

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
REVISED

PERMITTEE

Penberthy, Inc.
Attn: Bob Brandner
320 Locust Street
Prophetstown, Illinois 61277

Application No.: 72121140

I.D. No.: 195040AAF

Applicant's Designation:

Date Received: September 11, 2000

Subject: Foundry

Date Issued: December 6, 2000

Expiration Date: September 25, 2002

Location: 320 Locust Street, Prophetstown

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of 3 electric induction furnaces, 2 electric induction furnaces with inoculation (Magnesium), core making operation (consisting of a shell core machine, sigma cure operation with a tower scrubber, and no back operation), painting operation, casting operation (consisting of a pouring/casting, cooling, and shakeout areas), 3 gas-fired boilers (2 - 9.8 mmBtu/hr and 1 - 6.3 mmBtu/hr), gas-fired heat treat furnace (3.0 mmBtu/hr), 3 gas-fired transfer ladles (3 - 0.4 mmBtu/hr), finishing operations (consisting of a grinding and sandblasting with dust collection, buffing, parts washer, deburring, welding, and a cut-off saw pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 ton/year for PM-10, 100 ton/year for VOM, 10 ton/year of any single HAP or 25 ton/year of any combination of such HAP). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
 - b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
 - c. This permit supersedes all operating permits issued for this location.
2. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of

this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.

3. Total combined operations and emissions from the equipment shall not exceed the following limits:

<u>Equipment</u>	<u>PWR</u>		<u>PM Emissions</u>		<u>VOM Emissions</u>	
	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
3 Induction Furnaces	175	2,000	0.08	0.9	0.000	0.000
2 Furnaces with Inoculation	46	520	0.10	1.1	0.000	0.001
Sand Handling	175	2,000	0.32	3.6	0.000	0.000
Shell Core Machine	6	66	0.00	0.0	0.004	0.050
Pouring/Casting	175	2,000	0.24	2.8	0.012	0.140
Casting Cooling	175	2,000	0.12	1.4	0.000	0.000
Non-Automated Shakeout	175	2,000	<u>0.28</u>	<u>3.2</u>	<u>0.105</u>	<u>1.200</u>
Total			1.14	13.0	0.121	1.391

These limits are based on standard emission factors (AP-42 and AIRS) and maximum operating hours of 8,760 hrs/yr. Note that limiting PM emissions also limits PM-10 emissions to an equal or lesser quantity. Compliance with annual limits shall be determined from a running total of 12 months of data.

4. This permit is issued based on negligible emissions of particulate matter from welding operation, buffing operation, parts washer, deburring operation, cut-off saw, and grinding and sandblastings operations with dust collection. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
5. This permit is issued based on negligible emissions of volatile organic material from sigma cure machine with tower scrubber. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.
6. Total combined operations and emissions from the painting operation shall not exceed the following limits:

<u>Material</u>	<u>VOM Usage</u>		<u>VOM Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Paint and Thinner	1.36	13.59	1.36	13.59

These limits are based on maximum material usage and VOM content of materials and material balance. Compliance with annual limits shall be determined from a running total of 12 months of data.

7. Total combined usage and emissions of HAPs from all emission units and activities shall not exceed the following limits:

<u>Single HAP¹ Emissions</u>	<u>Total HAP Emissions</u>
<u>(Tons/Yr)</u>	<u>(Tons/Yr)</u>

4.68

9.53

¹ Single HAP means any individual HAP listed in Section 112(b) of the Clean Air Act as amended in 1990 (e.g., xylene, toluene).

8. Emissions and operation of 3 gas-fired boilers, heat treat furnace, and 3 gas-fired ladles shall not exceed the following limits:

<u>Process</u>	<u>(mmscf/Mo) (mmscf/Yr)</u>		<u>Pollutant</u>	<u>Emission</u>		
				<u>Factor</u>	<u>Emissions</u>	
				<u>(Lb/mmscf)</u>	<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
Natural Gas Combustion	6	45	NO _x	100	600	2.25
			CO	84	504	1.89
			TSP	7.6	46	0.17
			VOM	5.5	33	0.13

These limits are based on the standard AP-42 emission factors and only the use of natural gas as the fuel combustion source. Compliance with annual limits shall be determined from a running total of 12 months of data.

9. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.
10. The Permittee shall keep records of the following item(s):
- a. The amount of metal throughput (ton/mo and ton/yr).
 - b. The amount of paint and thinner used (gal/mo and gal/yr).
 - c. A list of HAPs present, HAP content, and the VOM content of each paint and thinner used (lb/gal).
 - d. PM and VOM emissions calculations (ton/mo and ton/yr).
 - e. A list of HAPs present and the weight percent content of each HAP in metals poured.
 - f. Emissions of single HAPs and total HAPs (ton/mo and ton/yr).
 - g. Maximum firing rate for each fuel combustion source (mmBtu/hr).
 - h. Natural gas usage (mmscf/mo and mmscf/yr).
11. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able

to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.

12. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
13. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

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

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

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

14. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: Metal throughput, Paint and thinner usage, and Natural gas usage.

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

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

DES:EEJ:jar

cc: Illinois EPA, FOS Region 2
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

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

1. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.

2. Total combined operations and emissions from the equipment shall not exceed the following limits:

<u>Equipment</u>	<u>PWR</u>		<u>PM Emissions</u>		<u>VOM Emissions</u>	
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