

**AIR EMISSION PERMIT NO. 07900017- 001  
IS ISSUED TO**

LeSueur, Incorporated  
1409 Vine Street  
Le Sueur, Le Sueur County, MN 56058-0149

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application:

Permit Type	Application Date
Total Facility Operating Permit	August 21, 1995

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal ; Part 70/Limits to avoid NSR

**Issue Date:** March 20, 2001

**Expiration:** March 20, 2006

All Title I Conditions do not expire.

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Rodney E. Massey, P.E.  
District Director

for Karen A. Studders  
Commissioner  
Minnesota Pollution Control Agency

## **TABLE OF CONTENTS**

**Notice to the Permittee**

**Permit Shield**

**Facility Description**

**Table A: Limits and Other Requirements**

**Table B: Submittals**

**Appendix: Insignificant Activities Required to be Listed**

**NOTICE TO THE PERMITTEE:**

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(651) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(651) 282-5332

The rules governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

**PERMIT SHIELD:**

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition.

Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

**FACILITY DESCRIPTION:**

Le Sueur Incorporated is an aluminum foundry. Emission sources include reverberatory and crucible furnaces used to melt the aluminum; equipment for pouring, casting, and cooling the molten aluminum using die casting, permanent mold, and sand mold technologies; core making machines; equipment for grinding, cleaning, shotblasting, and finishing the castings; sand handling equipment; and plant heating equipment. Le Sueur Inc. also has a thermoplastic injection molding operation on site. The thermoplastic injection molding is an insignificant activity.

The facility is a major source under the Part 70 permit program (40 CFR § 70.2). By virtue of federally enforceable operating conditions, the facility is a non major source under the federal Prevention of Significant Deterioration (PSD, 40 CFR § 52.21) program.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.**

**Subject Item: Total Facility**

<b>What to do</b>	<b>Why to do it</b>
This permit establishes limits on the facility to keep it a minor source under New Source Review. The Permittee cannot make any change at the source that would make the source a major source under New Source Review unless and until a major amendment has been issued. This includes changes that might otherwise qualify as insignificant modifications and minor or moderate amendments.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.  At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.  At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

# TABLE A: LIMITS AND OTHER REQUIREMENTS

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

**Subject Item:** GP 001 Furnaces

**Associated Items:** EU 001 Reverberatory Furnace (2017)  
EU 002 Reverberatory Furnace (2114)  
EU 003 Reverberatory Furnace (2115)  
EU 004 Reverberatory Furnace (2116)  
EU 005 Reverberatory Furnace (2209)  
EU 006 Reverberatory Furnace (2224)  
EU 007 Reverberatory Furnace (6900)  
EU 008 Reverberatory Wet Bath Furnace (6905)  
EU 009 Reverberatory Wet Bath Furnace (6935)  
EU 010 Reverberatory Wet Bath Furnace (6940)  
EU 011 Reverberatory Furnace (6945)  
EU 012 Reverberatory Wet Bath Furnace (6950)  
EU 013 Reverberatory Wet Bath Furnace (6955)  
EU 014 Reverberatory Wet Bath Furnace (6960)  
EU 015 Reverberatory Dry Hearth Furnace (7010)  
EU 016 Reverberatory Dry Hearth Furnace (7078)  
EU 017 Reverberatory Wet Bath Furnace (7500)  
EU 018 Reverberatory Wet Bath Furnace (7501)  
EU 019 Reverberatory Furnace (7503)  
EU 020 Reverberatory Furnace (7504)  
EU 021 Reverberatory Furnace (7505)  
EU 022 Crucible Furnace (7506)  
EU 023 Reverberatory Wet Bath Furnace (7507)  
EU 024 Reverberatory Furnace (7511)  
EU 025 Reverberatory Dry Hearth Furnace (7566)  
EU 026 Reverberatory Dry Hearth Furnace (7567)  
EU 027 Reverberatory Dry Hearth Furnace (7586)  
EU 028 Electric Furnace (6915)  
EU 029 Electric Furnace (6925)  
EU 118 Natural Gas Reverberatory Furnace (7587)  
EU 119 Natural Gas Zinc Crucible Furnace (6910)  
EU 121 Electric Crucible Furnace (7508)

What to do	Why to do it
Material Usage: less than or equal to 15000 tons/year using 12-month Rolling Sum of aluminum melted in all furnaces combined (includes internally generated scrap that is remelted).	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Monthly Recordkeeping - By the 15th day of each month, the Permittee shall calculate and record a. The total quantity of aluminum melted during the previous month (including internally generated scrap that is remelted). b. The 12-month rolling sum of aluminum melted during the previous 12 months, by summing the 12 previous monthly aluminum melt quantities.	Minn. R. 7007.0800, subp. 4 and subp. 5

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

<p>Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.</p> <p>This limit applies individually to each unit.</p> <p>The equivalent limits and potential emissions at maximum capacity are as follows:</p> <table><tr><th>Unit</th><th>Limit (lb/hr)</th><th>PTE (lb/hr)</th></tr><tr><td>EU001</td><td>23.1</td><td>6.5</td></tr><tr><td>EU002</td><td>19.0</td><td>4.3</td></tr><tr><td>EU003</td><td>17.5</td><td>1.7</td></tr><tr><td>EU004</td><td>21.6</td><td>3.9</td></tr><tr><td>EU005</td><td>16.4</td><td>6.5</td></tr><tr><td>EU006</td><td>26.7</td><td>6.5</td></tr><tr><td>EU007</td><td>17.3</td><td>1.7</td></tr><tr><td>EU008</td><td>13.6</td><td>1.7</td></tr><tr><td>EU009</td><td>13.7</td><td>2.2</td></tr><tr><td>EU010</td><td>10.2</td><td>4.3</td></tr><tr><td>EU011</td><td>17.3</td><td>1.7</td></tr><tr><td>EU012</td><td>13.6</td><td>1.7</td></tr></table>	Unit	Limit (lb/hr)	PTE (lb/hr)	EU001	23.1	6.5	EU002	19.0	4.3	EU003	17.5	1.7	EU004	21.6	3.9	EU005	16.4	6.5	EU006	26.7	6.5	EU007	17.3	1.7	EU008	13.6	1.7	EU009	13.7	2.2	EU010	10.2	4.3	EU011	17.3	1.7	EU012	13.6	1.7	Minn. R. 7011.0610, subp. 1(A)(1)															
Unit	Limit (lb/hr)	PTE (lb/hr)																																																					
EU001	23.1	6.5																																																					
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<table><tr><th>Unit</th><th>Limit (lb/hr)</th><th>PTE (lb/hr)</th></tr><tr><td>EU013</td><td>13.9</td><td>2.2</td></tr><tr><td>EU014</td><td>11.7</td><td>2.8</td></tr><tr><td>EU015</td><td>13.7</td><td>4.3</td></tr><tr><td>EU016</td><td>10.0</td><td>4.3</td></tr><tr><td>EU017</td><td>18.3</td><td>2.6</td></tr><tr><td>EU018</td><td>13.6</td><td>1.7</td></tr><tr><td>EU019</td><td>16.0</td><td>1.7</td></tr><tr><td>EU020</td><td>20.8</td><td>1.7</td></tr><tr><td>EU021</td><td>22.3</td><td>1.7</td></tr><tr><td>EU022</td><td>22.3</td><td>0.6</td></tr><tr><td>EU023</td><td>17.6</td><td>3.3</td></tr><tr><td>EU024</td><td>20.8</td><td>4.3</td></tr><tr><td>EU025</td><td>21.8</td><td>4.3</td></tr><tr><td>EU026</td><td>21.1</td><td>4.3</td></tr><tr><td>EU027</td><td>16.0</td><td>4.3</td></tr><tr><td>EU028</td><td>16.9</td><td>0.5</td></tr><tr><td>EU029</td><td>16.9</td><td>0.5</td></tr></table> <p>EU118, EU119, and EU121 exhaust inside the building</p>	Unit	Limit (lb/hr)	PTE (lb/hr)	EU013	13.9	2.2	EU014	11.7	2.8	EU015	13.7	4.3	EU016	10.0	4.3	EU017	18.3	2.6	EU018	13.6	1.7	EU019	16.0	1.7	EU020	20.8	1.7	EU021	22.3	1.7	EU022	22.3	0.6	EU023	17.6	3.3	EU024	20.8	4.3	EU025	21.8	4.3	EU026	21.1	4.3	EU027	16.0	4.3	EU028	16.9	0.5	EU029	16.9	0.5	Minn. R. 7011.0610, subp. 1(A)(1) (continued from above)
Unit	Limit (lb/hr)	PTE (lb/hr)																																																					
EU013	13.9	2.2																																																					
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EU026	21.1	4.3																																																					
EU027	16.0	4.3																																																					
EU028	16.9	0.5																																																					
EU029	16.9	0.5																																																					
<p>Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.</p> <p>This limit applies individually to each unit.</p>	Minn. R. 7011.0610, subp. 1(A)(2)																																																						

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

**Subject Item:** GP 002 Pouring/Casting/Cooling

**Associated Items:**

- EU 030 Die Cast Machine (2001)
- EU 031 Die Cast Machine (2006)
- EU 032 Die Cast Machine (2008)
- EU 033 Die Cast Machine (2009)
- EU 034 Die Cast Machine (2010)
- EU 035 Die Cast Machine (2011)
- EU 036 Die Cast Machine (2012)
- EU 037 Die Cast Machine (2174)
- EU 038 Die Cast Machine (2210)
- EU 039 Die Cast Machine (2227)
- EU 040 Die Cast Machine (2263)
- EU 041 Die Cast Machine (2298)
- EU 042 Tilt Machine (6500)
- EU 043 Tilt Machine (6505)
- EU 044 Tilt Machine (6510)
- EU 045 Tilt Machine (6520)
- EU 046 Tilt Machine (6530)
- EU 047 Tilt Machine (6545)
- EU 048 Tilt Machine (6550)
- EU 049 Tilt Machine (6555)
- EU 050 Tilt Machine (6560)
- EU 051 Tilt Machine (6565)
- EU 052 Tilt Machine (6570)
- EU 053 Tilt Machine (6575)
- EU 054 Tilt Machine (6580)
- EU 055 Tilt Machine (6996)
- EU 056 Tilt Machine (7046)
- EU 057 Tilt Machine (7076)
- EU 058 Tilt Machine (7085)
- EU 059 Tilt Machine (7086)
- EU 060 3-Way Machine (6540)
- EU 061 3-Way Machine (7045)
- EU 062 Low Pressure Molding Machine (7018)
- EU 063 Low Pressure Molding Machine (7023)
- EU 064 Low Pressure Molding Machine (7089)
- EU 065 Molding Machine (7549)
- EU 066 Molding Machine (7576)
- EU 068 Pinlift Cope #1 (7530)
- EU 069 Pinlift Drag #1 (7531)
- EU 122 Die Cast Machine (2003)
- EU 123 Die Cast Machine (2004)
- EU 124 Die Cast Machine (2007)
- EU 125 Die Cast Machine (2300)
- EU 126 Die Cast Machine (2307)
- EU 128 Tilt Machine (6515)



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

**Associated Items:** EU 129 Tilt Machine (6525)  
EU 130 Tilt Machine (6535)  
EU 131 Tilt Machine (6585)  
EU 132 Tilt Machine (6590)  
EU 133 Tilt Machine (6595)  
EU 134 Tilt Machine (7048)  
EU 135 Pouring and Cooling  
EU 142 Molding Machine (7534)  
EU 143 Pinlift Molding Machine Drag (7535)  
EU 144 Pinlift Molding Machine Cope (7536)  
EU 145 Squeeze Box Molding Machine (7532)

What to do			Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.			Minn. R. 7011.0710, subp. 1(A) (units in operation before July 9, 1969) OR Minn. R. 7011.0715, subp. 1(A) (units which were not in operation before July 9, 1969)
This limit applies individually to each unit.			
The equivalent limits and potential emissions at maximum capacity are as follows:			
Unit	Limit (lb/hr)	PTE (lb/hr)	
EU030	14.0	1.7	
EU031	22.4	0.7	
EU032	22.4	1.4	
EU033	10.1	1.6	
EU034	12.8	2.1	
EU035	12.8	2.1	
EU036	7.6	1.6	
EU037	10.1	0.7	
EU038	22.4	1.4	
EU039	22.4	1.0	
EU040	14.0	1.9	
EU041	22.4	0.9	
EU042	17.3	0.5	
Unit	Limit (lb/hr)	PTE (lb/hr)	Minn. R. 7011.0710, subp. 1(A) (units in operation before July 9, 1969) OR Minn. R. 7011.0715, subp. 1(A) (units which were not in operation before July 9, 1969)
EU043	12.0	0.5	
EU044	12.9	0.9	
EU045	16.9	0.5	
EU046	9.6	1.9	
EU047	12.9	0.5	
EU048	12.9	0.9	
EU049	12.9	0.9	
EU050	13.5	0.5	
EU051	24.1	1.9	
EU052	24.1	1.9	
EU053	24.1	0.5	
EU054	13.5	0.5	
EU055	16.9	0.5	
EU056	9.6	0.5	
EU057	24.1	0.5	
EU058	9.6	0.5	
EU059	9.6	0.5	
EU060	12.9	0.5	
Unit	Limit (lb/hr)	PTE (lb/hr)	Minn. R. 7011.0710, subp. 1(A) (units in operation before July 9, 1969) OR Minn. R. 7011.0715, subp. 1(A) (units which were not in operation before July 9, 1969) (continued from above)
EU061	9.5	0.5	
EU062	13.4	2.1	
EU063	13.4	2.1	
EU064	13.4	2.1	
EU065	16.2	5.1	
EU066	8.6	5.1	
EU068	16.0	1.9	
EU069	16.0	1.9	
The rest of the units are exhausted inside the building.			

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to each unit.	Minn. R. 7011.0710, subp. 1(B) (units in operation before July 9, 1969)
Opacity: less than or equal to 20 percent opacity This limit applies individually to each unit.	Minn. R. 7011.0715, subp. 1(B) (units not in operation before July 9, 1969)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
 Permit Number: 07900017 - 001

**Subject Item:** GP 003 Indirect Heating Equipment

**Associated Items:** EU 113 Plant Heater (6360)  
 EU 117 Air Makeup Heater (8035)  
 EU 153 Natural Gas Air Make Up Heater (7571)  
 EU 154 Natural Gas Air Make Up Heater (8363)  
 EU 155 Natural Gas Air Make Up Heater (8364)  
 EU 156 Natural Gas Air Make Up Heater (2181)  
 EU 157 Natural Gas Air Make Up Heater (2182)  
 EU 158 Natural Gas Air Make Up Heater (2186)  
 EU 159 Natural Gas Air Make Up Heater (2223)  
 EU 160 Natural Gas Air Make Up Heater (7028)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input This limit applies individually to each unit.  Each of the units listed has potential emissions of 0.007 lb/million Btu heat input, based on equipment design.	Minn. R. 7011.0510, subp. 1 (units in operation prior to January 31, 1977)
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input This limit applies individually to each unit.  Each of the units listed has potential emissions of 0.007 lb/million Btu heat input, based on equipment design.	Minn. R. 7011.0515, subp. 1 (units not in operation prior to January 31, 1977)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.  This limit applies individually to each unit.	Minn. R. 7011.0510, subp. 2 OR Minn. R. 7011.0515, subp. 2

# TABLE A: LIMITS AND OTHER REQUIREMENTS

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

**Subject Item:** GP 004 Grinding/Cleaning Equipment

**Associated Items:** CE 002 Wet Scrubber - High Efficiency  
CE 004 Cartridge Dust Collector  
CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
CE 011 Centrifugal Collector - High Efficiency  
EU 084 Grinder (2192)  
EU 085 Grinder (2196)  
EU 086 Grinder (2305)  
EU 087 Downdraft Table (2309)  
EU 088 CNC Mill (7035)  
EU 089 CNC Mill (7081)  
EU 090 Grinder (7580)  
EU 091 Grinder (7585)  
EU 092 Grinder (8300)  
EU 093 Grinder (8301)  
EU 094 Grinder (8303)  
EU 098 Grinder (8816)  
EU 099 Grinder (8818)

What to do	Why to do it																																										
<p>Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.</p> <p>This limit applies individually to each unit.</p> <p>The equivalent limits and controlled potential emissions at maximum capacity are as follows:</p> <table><tr><td>Unit</td><td>Limit (lb/hr)</td><td>PTE (lb/hr)</td></tr><tr><td>EU084</td><td>9.4</td><td>0.2</td></tr><tr><td>EU085</td><td>9.4</td><td>0.04</td></tr><tr><td>EU086</td><td>9.4</td><td>0.4</td></tr><tr><td>EU087</td><td>9.4</td><td>0.4</td></tr><tr><td>EU088</td><td>12.7</td><td>1.0</td></tr><tr><td>EU089</td><td>12.7</td><td>1.0</td></tr><tr><td>EU090</td><td>5.1</td><td>0.3</td></tr><tr><td>EU091</td><td>5.1</td><td>0.3</td></tr><tr><td>EU092</td><td>5.1</td><td>0.3</td></tr><tr><td>EU093</td><td>5.1</td><td>0.3</td></tr><tr><td>EU094</td><td>0.7</td><td>0.4</td></tr><tr><td>EU098</td><td>0.6</td><td>0.3</td></tr><tr><td>EU099</td><td>0.6</td><td>0.3</td></tr></table>	Unit	Limit (lb/hr)	PTE (lb/hr)	EU084	9.4	0.2	EU085	9.4	0.04	EU086	9.4	0.4	EU087	9.4	0.4	EU088	12.7	1.0	EU089	12.7	1.0	EU090	5.1	0.3	EU091	5.1	0.3	EU092	5.1	0.3	EU093	5.1	0.3	EU094	0.7	0.4	EU098	0.6	0.3	EU099	0.6	0.3	Minn. R. 7011.0715, subp. 1(A)
Unit	Limit (lb/hr)	PTE (lb/hr)																																									
EU084	9.4	0.2																																									
EU085	9.4	0.04																																									
EU086	9.4	0.4																																									
EU087	9.4	0.4																																									
EU088	12.7	1.0																																									
EU089	12.7	1.0																																									
EU090	5.1	0.3																																									
EU091	5.1	0.3																																									
EU092	5.1	0.3																																									
EU093	5.1	0.3																																									
EU094	0.7	0.4																																									
EU098	0.6	0.3																																									
EU099	0.6	0.3																																									
<p>Opacity: less than or equal to 20 percent opacity</p> <p>This limit applies individually to each unit.</p>	Minn. R. 7011.0715, subp. 1(B)																																										
<p>The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O &amp; M) Plan. (See Subject Items CE002, CE004, CE009, and CE011 for specific operating conditions for the control equipment.)</p>	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14																																										

# TABLE A: LIMITS AND OTHER REQUIREMENTS

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

**Subject Item:** GP 005 Blasting Equipment

**Associated Items:** CE 010 Wet Scrubber - High Efficiency  
CE 013 Cartridge Dust Collector  
EU 082 Shotblast Unit (2013)  
EU 083 Vapor Blaster (2124)  
EU 095 Shotblast (8328)  
EU 096 BCP (8372)  
EU 149 Sand Blast Booth (8325)

What to do	Why to do it																		
<p>Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.</p> <p>This limit applies individually to each unit.</p> <p>The equivalent limits and controlled potential emissions at maximum capacity are as follows:</p> <table><tr><td>Unit</td><td>Limit (lb/hr)</td><td>PTE (lb/hr)</td></tr><tr><td>EU082</td><td>7.2</td><td>0.01</td></tr><tr><td>EU083</td><td>1.0</td><td>0.02</td></tr><tr><td>EU095</td><td>9.5</td><td>0.22</td></tr><tr><td>EU096</td><td>9.5</td><td>0.22</td></tr><tr><td>EU149</td><td>9.5</td><td>0.06</td></tr></table>	Unit	Limit (lb/hr)	PTE (lb/hr)	EU082	7.2	0.01	EU083	1.0	0.02	EU095	9.5	0.22	EU096	9.5	0.22	EU149	9.5	0.06	<p>Minn. R. 7011.0710, subp. 1(A) (units which were in operation before July 9, 1969) OR Minn. R. 7011.0715, subp. 1(A) (units not in operation before July 9, 1969)</p>
Unit	Limit (lb/hr)	PTE (lb/hr)																	
EU082	7.2	0.01																	
EU083	1.0	0.02																	
EU095	9.5	0.22																	
EU096	9.5	0.22																	
EU149	9.5	0.06																	
<p>Opacity: less than or equal to 20 percent opacity This limit applies individually to each unit.</p>	<p>Minn. R. 7011.0715, subp. 1(B) (units not in operation before July 9, 1969)</p>																		
<p>Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.</p> <p>This limit applies individually to each unit.</p>	<p>Minn. R. 7011.0710, subp. 1(B) (units in operation before July 9, 1969)</p>																		
<p>The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O &amp; M) Plan. (See Subject Items CE010 and CE013 for specific operating conditions for the control equipment.)</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14</p>																		

# TABLE A: LIMITS AND OTHER REQUIREMENTS

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

**Subject Item:** GP 006 Core Machines

**Associated Items:** CE 005 Gas Scrubber (General, Not Classified)  
CE 007 Packed-Gas Adsorption Column  
CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
EU 070 Laempe Core Machine (7663)  
EU 071 CB Core Machine (8003)  
EU 072 CB Core Machine (8011)  
EU 074 Laempe Core Machine (8015)  
EU 075 Core Machine (8023)  
EU 076 Core Machine (8024)  
EU 077 Laempe Core Machine (8036)  
EU 078 Core Machine (8037)  
EU 079 Core Machine (8044)  
EU 080 Laempe Core Machine (8045)  
EU 081 Core Machine (7080)  
EU 136 Shell Core Machine (8005)  
EU 137 Shell Core Machine (8006)  
EU 138 Shell Core Machine (8007)  
EU 139 Shell Core Machine (8008)  
EU 140 Shell Core Machine (8009)  
EU 141 Shell Core Machine (8021)

What to do	Why to do it																																				
<p>Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.</p> <p>This limit applies individually to each unit.</p> <p>The equivalent limits and uncontrolled potential emissions at maximum capacity are as follows:</p> <table><tr><td>Unit</td><td>Limit (lb/hr)</td><td>PTE (lb/hr)</td></tr><tr><td>EU070</td><td>4.9</td><td>0.91</td></tr><tr><td>EU071</td><td>11.4</td><td>0.12</td></tr><tr><td>EU072</td><td>11.4</td><td>0.12</td></tr><tr><td>EU074</td><td>4.9</td><td>0.91</td></tr><tr><td>EU075</td><td>17.3</td><td>0.16</td></tr><tr><td>EU076</td><td>24.1</td><td>0.16</td></tr><tr><td>EU077</td><td>4.9</td><td>0.91</td></tr><tr><td>EU078</td><td>11.7</td><td>0.80</td></tr><tr><td>EU079</td><td>9.6</td><td>0.87</td></tr><tr><td>EU080</td><td>4.9</td><td>0.91</td></tr><tr><td>EU081</td><td>9.6</td><td>0.87</td></tr></table> <p>There remaining units are exhausted inside the building.</p>	Unit	Limit (lb/hr)	PTE (lb/hr)	EU070	4.9	0.91	EU071	11.4	0.12	EU072	11.4	0.12	EU074	4.9	0.91	EU075	17.3	0.16	EU076	24.1	0.16	EU077	4.9	0.91	EU078	11.7	0.80	EU079	9.6	0.87	EU080	4.9	0.91	EU081	9.6	0.87	<p>Minn. R. 7011.0710, subp. 1(A) (units which were in operation before July 9, 1969) OR Minn. R. 7011.0715, subp. 1(A) (units not in operation before July 9, 1969)</p>
Unit	Limit (lb/hr)	PTE (lb/hr)																																			
EU070	4.9	0.91																																			
EU071	11.4	0.12																																			
EU072	11.4	0.12																																			
EU074	4.9	0.91																																			
EU075	17.3	0.16																																			
EU076	24.1	0.16																																			
EU077	4.9	0.91																																			
EU078	11.7	0.80																																			
EU079	9.6	0.87																																			
EU080	4.9	0.91																																			
EU081	9.6	0.87																																			
<p>Opacity: less than or equal to 20 percent opacity This limit applies individually to each unit.</p>	<p>Minn. R. 7011.0715, subp. 1(B) (units not in operation before July 9, 1969)</p>																																				
<p>Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.</p> <p>This limit applies individually to each unit.</p>	<p>Minn. R. 7011.0710, subp. 1(B) (units in operation before July 9, 1969)</p>																																				
<p>The operation of the control equipment is not necessary in order for the process to meet applicable emission limits. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the emissions to be considered controlled for the purposes of the emission inventory, the control equipment must comply with the requirements of this permit. (See Subject Items CE005, CE007, and CE008 for specific operating conditions for the control equipment.)</p>	<p>Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)</p>																																				

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

**Subject Item:** GP 007 Knockout/shakeout

**Associated Items:** EU 147 Shaker (7540)  
EU 150 Core Knockout (8312)  
EU 151 Core Knockout (8313)  
EU 152 Core Knockout (8370)  
EU 169 Shake out

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. This limit applies individually to each unit. Each unit exhausts inside the building.	Minn. R. 7011.0710, subp. 1(A) (units which were in operation before July 9, 1969) OR Minn. R. 7011.0715, subp. 1(A) (units not in operation before July 9, 1969)
Opacity: less than or equal to 20 percent opacity This limit applies individually to each unit (all are exhausted inside the building).	Minn. R. 7011.0715, subp. 1(B) (units not in operation before July 9, 1969)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to each unit (all are exhausted inside the building).	Minn. R. 7011.0710, subp. 1(B) (units in operation before July 9, 1969)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
 Permit Number: 07900017 - 001

**Subject Item:** GP 008 Sand silos

**Associated Items:** CE 003 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F  
 EU 104 Sand Silo (7091)  
 EU 105 Sand Silo (7664)  
 EU 106 Sand Silo (7665)

What to do	Why to do it												
<p>Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.</p> <p>This limit applies individually to each unit.</p> <p>The equivalent limits and uncontrolled potential emissions at maximum capacity are as follows:</p> <table><tr><td>Unit</td><td>Limit (lb/hr)</td><td>PTE (lb/hr)</td></tr><tr><td>EU104</td><td>30.6</td><td>0.05</td></tr><tr><td>EU105</td><td>30.6</td><td>0.05</td></tr><tr><td>EU106</td><td>30.6</td><td>0.05</td></tr></table>	Unit	Limit (lb/hr)	PTE (lb/hr)	EU104	30.6	0.05	EU105	30.6	0.05	EU106	30.6	0.05	<p>Minn. R. 7011.0710, subp. 1(A) (units which were in operation before July 9, 1969) OR Minn. R. 7011.0715, subp. 1(A) (units not in operation before July 9, 1969)</p>
Unit	Limit (lb/hr)	PTE (lb/hr)											
EU104	30.6	0.05											
EU105	30.6	0.05											
EU106	30.6	0.05											
<p>Opacity: less than or equal to 20 percent opacity This limit applies individually to each unit (all are exhausted inside the building).</p>	<p>Minn. R. 7011.0715, subp. 1(B) (units not in operation before July 9, 1969)</p>												
<p>Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.</p> <p>This limit applies individually to each unit (all are exhausted inside the building).</p>	<p>Minn. R. 7011.0710, subp. 1(B) (units in operation before July 9, 1969)</p>												
<p>The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O &amp; M) Plan. (See Subject Items CE003 and CE006 for specific operating conditions for the control equipment.)</p>	<p>Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14</p>												



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** EU 107 Mullor (7543)**Associated Items:** CE 012 Wet Scrubber - High Efficiency

SV 079 Stack 90

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.  At maximum capacity, the equivalent emission limit is approximately 34.2 lb/hour. The controlled potential to emit is 25.2 lb/hour.	Minn. R. 7011.0715, subp. 1(A)
Total Particulate Matter: greater than or equal to 90 percent control efficiency . See Subject Item CE012 for specific control equipment requirements.	Minn. R. 7011.0715, subp. 1(A) (control required to meet limit)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** EU 108 Mullor Barrel Screen (7544)**Associated Items:** SV 085 Stack 96

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0710, subp. 1(A)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0710, subp. 1(B)
Performance Test: due 180 days after Permit Issuance to measure total particulate matter and opacity.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals:  Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item: EU 146 Sand Transfer**

<b>What to do</b>	<b>Why to do it</b>
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735. Equipment exhausts inside the building.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity Equipment exhausts inside the building.	Minn. R. 7011.0715, subp. 1(B)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
 Permit Number: 07900017 - 001

**Subject Item:** CE 002 Wet Scrubber - High Efficiency

**Associated Items:** EU 084 Grinder (2192)  
 EU 085 Grinder (2196)  
 EU 086 Grinder (2305)  
 EU 087 Downdraft Table (2309)  
 GP 004 Grinding/Cleaning Equipment

What to do	Why to do it
<b>EMISSION AND OPERATING LIMITS</b>	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 72 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 72 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Water flow rate: greater than or equal to 21 gallons/minute , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the water flow rate drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 5 inches of water column and less than or equal to 7 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<b>MONITORING AND RECORDKEEPING</b>	hdr
Recordkeeping of Pressure Drop and Water Flow Rate. The Permittee shall record the time and date of each pressure drop reading and water flow rate reading and whether or not the recorded pressure drop and recorded water flow rate were within the ranges specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the scrubber and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the recorded water flow rate is outside the required operating range; or - the scrubber or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken .	Minn. R. 7007.0800, subp. 4, 5, and 14
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. R. 7007.0800, subp. 4, 5 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** CE 003 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 104 Sand Silo (7091)

GP 008 Sand silos

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the control equipment and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the equipment or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
 Permit Number: 07900017 - 001

**Subject Item:** CE 004 Cartridge Dust Collector

**Associated Items:** EU 090 Grinder (7580)  
 EU 091 Grinder (7585)  
 EU 092 Grinder (8300)  
 EU 093 Grinder (8301)  
 GP 004 Grinding/Cleaning Equipment

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 79.2 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 79.2 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the filter and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the filter or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
 Permit Number: 07900017 - 001

**Subject Item:** CE 005 Gas Scrubber (General, Not Classified)

**Associated Items:** EU 070 Laempe Core Machine (7663)  
 EU 071 CB Core Machine (8003)  
 EU 072 CB Core Machine (8011)  
 EU 074 Laempe Core Machine (8015)  
 EU 077 Laempe Core Machine (8036)  
 GP 006 Core Machines

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The operation of this piece of control equipment is not necessary in order for the process to meet applicable emission limits. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the VOC emissions to be considered controlled for the purposes of the emission inventory, the scrubber must comply with the requirements of this permit.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Volatile Organic Compounds: greater than or equal to 56 percent	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Water flow rate: greater than or equal to 21 gallons/minute, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the water flow rate drop once every 24 hours when in operation.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Pressure Drop: greater than or equal to 5 inches of water column and less than or equal to 7 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop and Water Flow Rate. The Permittee shall record the time and date of each pressure drop reading and water flow rate reading and whether or not the recorded pressure drop and recorded water flow rate were within the ranges specified in this permit.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Corrective Actions: The Permittee shall follow the O & M Plan for the scrubber and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the recorded water flow rate is outside the required operating range; or - the scrubber or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 105 Sand Silo (7664)

EU 106 Sand Silo (7665)

GP 008 Sand silos

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the control equipment and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the equipment or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken .	Minn. R. 7007.0800, subp. 4, 5, and 14



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** CE 007 Packed-Gas Adsorption Column**Associated Items:** EU 080 Laempe Core Machine (8045)

GP 006 Core Machines

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The operation of this piece of control equipment is not necessary in order for the process to meet applicable emission limits. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the VOC emissions to be considered controlled for the purposes of the emission inventory, the scrubber must comply with the requirements of this permit.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 56 percent	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Water flow rate: greater than or equal to 21 gallons/minute , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the water flow rate drop once every 24 hours when in operation.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Pressure Drop: greater than or equal to 5 inches of water column and less than or equal to 7 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop and Water Flow Rate. The Permittee shall record the time and date of each pressure drop reading and water flow rate reading and whether or not the recorded pressure drop and recorded water flow rate were within the ranges specified in this permit.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Corrective Actions: The Permittee shall follow the O & M Plan for the scrubber and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the recorded water flow rate is outside the required operating range; or - the scrubber or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken .	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F**Associated Items:** EU 080 Laempe Core Machine (8045)

GP 006 Core Machines

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The operation of this piece of control equipment is not necessary in order for the process to meet applicable emission limits. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the VOC emissions to be considered controlled for the purposes of the emission inventory, the scrubber must comply with the requirements of this permit.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)
Corrective Actions: The Permittee shall follow the O & M Plan for the control equipment and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the equipment or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020(F)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
 Permit Number: 07900017 - 001

**Subject Item:** CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

**Associated Items:** EU 097 Cutoff Saw (8814)  
 EU 098 Grinder (8816)  
 EU 099 Grinder (8818)  
 EU 100 Grinder (8828)  
 GP 004 Grinding/Cleaning Equipment

What to do	Why to do it
<b>EMISSION AND OPERATING LIMITS</b>	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 72 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 72 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<b>MONITORING AND RECORDKEEPING</b>	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the control equipment and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the equipment or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc  
 Permit Number: 07900017 - 001

**Subject Item:** CE 010 Wet Scrubber - High Efficiency

**Associated Items:** EU 095 Shotblast (8328)  
 EU 096 BCP (8372)  
 EU 149 Sand Blast Booth (8325)  
 GP 005 Blasting Equipment

What to do	Why to do it
<b>EMISSION AND OPERATING LIMITS</b>	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 72 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 72 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Water flow rate: greater than or equal to 21 gallons/minute , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the water flow rate drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 5 inches of water column and less than or equal to 7 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<b>MONITORING AND RECORDKEEPING</b>	hdr
Recordkeeping of Pressure Drop and Water Flow Rate. The Permittee shall record the time and date of each pressure drop reading and water flow rate reading and whether or not the recorded pressure drop and recorded water flow rate were within the ranges specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the scrubber and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the recorded water flow rate is outside the required operating range; or - the scrubber or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken .	Minn. R. 7007.0800, subp. 4, 5, and 14
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. R. 7007.0800, subp. 4, 5 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** CE 011 Centrifugal Collector - High Efficiency**Associated Items:** EU 094 Grinder (8303)

GP 004 Grinding/Cleaning Equipment

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 68 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and collection system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 68 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the control equipment and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the equipment or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken.	Minn. R. 7007.0800, subp. 4, 5, and 14
Hood Certification and Evaluation: The control device hood must conform to the requirements listed in Minn. R. 7011.0070, subp. 1, and the Permittee shall certify this as specified in Minn. R. 7011.0070, subp. 3. The Permittee shall maintain a copy of the certification on site, as well as an annual record of fan rotation speed, fan power draw, or face velocity of each hood, or other comparable air flow indication method.	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** CE 012 Wet Scrubber - High Efficiency**Associated Items:** EU 107 Mullor (7543)

What to do	Why to do it
<b>EMISSION AND OPERATING LIMITS</b>	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 90 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment and capture system such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 90 percent	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Water flow rate: greater than or equal to 21 gallons/minute , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the water flow rate drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 5 inches of water column and less than or equal to 7 inches of water column , unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<b>MONITORING AND RECORDKEEPING</b>	hdr
Recordkeeping of Pressure Drop and Water Flow Rate. The Permittee shall record the time and date of each pressure drop reading and water flow rate reading and whether or not the recorded pressure drop and recorded water flow rate were within the ranges specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the scrubber and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the recorded water flow rate is outside the required operating range; or - the scrubber or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken .	Minn. R. 7007.0800, subp. 4, 5, and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

**Subject Item:** CE 013 Cartridge Dust Collector**Associated Items:** EU 082 Shotblast Unit (2013)

GP 005 Blasting Equipment

What to do	Why to do it
EMISSION AND OPERATING LIMITS	hdr
The Permittee shall maintain and operate the control equipment at all times that any emission unit controlled by the equipment (including but not limited to the associated items specifically listed above) is in operation. The Permittee shall operate and maintain the control equipment in accordance with the Operation and Maintenance (O & M) Plan.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2 and 14
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 99 percent	Title I Condition: Limit taken to avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 99 percent	Title I Condition: Limit taken to avoid classification as a major source under 40 CFR Section 52.21 and Minn. R. 7007.3000
Pressure Drop: greater than or equal to 2 inches of water column and less than or equal to 4 inches of water column, unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3, based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4, 5 and 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
Corrective Actions: The Permittee shall follow the O & M Plan for the filter and take corrective action as soon as possible (within 24 hours) if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the filter or any of its components are found during the inspections to need repair. The Permittee shall keep a record of the type and date of any corrective action taken	Minn. R. 7007.0800, subp. 4, 5, and 14

## TABLE B: SUBMITTALS

03/20/01

Facility Name: LeSueur Inc  
Permit Number: 07900017 - 001

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

Permit Technical Advisor  
Permit Section  
Air Quality Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

Supervisor  
Compliance Determination Unit  
Air Quality Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak  
Air and Radiation Branch  
EPA Region V  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency  
Clean Air Markets Division  
1200 Pennsylvania Avenue NW (6204N)  
Washington, D.C. 20460



**TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Request for Information Response	due 1,096 days after Permit Issuance Submit modeling data for sources of particulate matter smaller than 10 microns (PM10) as specified in MPCA modeling guidance for Modeling Information Requests. This modeling information is for data collection purposes only, no modeling analysis is required at this time. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Testing Frequency Plan	due 60 days after Performance Test for total particulate matter emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU108

**TABLE B: RECURRENT SUBMITTALS**

03/20/01

Facility Name: LeSueur Inc

Permit Number: 07900017 - 001

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility

# APPENDIX MATERIAL

Facility Name: LeSueur Inc  
Permit Number: 07900017-001

## Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(A)	Fuel use: space heaters fueled by, kerosene, natural gas, or propane. <ul style="list-style-type: none"> <li>Facility has natural gas fired space heaters</li> </ul>	Minn. R. 7011.0510/0515
3(H)	Miscellaneous: 4. brazing, soldering or welding equipment; <ul style="list-style-type: none"> <li>Welding machines</li> </ul>	Minn. R. 7011.0710/0715
3(I)	Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than: 1. 4,000 lbs/year of carbon monoxide; and 2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone. <ul style="list-style-type: none"> <li>Four rooftop HVAC units, each 0.45 MMBtu/hour, each has a PTE less than the above thresholds (EU161, EU162, EU163, EU164)</li> <li>Make-up air heater, 2.0 MMBtu/hr, PTE is less than above thresholds (EU165)</li> <li>Three fuel fired aging/stress relief ovens, one is 1.0 MMBtu/hr, the others are 0.5 MMBtu/hr each. Each has PTE less than the above thresholds (EU166, EU167, EU168)</li> <li>Three electric aging/stress relief ovens, each has PTE less than the above thresholds (EU114, EU115, EU116)</li> <li>Acid etch system, PTE less than the above thresholds (EU103)</li> <li>Four individual units used for knockout/shakeout of molds and/or cores, each has a PTE less than the above thresholds (EU109, EU110, EU111, EU112)</li> </ul>	Minn. R. 7011.0510/0515  Minn. R. 7011.0510/0515  Minn. R. 7011.0610  Minn. R. 7011.0710/0715  Minn. R. 7011.0710/0715  Minn. R. 7011.0710/0715

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
4	<p>A. Potential emissions of 5.7 pounds per hour of carbon monoxide or actual emissions of two tons per year of carbon monoxide;</p> <p>B. Potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs;</p> <p>C. (2) Combined HAP actual emissions of one ton per year unless the emissions unit emits one or more of the following HAPs: carbon tetrachloride; 1,2-dibromo-3-chloropropane; ethylene dibromide; hexachlorobenzene; polycyclic organic matter; antimony compounds; arsenic compounds, including inorganic arsine; cadmium compounds; chromium compounds; lead compounds; manganese compounds; mercury compounds; nickel compounds; selenium compounds; 2,3,7,8-tetrachlorodibenzo-p-dioxin; or dibenzofuran. If the emission unit emits one or more of the HAPs listed in this subitem, the emissions unit is not an insignificant activity under this subitem.</p> <ul style="list-style-type: none"> <li>• Thermoplastic injection molding operation. Actual emissions are below all of the listed thresholds, and none of the listed HAPs are emitted.</li> </ul>	Minn. R. 7011.0710/0715

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 07900017-001**

This technical support document is intended for all parties interested in the permit. The purpose of this document is to set forth the legal and factual basis for the permit conditions, including references to the applicable statutory or regulatory provisions.

**1. General Information**

**1.1 Applicant and Stationary Source Location:**

Owner and Operator Address and Phone Number	Facility Address (SIC Code: 3365)
LeSueur Incorporated P.O. Box 149 1409 Vine Street Le Sueur, MN 56058  Mike Horton Facilities Engineer (507)665-6204	LeSueur Incorporated 1409 Vine Street Le Sueur, Le Sueur County, MN

**1.2 Description of the facility**

LeSueur Inc. is an aluminum foundry. Emission sources include reverberatory and crucible furnaces used to melt the aluminum; equipment for pouring, casting, and cooling the molten aluminum using die casting, permanent mold, and sand mold technologies; core making machines; equipment for grinding, cleaning, shotblasting, and finishing the castings; sand handling equipment; and plant heating equipment. LeSueur Inc. also has a thermoplastic injection molding operation on site, which is an insignificant activity under Minn. R. 7007.1300, subps. 4(B) and 4(C)(2).

**1.3 Description of any changes allowed with this permit issuance**

None.

**1.4 Description of all amendments issued since the issuance of the last total facility permit and to be included in the Part 70 Permit.**

None

## **1.5 Changes made since public notice of the Draft Permit**

Requirements to submit modeling information were added to the permit, because since the draft permit was placed on public notice, MPCA policy regarding modeling requirements was revised. Since this is an addition of recordkeeping requirements, additional public notice is not required.

## **1.6 Facility Emissions:**

**Table 1. Total Facility Potential to Emit \*Summary:**

	PM Tpy	PM <sub>10</sub> tpy	SO <sub>2</sub> tpy	NO <sub>x</sub> tpy	CO tpy	VOC tpy	Single HAP** tpy	Total HAPs tpy
Total Facility Limited Potential Emissions	227.1	117.9	19.3	75.7	52.1	140.8	21.7	37.9
Total Facility Actual Emissions (1997)	95.15	74.51	10.02	15.23	1.4	5.12	NR***	NR

\* Includes all insignificant activities except the thermoplastic injection molding activities.

\*\* Triethylamine

\*\*\*NR = Not Reported (HAPs not reported on the annual emission inventory)

**Table 2. Total Facility and Permit Classification**

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD		PM, PM <sub>10</sub>	CO, SO <sub>2</sub> , NO <sub>x</sub> , VOC
NAAR - NA			
Part 70 Permit Program	HAPs, PM <sub>10</sub> , VOC	NO <sub>x</sub>	CO, SO <sub>2</sub>

\* Refers to potential emissions that are less than those specified as major by 40 CFR 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

## **2. Regulatory Overview of Facility**

### **New Source Review**

Unpermitted, the facility would be a potential major source under New Source Review – Prevention of Significant Deterioration (PSD, 40 CFR § 52.21), since unrestricted PM and PM<sub>10</sub> emissions exceed 250 tons per year. The facility has not actually exceeded these thresholds, and therefore can and chooses to accept synthetic minor limits at this time to maintain the non-major source classification of the facility.

Since the facility does not process post-consumer scrap and melts no material other than clean charge and scrap generated within the facility, does not operate a thermal chip dryer, sweat furnace, scrap dryer, delacquering kiln, decoating kiln, or any other equipment/process characteristic of a secondary aluminum processing facility, the facility need not be and is not classified as a secondary aluminum processing facility for purposes of New Source Review and therefore is not subject to the 100 ton per year emission threshold for PSD. (See December 4, 1998 EPA memo on this, Attachment C to this document.)

### **Part 70 Permit Program**

The facility is a major source under the federal operating permit program (40 CFR pt. 70).

### **New Source Performance Standards**

There are no New Source Performance Standards that apply to this facility.

### **National Emission Standards for Hazardous Air Pollutants (NESHAPs)**

There are no promulgated NESHAPs applicable to this facility. Since the facility does not process post-consumer scrap and melts no material other than clean charge and scrap generated within the facility, does not operate a thermal chip dryer, sweat furnace, scrap dryer, delacquering kiln, or decoating kiln, the NESHAP for Secondary Aluminum Production (Subpart RRR) does not apply.

No changes affecting the emissions of any listed HAP are being made at the facility.

### **Minnesota State Rules**

Several State Standards of Performance apply to portions of this facility and are included in the permit. These include:

- Minn. R. 7011.0500 to 7011.0553 – New and Existing Indirect Heating Fossil Fuel Burning Equipment
- Minn. R. 7011.0600 to 7011.0625 – Direct Heating Fossil Fuel Burning Equipment
- Minn. R. 7011.0700 to 7011.0735 – Pre- and Post-1969 Industrial Process Equipment

**Table 3. Regulatory Overview**

	Applicable Regulations	Comments:
Total Facility	Title I Condition – Limit to avoid NSR	Limit set on quantity of aluminum that may be melted. This inherently limits the quantity of product that may be produced, and the amount of finishing work done and the amount of sand used.
GP001	Minn. R. 7007.0610	Standards of Performance for Direct Heating Equipment
GP003	Minn. R. 7007.0510/0515	Standards of Performance for Indirect Heating Equipment

	Applicable Regulations	Comments:
GP002 GP004 GP005 GP006 GP007 GP008 EU107 EU108 EU146	Minn. R. 7011.0710/0715	Standards of Performance for Industrial Process Equipment
CE002 – CE004, CE006, CE008 – CE013	Title I Condition – Limit to avoid NSR	Operation of control equipment is required in order to avoid NSR.

### 3. Technical Information

#### 3.1 Calculations

##### Aluminum Melting

Emissions for aluminum melting are calculated using AIRS emission factors for reverberatory and crucible furnaces for secondary aluminum production. This is a conservative estimate of emissions, since the facility does not actually do secondary aluminum production; they do not use smelting furnaces to recover aluminum from scrap. However, they do use reverberatory and crucible furnaces, and no other more applicable emission factors are available. HAP emission factors used are from the Speciate database for aluminum foundry reverberatory furnaces.

Example Calculation – Reverberatory Furnace:

$$4.3 \frac{\text{lb PM}}{\text{ton melted}} \times 1.5 \frac{\text{ton melted}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 6.45 \frac{\text{ton PM}}{\text{year}}$$

$$\text{Chromium Compounds} = 0.05\% \text{ of PM} = 0.05\% \times 6.45 \frac{\text{ton}}{\text{year}} = 0.003 \frac{\text{ton chromium compounds}}{\text{year}}$$

Hourly and unrestricted emissions are listed in the PTE summary (Attachment A) on a unit-by-unit basis. Limited emissions (as a result of the facility melt limit of 15000 tons per year) were calculated at the group level, and use the worst case emission factor (reverberatory furnace or crucible furnace) for each pollutant. Limited emissions are listed under “GP001” which includes all melt furnaces.



### Pouring/Casting/Cooling

Emissions for pouring, casting, and cooling are calculated using AIRS emission factors for pouring and casting in secondary aluminum production for SO<sub>2</sub>, NO<sub>x</sub>, and VOC, and AIRS emission factors for pouring, casting, cooling, and handling in gray iron foundries for PM and PM<sub>10</sub>; PM and PM<sub>10</sub> emission factors for pouring and casting in aluminum production do not exist, and there are no emission factors for handling and cooling in aluminum production. This is a conservative estimate of emissions, since an aluminum foundry is typically much cleaner than a gray iron foundry, yet they do use approximately the same methods of pouring, casting, and cooling. HAP emission factors used are from the Speciate database for secondary aluminum pouring and casting.

#### Example Calculation – Pouring and Casting:

$$0.14 \frac{\text{lb VOC}}{\text{ton cast}} \times 0.5 \frac{\text{ton cast}}{\text{hour}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 0.31 \frac{\text{ton VOC}}{\text{year}}$$
$$\text{Aniline} = 70.84\% \text{ of VOC} = 70.84\% \times 0.31 \frac{\text{ton}}{\text{year}} = 0.22 \frac{\text{ton aniline}}{\text{year}}$$

Hourly and unrestricted emissions are listed in the PTE summary (Attachment A) on a unit-by-unit basis. Limited emissions (as a result of the facility melt limit of 15000 tons per year) were calculated at the group level, and are listed under “GP002” which includes all molding, casting, and cooling.

### Grinding/Cleaning

Emissions for grinding/cleaning were calculated using AIRS emission factors for grinding/cleaning and casting finishing for gray iron foundries. This is likely a conservative estimate of emissions. HAP emissions for these operations were not found.

#### Example Calculation – Grinding/Cleaning:

$$17.01 \frac{\text{lb PM}}{\text{ton metal}} \times 500 \frac{\text{ton metal}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 4.25 \frac{\text{ton PM}}{\text{year}}$$

Hourly and unrestricted emissions are listed in the PTE summary (Attachment A) on a unit-by-unit basis. Limited emissions due to grinding/cleaning 15000 tons of aluminum per year (worst case assumption based on the facility melt limit of 15000 tons per year) were calculated at the group level, and are listed under “GP004” which includes all grinding and cleaning equipment.

### Blasting

Sandblasting and shotblasting emissions were calculated using AP-42 emission factors for baghouse controlled shotblasting at a gray iron foundry. The uncontrolled emission factor was derived by assuming the baghouse of the baghouse controlled emission factor was 99% efficient, as follows:

Emission Factor Derivation:

$$\text{Uncontrolled EF} = \frac{0.69 \text{ lb PM}}{1000 \text{ lb abrasive}} \times \frac{2000 \text{ lb}}{\text{ton}} \times \frac{1}{(1 - 99\%)} = 138 \frac{\text{lb PM}}{\text{ton abrasive}}$$

HAP emissions for these operations were not found.

Example Calculation – Blasting:

$$138 \frac{\text{lb PM}}{\text{ton abrasive}} \times 49 \frac{\text{ton abrasive}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 3.38 \frac{\text{ton PM}}{\text{year}}$$

Hourly and unrestricted emissions are listed in the PTE summary (Attachment A) on a unit-by-unit basis. Limited emissions due to blasting 15000 tons of aluminum per year (worst case assumption based on the facility melt limit of 15000 tons per year) were calculated at the group level, and are listed under “GP005” which includes all shotblasting and sandblasting equipment.

Knockout/Shakeout

Knockout/shakeout emissions were calculated using AIRS emission factors for casting shakeout in gray iron foundries. This is assumed to be a good estimate of emissions, since it involves shaking sand off of a casting or a core; the type of metal shouldn’t be of high relevance. HAP emission factors for these operations were not found.

Example Calculation – Shakout:

$$3.2 \frac{\text{lb PM}}{\text{ton metal}} \times 2.5 \frac{\text{ton metal}}{\text{hour}} \times 8760 \frac{\text{hour}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 35.04 \frac{\text{ton PM}}{\text{year}}$$

Hourly and unrestricted emissions are listed in the PTE summary (Attachment A) on a unit-by-unit basis. Limited emissions due to shakeout or knockout of 15000 tons of aluminum per year (worst case assumption based on the facility melt limit of 15000 tons per year) were calculated at the group level, and are listed under “GP007” which includes all knockout and shakeout equipment.

Indirect Heating Equipment

Emissions from indirect heating equipment were calculated using AP-42 emission factors for natural gas combustion and the rated heat input of the equipment. Limited emissions resulting from the facility melt limit of 15000 tons per year were not calculated. The worst case assumption was made that regardless of the amount of product produced, the heating equipment could still be run at full capacity.

Example Calculation – Combustion:

$$7.74 \frac{\text{mmBtu}}{\text{hour}} \times \frac{1 \text{ mmcf gas}}{1050 \text{ mmBtu}} \times 100 \frac{\text{lb NOx}}{\text{mmcf gas}} \times 8760 \frac{\text{hour}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 3.23 \frac{\text{ton NOx}}{\text{year}}$$

### Sand Silos

Emissions from the sand silos were estimated using AP-42 emission factors for sand and gravel handling. Since the emissions from sand and gravel handling generally take place out in the open, and the emissions from loading sand into a silo take place largely within the silo, this is likely a conservative estimate of emissions. "Capacity" of the silos was estimated at ½ the capacity of the facility's sand handling system, the assumption being that sand is generally reused and handled more than once within the facility, an assumption that is demonstrated through the facility's emission inventory, which shows twice as much sand being handled through the sand handling system as is handled through the silos. In this case, limited emissions (based on the quantity of sand that would be used in correlation with the limit on aluminum melting) were calculated, based on 1999 sand usage and 1999 sand and permanent molding; in 1999, 1.7 tons of sand were used per ton of aluminum cast using either the sand or permanent molding processes (1999 emission inventory data). Assuming 100% of the limited 15000 tons of melting aluminum goes through the sand mold process (worst case assumption), one can estimate the quantity of sand that would be used annually.

Example Calculation – Sand Silos:

$$0.00145 \frac{\text{lb PM}}{\text{ton sand}} \times 35 \frac{\text{tons sand}}{\text{hour}} \times 8760 \frac{\text{hour}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 0.22 \frac{\text{ton PM}}{\text{year}}$$

Hourly, unrestricted, and limited emissions (estimated as a result of the facility melt limit of 15000 tons per year) are listed in the PTE summary (Attachment A) under "GP008" which includes all three sand silos.

### Core Machines

#### a. Cold-Box VOC and HAP

"Cold-Box" refers to the fact that there is no heat involved in the curing process. VOC and HAP emissions from the cold-box core making process were estimated using the HAP contents given on the Material Safety Data Sheets (MSDS) in the 1995 application and in the April 17, 2000, application for the Laempe Core Machines, and a VOC emission factor developed by the Ohio Metal Cast Association in December 1997. This required an estimate of the capacity of sand use in each machine (the equipment capacity is given in terms of tons of cores). The April 2000 application listed a capacity of 1.65 tons of sand per hour, and this was assumed to be the capacity of each machine (not just the machines included in the April 2000 application). The primary HAP in the cold box process is triethylamine (TEA). This is used as a catalyst, so the implication is that the TEA is not emitted, and is assumed to not be included in the VOC emission factor described above. However, the April 2000 application shows a control efficiency for TEA, which implies that some is emitted. Assuming that the goal is not to have the catalyst emitted, a conservative assumption was made that 50% of the TEA is emitted, in addition to the VOC calculated using the emission factor.

Example Calculation – Cold-Box VOC:

$$1.65 \frac{\text{ton sand}}{\text{hour}} \times 0.65 \frac{\text{lb VOC}}{\text{ton sand}} \times 8760 \frac{\text{hour}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 4.70 \frac{\text{ton VOC}}{\text{year}}$$

Example Calculation – Cold-Box phenol:

$$4.70 \frac{\text{ton VOC}}{\text{year}} \times 4.0\% \text{ phenol} = 0.19 \frac{\text{ton phenol}}{\text{year}}$$

Example Calculation – Cold-Box TEA:

$$1.65 \frac{\text{ton sand}}{\text{hour}} \times 1.0 \frac{\text{lb TEA}}{\text{ton sand}} \times 50\% \times 8760 \frac{\text{hour}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 3.61 \frac{\text{ton TEA}}{\text{year}}$$

VOC and HAP from the cold-box process is controlled by gas scrubbers. Since the unrestricted VOC emissions are less than 250 tons per year, the use of the control equipment is not necessary to remain a non major source under PSD. Control equipment operating requirements are included in the permit in the event that the Permittee wishes to take credit for use of the control equipment in the annual emission inventory.

All emissions of the cold-box equipment are listed in the PTE summary (Attachment A) on a unit-by-unit basis.

b. Hot-Box VOC and HAP

“Hot-Box” refers to the fact that heat rather than a catalyst is used in the reaction to create cores through this process. VOC emissions from the hot-box process were estimated using information from the 1999 emission inventory on quantity of sand used, VOC content of the sand, and an estimate that usage was approximately 4% of capacity. HAP emissions from the hot-box core making process were estimated using the HAP contents given on the Material Safety Data Sheets (MSDS) in the 1995 application. Sand usage was given only for the hot-box process as a group; individual capacities are given in the permit application in terms of tons of cores; so the VOC and HAP emissions were estimated for the hot-box machines as a group.

Example Calculation – Hot-Box VOC:

$$58010 \frac{\text{ton sand}}{\text{year}} \times 0.08\% \text{ VOC by weight} = 46.41 \frac{\text{ton VOC}}{\text{year}}$$

Example Calculation – Hot-Box phenol:

$$46.41 \frac{\text{ton VOC}}{\text{year}} \times 4.0\% \text{ phenol} = 1.86 \frac{\text{ton phenol}}{\text{year}}$$

Hourly and unrestricted VOC and HAP emissions of the hot-box equipment are listed in the PTE summary (Attachment A) under “GP 010.”

c. PM/PM<sub>10</sub> for Core-Making

PM and PM<sub>10</sub> emissions from the core-making process were calculated using AP-42 emission factors for core making in gray iron foundries. This is assumed to be a good estimate of emissions, since it roughly the same process using sand and VOCs; the type of metal shouldn't be of high relevance.

Example Calculation – Hot-Box and Cold-Box PM:

$$1.1 \frac{\text{lb PM}}{\text{ton core}} \times 1660 \frac{\text{lb core}}{\text{hour}} \times \frac{1 \text{ ton core}}{2000 \text{ lb core}} \times 8760 \frac{\text{hours}}{\text{year}} \times \frac{1 \text{ ton PM}}{2000 \text{ lb PM}} = 7270.8 \frac{\text{ton PM}}{\text{year}}$$

All PM and PM<sub>10</sub> emissions of the hot-box and cold-box equipment are listed in the PTE summary (Attachment A) on a unit-by-unit basis. Limited emissions of PM, PM<sub>10</sub>, VOC, and HAP from the hot-box and cold-box equipment are limited only by control equipment, as a clear correlation between aluminum melt and core production is not available.

d. Core Wash Emissions

VOC and HAP emissions from the core wash operations were calculated using the information on the MSDSs included with the 1995 permit application. Usage reported in that application was based on operating 4200 hours per year. Maximum usage was assumed to be twice the usage reported in the 1995 application.

Example Calculation – VOC from Velvacoat usage:

$$29250 \frac{\text{lb Velvacoat}}{\text{year}} \times 89\% \text{ VOC by weight} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 13.02 \frac{\text{ton VOC}}{\text{year}}$$

All core wash emissions are listed in the PTE summary (Attachment A) under “GP 009.” “Limited” emissions were not calculated to be different than unrestricted, because there is no associated control equipment, and a clear correlation between aluminum melt and core wash is not available.

Sand Handling (other than silos)

Emissions were calculated using the AIRS emission factors for sand handling at gray iron foundries. This is assumed to be appropriate, because sand handling is the same whether casting aluminum or gray iron. In this case, limited emissions (based on the quantity of sand that would be used in correlation with the limit on aluminum melting) were calculated, based on 1999 sand usage and 1999 sand and permanent molding; in 1999, 1.7 tons of sand were used per ton of

aluminum cast using either the sand or permanent molding processes (1999 emission inventory data). Assuming 100% of the limited 15000 tons of melting aluminum goes through the sand mold process (worst case assumption), one can estimate the quantity of sand that would be used annually.

Example Calculation – Sand Handling:

$$3.6 \frac{\text{lb PM}}{\text{ton sand}} \times 70 \frac{\text{tons sand}}{\text{hour}} \times 8760 \frac{\text{hour}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lb}} = 252.0 \frac{\text{ton PM}}{\text{year}}$$

Hourly, unrestricted, and limited emissions are listed on the PTE summary (Attachment A) on a unit-by-unit basis.

### **3.2 Periodic Monitoring**

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements. To achieve this objective, US EPA issued guidance (September 15, 1998, memorandum Periodic Monitoring Guidance for Title V Operating Permits Program, and April 30, 1999, guidance titled Periodic Monitoring Technical Reference Document) on periodic monitoring requirements for permitted sources.

In evaluating the monitoring included in the permit, the MPCA considered the following as per the above mentioned guidance documents:

- the likelihood of violating the applicable requirement;
- whether add-on controls are necessary to meet the emission limit;
- the variability of emissions over time;
- the type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- the technical and economic feasibility of possible periodic monitoring methods; and
- the kind of monitoring found on similar units.

Table 4 summarizes the periodic monitoring requirements for those emissions for which the monitoring required by the applicable requirement is nonexistent or inadequate.

**Table 4. Emission Units Subject to Periodic Monitoring**

<b>EU/ GP/ CE</b>	<b>Emission limit (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP001 units (melt furnaces)	15000 tons of aluminum melted per year (Title I limit)	Recordkeeping: Monthly records of monthly melt and 12 month rolling sum	The facility typically operates at a production rate of 8000-9000 tons per year. It is unlikely that they would unexpectedly exceed the limit, therefore more stringent recordkeeping is not necessary
	PM and opacity limits (MN Direct Heating Equipment standard)	None	The maximum PTE of each furnace is 40% or less of the applicable PM limit, without use of control equipment. It is unlikely that the limits will be violated.
GP002 units – casting machines	PM and opacity limits (MN Industrial Process Equipment standard)	None	The maximum PTE of each unit is 59% or less of the applicable PM limit, without use of control equipment. It is unlikely that the limits will be violated.
GP003 units – heaters	PM and opacity limits (MN Indirect Heating Equipment standard)	None	The maximum PTE of each unit is 2% or less of the applicable PM limit, without use of control equipment. It is unlikely that the limits would be violated.
GP004 – grinding/cleaning equipment, CE002, CE004, CE009, CE011	PM and opacity limits (MN Industrial Process Equipment standard)	Operation, Maintenance, and Monitoring of control equipment	The maximum controlled PTE of each unit is 57% or less of the applicable PM limit, as long as the control equipment is operated and maintained. If the control equipment is properly maintained and operated, it is unlikely that the limits would be violated.

<b>EU/ GP/ CE</b>	<b>Emission limit (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP005 – blasting equipment, CE010, CE013	PM and opacity limits (MN Industrial Process Equipment standard)	Operation, Maintenance, and Monitoring of control equipment	The maximum controlled PTE of each unit is 2% or less of the applicable PM limit, as long as the control equipment is operated and maintained. If the control equipment is properly maintained and operated, it is unlikely that the limits would be violated.
GP006 – core machines, CE005, CE007, CE008	PM and opacity limits (MN Industrial Process Equipment standard)	None	<p>The maximum PTE of each unit is 19% or less of the applicable PM limit, without use of control equipment. It is unlikely that the limits would be violated.</p> <p>Use of the VOC and PM control equipment is at the discretion of the Permittee; it must be used in accordance with all permit requirements if the Permittee wishes to take credit for it in the annual emission inventory.</p>
GP007 – knockout/shakeout equipment	PM and opacity limits (MN Industrial Process Equipment standard)	None	All equipment exhausts inside the building. Testing would require construction of enclosures, and is not justified by what might be gained by testing.



<b>EU/ GP/ CE</b>	<b>Emission limit (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP008 – sand silos, CE003, CE006	PM and opacity limits (MN Industrial Process Equipment standard)	None	<p>The maximum PTE of each unit is less than 1% of the applicable PM limit, without use of control equipment. It is unlikely that the limits would be violated.</p> <p>Use of the control equipment is at the discretion of the Permittee; it must be used in accordance with all permit requirements if the Permittee wishes to take credit for it in the annual emission inventory.</p>
EU107 – sand mullor	PM and opacity limits (MN Industrial Process Equipment standard)	Operation, Maintenance, and Monitoring of control equipment (CE012)	<p>The estimated maximum controlled PTE 74% of the applicable PM limit, as long as the control equipment is operated and maintained. Since the facility has no need to run the equipment at maximum capacity, if the control equipment is properly maintained and operated, it is unlikely that the limits would be violated.</p>
EU108 – mullor barrel screen	PM and opacity limits (MN Industrial Process Equipment standard)	Stack testing required within 180 days of permit issuance	<p>The equipment is uncontrolled, and estimated emissions using the best data available (AP-42 emission factors for sand handling) indicate that it is possible that the hourly emissions may violate the MN Industrial Process Equipment standard. Therefore, stack testing is required.</p>

<b>EU/ GP/ CE</b>	<b>Emission limit (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
EU146 – sand transfer	PM and opacity limits (MN Industrial Process Equipment standard)	None	Equipment exhausts inside the building. Testing would require construction of enclosures, and is not justified by what might be gained by testing.

### **3.3 Insignificant Activities**

Then facility has several operations that qualify as insignificant activities under Minn. Rules. These are included in Appendix 1 to the permit, with the applicable requirements. Emissions from all insignificant activities (except the thermoplastic injection molding activities) are included in the total facility potential to emit. Thermoplastic injection molding is insignificant due to its extremely low actual emissions, under Minn. R. 7007.1300 subp. 4. Maximum emissions are not known, which is why they were not included in the total facility PTE. Total facility VOC emissions are well below the 250 tpy PSD threshold.

### **3.4 Delta Organization**

The format of this permit differs from the “traditional” format in that most limits and requirements are listed in the permit at the “group” level. The reason for this is the large number of units at the facility with the same applicable requirements would require a very lengthy, very repetitive permit. Since testing is not being requested in most cases, and because the vast majority of the units have no additional recordkeeping, either on an individual or a group basis, having the requirements on a group level is appropriate.

## **4. Conclusion**

Based on the information provided by LeSueur, Inc., the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in Air Emission Permit No. 07900017-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

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Attachments: A. Calculations and PTE Summary  
B. Facility Description and CD-01 Forms  
C. Applicable EPA Memos