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
3.4a	SV-BH1	40	50	R336.1225
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

APPENDIX A

Wheelabrator Baghouse Maintenance Plan

The Plant Manager and Maintenance Leadman are responsible for carrying out this inspection and maintenance plan.

- 1) Daily Inspections – A inspection will be carried out once a day to check the fan and associated equipment. This will include pulleys, belts, screw conveyor, shakers, and compartment dampers. A cleaning cycle will be initiated. The pressure drops will be observed and noted before each compartment shuts down for cleaning. As each compartment cleans, the pressure lowest pressure drop will be noted. These readings will normally be between 2.0 during cleaning and as high as 7.0 prior to cleaning. If these readings do not fall within that range, a problem may be occurring within that compartment. Further physical inspection of the equipment will be undertaken. The person inspecting the equipment must initial and note the time on the Daily Checksheet form. (Attached) The Checksheets will be filed to create a permanent record of inspections.
- 2) Weekly Inspection and Maintenance will be performed, usually on Saturday. This will include physical inspection on the inside of each compartment to check for fallen or damaged/leaking bags, inspection of shakers system components, and cleanup of the cell-plate floors. Replacement and repair of faulty parts and equipment will occur.

The company President has committed to checking compliance to daily inspections at least once a week.

- 3) Two week inspection of all ductwork associated with this system will be conducted on a regular basis. Repair of Furnace hoods and rubber flaps should also occur at the interval.
- 4) The following Inventory of parts and bags will be kept in plant at all times. Filter bags – A quantity large enough to change out one half of a compartment (120). Shaker Bearings - 2. Screw conveyor bearings – 1
- 5) In the event of continuous visible emissions out of the stack, shut down one compartment at a time to locate the source of the problem. After locating the problem shut down that compartment, physically inspect the equipment, and repair/replace as necessary.

If the emissions are severe and cannot be controlled, shut down operations, and call the following people: 1) Plant Manager – Albert White, 2) President – Bruce Sokol, 3) John Ignacio – Commercial Manager