

**AIR EMISSION PERMIT NO. 10300014- 001  
IS ISSUED TO**

Alumacraft Boat Company  
315 West St. Julien Street  
St Peter, Nicollet County, Minnesota 56082

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

<b>Permit Type</b>	<b>Application Date</b>
Total Facility Operating Permit	6/15/95 and 3/27/2000

This permit authorizes the permittee to operate and modify 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 as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Part 70

**Issue Date:** May 7, 2001

**Expiration:** May 7, 2006

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

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**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:**

Alumacraft Boat is a boat manufacturing facility. This permit authorizes operation of the facility, and acknowledges the addition of paint booth number 4. This permit also sets limits that restrict potential emissions to less than major source and significant levels as defined by 40 CFR §52.21. The facility is a major source as defined by 40 CFR Pt. 63 and § 70.2 due to its potential HAP emissions, and so is subject to the Part 70 permitting requirements.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co  
 Permit Number: 10300014 - 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

What to do	Why to do it
EMISSION LIMITS	hdr
Volatile Organic Compounds: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: Limit to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to avoid environmental review requirements under ch. 4410
Particulate Matter < 10 micron: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: Limit to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to avoid environmental review requirements under ch. 4410
Total Particulate Matter: less than or equal to 95 tons/year using 12-month Rolling Sum	Title I Condition: Limit to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to avoid environmental review requirements under ch. 4410
MONITORING	hdr
<p>Determination of Material Content For Emission Calculations: Solids and VOC content of each material used in any emission unit, shall be determined using the Environmental Data sheet (EDS) or Material Safety Data Sheet (MSDS) provided by the supplier of each material. If the EDS or MSDS provides a material content range, the highest value in the range shall be used in all emission calculations.</p> <p>Alternative methods approved by the MPCA may be used to determine material solids or VOC content. In addition, the Commissioner reserves the right to require the Permittee to determine the solids or VOC content of any material according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the ESD or MSDS.</p> <p>For the purposes of this permit, all solids are PM10, and PM is composed entirely of PM10.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
RECORDKEEPING	hdr
Recordkeeping: 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)
COMPLIANCE DEMONSTRATION	hdr
<p>Total Facility PM/PM10 Emission Calculations: By the 15th day of each month, calculate and record the total facility PM/PM10 emissions for the previous month, and the 12-month rolling sum of annual PM/PM10 emissions. Total PM emissions for the previous month shall be determined as follows:</p> <p><math>EPM = EU002EPM + EU003EPM + EU004EPM + EU010EPM</math></p> <p>where:</p> <p>EPM = tons of PM/PM10 emitted by the total facility during the previous month              EU002EPM = EU 002 PM/PM10 emissions as determined under EU 002              EU003EPM = EU 003 PM/PM10 emissions as determined under EU 003              EU004EPM = EU 004 PM/PM10 emissions as determined under EU 004              EU010EPM = EU 010 PM/PM10 emissions as determined under EU 010</p> <p>The 12-month rolling sum shall be calculated by summing the EPM calculated for each of the past 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co  
 Permit Number: 10300014 - 001

<p>Total Facility VOC Emission Calculations: By the 15th day of each month, calculate and record the total VOC emissions for the previous month and the 12-month rolling sum. Total VOC emissions for the previous month shall be determined by summing the VOC emissions from GP 001 and GP 002 as follows:</p> <p><math>EVOC = EU002VOC + EU003VOC + EU004VOC + EU010VOC + GP002VOC</math></p> <p>where:              EVOC = Total Facility Monthly VOC Emissions              EU002VOC = EU 002 VOC emissions as determined under EU 002              EU003VOC = EU 003 VOC emissions as determined under EU 003              EU004VOC = EU 004 VOC emissions as determined under EU 004              EU010VOC = EU 010 VOC emissions as determined under EU 010              GP002VOC = GP 002 VOC emissions as determined under GP 002</p> <p>The 12-month rolling sum shall be calculated by summing the EVOC calculated for each of the past 12 months.</p>	<p>Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21</p>
<p>NOTIFICATIONS</p>	<p>hdr</p>
<p>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.</p> <p>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.</p>	<p>Minn. R. 7019.1000, subp. 3</p>
<p>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.</p> <p>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.</p>	<p>Minn. R. 7019.1000, subp. 2</p>
<p>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.</p>	<p>Minn. R. 7019.1000, subp. 1</p>
<p>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:</p> <ol style="list-style-type: none"> <li>1. the cause of the deviation;</li> <li>2. the exact dates of the period of the deviation, if the deviation has been corrected;</li> <li>3. whether or not the deviation has been corrected;</li> <li>4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and</li> <li>5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.</li> </ol>	<p>Minn. R. 7019.1000, subp. 1</p>
<p>OTHER CONDITIONS</p>	<p>hdr</p>
<p>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.</p>	<p>Minn. R. 7019.1000, subp. 4</p>
<p>Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.</p>	<p>Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)</p>
<p>Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.</p>	<p>Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)</p>
<p>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.</p>	<p>Minn. R. 7011.0020</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co

Permit Number: 10300014 - 001

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
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)
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 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**

05/07/01

Facility Name: Alumacraft Boat Co

Permit Number: 10300014 - 001

**Subject Item: GP 001 Paint Booths**

**Associated Items:** EU 002 Paint Booth #1

EU 003 Paint Booth #2

EU 004 Paint Booth #3

EU 010 Paint Booth #4

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or 7011.0735.	Minn. R. 7011.0715, subp. 1
Opacity: less than or equal to 20 percent	Minn. R. 7011.0715, subp. 1
CONTROL EQUIPMENT REQUIREMENTS	hdr
Vent all emissions from the paint booths through HEPA wall filters. All filters shall be maintained and operated to maintain a collection efficiency of 92% for PM and PM10. Paint booths shall be maintained and operated to attain a PM and PM10 capture efficiency of 80% for EU 002, and 100% for EU 003, EU 004, and EU 010. The door(s) to paint booths 2, 3, and 4 (EU 003, 004, and 010, respectively) shall be closed during all painting in order to attain a 100% capture efficiency.	Title I Condition: Requirement to limit PM/PM10 emissions from the source to less than major levels as defined by 40 CFR 52.21
Each operating day, inspect the wall filters and record their condition. The condition of the filters includes, but is not limited to alignment, saturation, tears, and holes.  Record the results of the inspection.	Minn. R. 7011.0080
Corrective Action: If the daily inspection of the wall filters shows saturation, holes, or tears, or shows misalignment, the filters shall be immediately replaced or realigned as appropriate.	Minn. R. 7007.0800, subp. 2

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co

Permit Number: 10300014 - 001

**Subject Item: GP 002 Additional VOC Emission Sources**

**Associated Items:** EU 005 Solvent Wipe Down of Boats

EU 006 Gluing Sub assembly

EU 007 Gluing Floor assembly

EU 008 Gluing Hull prep

EU 009 Cleaning

What to do	Why to do it
Determination of VOC Content For Emission Calculations: VOC content in percent by weight of each material used shall be determined as described in the Total Facility section of Table A of this permit.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
Daily Recordkeeping: Once each day, calculate and record the total quantity (in pounds) of each VOC-containing material (glue or solvent) used the previous day in any emission unit in GP 002.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>GP 002 VOC Emission Calculations: By the 15th day of each month, calculate and record the total GP 002 VOC emissions for the previous month. Total GP 002 VOC emissions for the previous month shall be determined by summing the calculated VOC emissions from each solvent or glue used during the previous month using the following equation:</p> $GP002VOC = E [Solvent-Glue * \%VOC/2000]$ <p>where:</p> <p>Solvent-Glue = Each solvent, glue, or other VOC-containing material used in the previous month, in pounds                      %VOC = VOC wt. percent in each solvent, glue, or other VOC-containing material                      GP002VOC = GP 002 VOC emissions                      E = Summation</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co

Permit Number: 10300014 - 001

**Subject Item:** EU 002 Paint Booth #1

**Associated Items:** CE 001 Andre - Cardboard Binks Filter (Accordian)

GP 001 Paint Booths

SV 002 Paint Booth #1

What to do	Why to do it
MONITORING AND RECORDKEEPING	hdr
Determination of VOC and Solids Content For Emission Calculations: VOC and Solids content in percent by weight of each material used shall be determined as described in the Total Facility section of Table A of this permit.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
Daily Recordkeeping: Once each day, calculate and record the total quantity (in pounds) of each VOC- and solids-containing material used the previous day in EU 002.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 002 Monthly VOC Emissions Calculations: By the 15th day of each month, calculate and record the total EU 002 VOC emissions for the previous month. Total EU 002 VOC emissions for the previous month shall be determined by summing the calculated VOC emissions from each paint (coating) used during the previous month using the following equation:</p> $EU002VOC = E [PT * \%VOC/2000]$ <p>where:</p> <p>PT = coating use in EU 002 the previous month (pounds)                  %VOC = the wt. percent VOC in paint as determined above                  EU002VOC = total monthly VOC emissions in tons for all paint usage                  E = summation</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 002 PM/PM10 Emission Calculations: By the 15th day of each month, calculate and record the total EU 002 PM/PM10 emissions for the previous month. Total EU 002 PM emissions for the previous month shall be determined by summing the calculated particulate emissions from each type of coating used during the previous month, using the following equation :</p> $EU002EPM = E [(1-0.3)*((PT * \%S * 0.2 + PT * \%S * (1-0.92)*0.8)/2000)]$ <p>where:</p> <p>PT = coating use in EU 002 the previous month (pounds)                  %S = the weight percent solids in the coating                  0.8 = capture efficiency                  0.2 = uncaptured portion of coating spray                  EU002EPM = tons of PM/PM10 emitted                  0.3 = transfer efficiency                  0.92 = collection efficiency of the HEPA wall filters                  E = summation</p> <p>The 12-month rolling sum shall be calculated by summing the total EPM calculated for each of the past 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co

Permit Number: 10300014 - 001

**Subject Item:** EU 003 Paint Booth #2

**Associated Items:** CE 002 Fiberglass Filter w/Cardboard Frame

GP 001 Paint Booths

SV 003 Paint Booth #2

What to do	Why to do it
EMISSION LIMITS AND OPERATING REQUIREMENTS	hdr
Volatile Organic Compounds: less than or equal to 30 tons/year using 12-month Rolling Sum for EU 003.	Title I Condition: Limit to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 003 VOC emissions
Paint Booth Total Enclosure: Paint booth doors must be closed during all spray painting and coating operations.	Title I Condition: To restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 003 PM/PM10 emissions
Transfer Efficiency: The Permittee shall use the spray gun technology with the highest transfer efficiency possible during spraying operations.	Title I Condition: To restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 003 PM/PM10 emissions
MONITORING AND RECORDKEEPING	hdr
Determination of VOC and Solids Content For Emission Calculations: VOC and Solids content in percent by weight of each material used shall be determined as described in the Total Facility section of Table A of this permit.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
Daily Recordkeeping: Once each day, calculate and record the total quantity (in pounds) of each VOC- and solids-containing material used the previous day in EU 003.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 003 Monthly VOC Emissions Calculations: By the 15th day of each month, calculate and record the total EU 003 VOC emissions for the previous month and the previous 12-month period. Total EU 003 VOC emissions for the previous month shall be determined by summing the calculated VOC emissions from each paint (coating) used during the previous month using the following equation:</p> $EU003VOC = E [PT * \%VOC/2000]$ <p>where:</p> <p>PT = coating use in EU 003 the previous month (pounds)                      %VOC = the wt. percent VOC in paint as determined above                      EU003VOC = total monthly VOC emissions in tons for all paint usage                      E = summation</p> <p>VOC emissions for the previous 12-month period shall be calculated by summing the monthly VOC emissions for the previous 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 003 PM/PM10 Emission Calculations: By the 15th day of each month, calculate and record the total PM/PM10 emissions for the previous month. Total EU 003 PM emissions for the previous month shall be determined by summing the calculated particulate emissions from each type of coating used during the previous month, using the following equation :</p> $EU003EPM = E [(1-0.3)*(PT * \%S * (1-0.92)/2000)]$ <p>where:</p> <p>PT = coating use in EU 003 the previous month (pounds)                      %S = the weight percent solids in the coating                      EU003EPM = tons of PM/PM10 emitted                      0.3 = transfer efficiency                      0.92 = collection efficiency of the HEPA wall filters                      E = summation</p> <p>The 12-month rolling sum shall be calculated by summing the total EPM calculated for each of the past 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co  
 Permit Number: 10300014 - 001

**Subject Item:** EU 004 Paint Booth #3

**Associated Items:** CE 003 Fiberglass Filter w/Cardboard Frame  
 GP 001 Paint Booths  
 SV 004 Paint Booth #3

What to do	Why to do it
EMISSION LIMITS AND OPERATING REQUIREMENTS	hdr
Volatile Organic Compounds: less than or equal to 30 tons/year using 12-month Rolling Sum for EU 004.	Title I Condition: Limit to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 004 VOC emissions
Paint Booth Total Enclosure: Paint booth doors must be closed during all spray painting and coating operations.	Title I Condition: To restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 004 PM/PM10 emissions
Transfer Efficiency: The Permittee shall use the spray gun technology with the highest transfer efficiency possible during spraying operations.	Title I Condition: To restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 004 PM/PM10 emissions
MONITORING AND RECORDKEEPING	hdr
Determination of VOC and Solids Content For Emission Calculations: VOC and Solids content in percent by weight of each material used shall be determined as described in the Total Facility section of Table A of this permit.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
Daily Recordkeeping: Once each day, calculate and record the total quantity (in pounds) of each VOC- and solids-containing material used the previous day in EU 004.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 004 Monthly VOC Emissions Calculations: By the 15th day of each month, calculate and record the total EU 004 VOC emissions for the previous month and the previous 12-month period. Total EU 004 VOC emissions for the previous month shall be determined by summing the calculated VOC emissions from each paint (coating) used during the previous month using the following equation:</p> $EU004VOC = E [PT * \%VOC/2000]$ <p>where:</p> <p>PT = coating use in EU 004 the previous month (pounds)                  %VOC = the wt. percent VOC in paint as determined above                  EU004VOC = total monthly VOC emissions in tons for all paint usage                  E = summation</p> <p>VOC emissions for the previous 12-month period shall be calculated by summing the monthly VOC emissions for the previous 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 004 PM/PM10 Emission Calculations: By the 15th day of each month, calculate and record the total PM/PM10 emissions for the previous month, and the 12-month rolling sum of annual PM/PM10 emissions. Total EU 004 PM emissions for the previous month shall be determined by summing the calculated particulate emissions from each type of coating used during the previous month, using the following equation :</p> $EU004EPM = E [(1-0.3)*(PT * \%S * (1-0.92)/2000)]$ <p>where:</p> <p>PT = coating use in EU 004 the previous month (pounds)                  %S = the weight percent solids in the coating                  EU004EPM = tons of PM/PM10 emitted                  0.3 = transfer efficiency                  0.92 = collection efficiency of the HEPA wall filters                  E = summation</p> <p>The 12-month rolling sum shall be calculated by summing the total EPM calculated for each of the past 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/07/01

Facility Name: Alumacraft Boat Co

Permit Number: 10300014 - 001

**Subject Item:** EU 010 Paint Booth #4

**Associated Items:** CE 004 Fiberglass Filter w/Cardboard Frame

GP 001 Paint Booths

SV 005 Paint Booth #4

What to do	Why to do it
EMISSION LIMITS AND OPERATING REQUIREMENTS	hdr
Volatile Organic Compounds: less than or equal to 25 tons/year using 12-month Rolling Sum for EU 010.	Title I Condition: Limit to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 010 VOC emissions
Paint Booth Total Enclosure: Paint booth doors must be closed during all spray painting and coating operations.	Title I Condition: To restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 010 PM/PM10 emissions
Transfer Efficiency: The Permittee shall use the spray gun technology with the highest transfer efficiency possible during spraying operations.	Title I Condition: To restrict potential emissions to less than major source levels as defined by 40 CFR 52.21 and to meet operating assumptions of BACT analysis for EU 010 PM/PM10 emissions
MONITORING AND RECORDKEEPING	hdr
Determination of VOC and Solids Content For Emission Calculations: VOC and Solids content in percent by weight of each material used shall be determined as described in the Total Facility section of Table A of this permit.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
Daily Recordkeeping: Once each day, calculate and record the total quantity (in pounds) of each VOC- and solids-containing material used the previous day in EU 010.	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 010 Monthly VOC Emissions Calculations: By the 15th day of each month, calculate and record the total EU 010 VOC emissions for the previous month and the previous 12-month period. Total EU 010 VOC emissions for the previous month shall be determined by summing the calculated VOC emissions from each paint (coating) used during the previous month using the following equation:</p> $EU010VOC = E [PT * \%VOC/2000]$ <p>where:</p> <p>PT = coating use in EU 010 the previous month (pounds)                  %VOC = the wt. percent VOC in paint as determined above                  EU010VOC = total monthly VOC emissions in tons for all paint usage                  E = summation</p> <p>VOC emissions for the previous 12-month period shall be calculated by summing the monthly VOC emissions for the previous 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21
<p>EU 010 PM/PM10 Emission Calculations: By the 15th day of each month, calculate and record the total PM/PM10 emissions for the previous month. Total EU 010 PM emissions for the previous month shall be determined by summing the calculated particulate emissions from each type of coating used during the previous month, using the following equation :</p> $EU010EPM = E [(1-0.3)*((PT * \%S * (1-0.92)/2000)]$ <p>where:</p> <p>PT = coating use in EU 010 the previous month (pounds)                  %S = the weight percent solids in the coating                  EU010EPM = tons of PM/PM10 emitted                  0.3 = transfer efficiency                  0.92 = collection efficiency of the HEPA wall filters                  E = summation</p> <p>The 12-month rolling sum shall be calculated by summing the total EPM calculated for each of the past 12 months.</p>	Title I Condition: Monitoring for conditions taken to restrict potential emissions to less than major source levels as defined by 40 CFR 52.21

**TABLE B: SUBMITTALS**

05/07/01

Facility Name: Alumacraft Boat Co  
Permit Number: 10300014 - 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: RECURRENT SUBMITTALS**

05/07/01

Facility Name: Alumacraft Boat Co

Permit Number: 10300014 - 001

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance	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 US EPA regional office in Chicago. (See Table B cover page for EPA address). This report covers all deviations experienced during the calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance	Total Facility

APPENDIX MATERIAL

Facility Name: Alumacraft Boat Company

Permit Number: 10300014-001

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

- 1) Air make up units that are insignificant because the units have a potential to emit of less than one ton per year. Unit is subject to Minn. R. 7011.0610.
- 2) Bake oven to dry paint with potential emissions less than one ton per year. Unit is subject to Minn. R. 7011.0610.
- 3) Acid etch tank, potential emissions less than one tone per year. Unit is subject to Minn. R. 7011.0715.
- 4) Foam blown into boats, potential emissions less than one ton per year.

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**DRAFT AIR EMISSION PERMIT NO. 10300014-001**

This technical support document is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft 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	Facility Address (SIC Code: 3732)
Alumacraft Boat Co. 315 West Julien Street St. Peter, MN 58082	Alumacraft Boat Co. 315 West Julien Street St. Peter, MN 58082

1.2. Description of the facility

Alumacraft is an aluminum boat manufacturing facility. Emission sources are three paint booths, gluing operations, and solvent cleaning.

1.3 Description of any changes allowed with this permit issuance

This Title V permit incorporates a change that Alumacraft made in 2000. Alumacraft has installed a new paint booth, Paint Booth #4. At the same time, Alumacraft is proposing emission limits for the total facility that limit potential VOC and PM emissions to less than major source levels under 40 CFR 52.21. With those PM and VOC limits the source is not defined as major under new source review; potential emissions of other criteria pollutants are less than major source levels as well.

The source is considered a major source of hazardous air pollutants. Therefore, the facility is subject to 40 CFR Pt. 70 permitting requirements.

The limits on PM and VOC are set at less than 100 tons per year, rather than 250. The purpose for setting the limits at that level was to avoid the requirement for completion of an EAW.

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.

This is the first permit to be issued to the facility.

1.5. Facility Emissions:

Permit Action Number: No. 10300014-001  
Date: 12/11/2003

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	Pb tpy	Single HAP tpy**	All HAPs tpy**
Total Facility Limited Potential Emissions	95	95	0.01	1.79	0.37	95	-	95	95
Total Facility Actual Emissions	0.13	0.13	0.00	0.12	0.02	18.7	-	5.34	9.45

\*These potential emissions are based on the permit limits

\*\*Assumes all VOC are HAPs

Table 2. Facility and Permit Classification

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

\* 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 and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

## Regulatory Overview of Facility

EU, GRP, or SV #	Applicable Regulations	Comments:
TF, EU 003, EU 004, and EU 010	Title I Condition: 40 CFR 52.21	Limits on VOC emissions that limit potential emissions to less than major source and major modification levels; Requirements to control PM/PM10 emissions to restrict these emissions to less than the major source and modification levels
GP 001	Minn. R. 7011.0715	Standards of Performance for Industrial Process Equipment
GP 002	Title I Condition: 40 CFR 52.21	Recordkeeping of VOC usage to avoid major source status

### 3. Technical Information

#### *Regulatory Applicability:*

*Minnesota Performance Standards:* The paint booths (GP 001) are subject to Minnesota Performance Standards for Industrial Process Equipment.

*Federal New Source Performance Standards:* There are no NSPS regulations for paint booths or gluing operations.

*Federal New Source Review:* The applicable regulation for the area is 40 CFR 52.21. This permit establishes limits that restrict potential emissions to less than major source levels. The facility appears to have as many as three paint booths that would have been considered major modifications when installed.

#### *BACT for VOC*

Paint Booth #2 (EU 003) with potential emissions of 2438 tons per year of VOC was installed in 1983. The MPCA concluded that the paint booth would have been subject to new source review in the absence of a synthetic minor limit on the emissions increase, and asked Alumacraft to submit a best available control analysis. That analysis is attached. Alumacraft determined that the best control would be some sort of oxidation process. Those options for control were eliminated due to economic impacts. The cost per ton for VOC control was \$7,425 per ton for a thermal incinerator, and \$7,186 per ton for a regenerative thermal oxidizer. These values are based on an EU 003 VOC limit of 30 tpy agreed to by Alumacraft.

Paint Booth #3 (EU 004) with potential emissions of 1720 tons per year of VOC was installed in 1988. The MPCA concluded that the paint booth would have been subject to

new source review in the absence of a synthetic minor limit on the emissions increase, and asked Alumacraft to submit a best available control analysis. That analysis is attached. Alumacraft determined that the best control would be some sort of oxidation process. Those options for control were eliminated due to economic impacts. The cost per ton for VOC control was \$8,616 per ton for a thermal incinerator, and \$7,898 per ton for a regenerative thermal oxidizer. These values are based on an EU 004 VOC limit of 30 tpy agreed to by Alumacraft.

Paint Booth #4 (EU 010) with potential emissions of 112 tons per year appears to have been installed in early 2000, based on information in the permit application for that paint booth. The MPCA concluded that the paint booth would have been subject to new source review in the absence of a synthetic minor limit on the emissions increase, and asked Alumacraft to submit a best available control analysis. That analysis is attached. Alumacraft determined that the best control would be some sort of oxidation process. Those options for control were eliminated due to economic impacts. The cost per ton for VOC control was \$14,511 per ton for a thermal incinerator, and \$12,040 per ton for a regenerative thermal oxidizer. These values are based on an EU 010 VOC limit of 25 tpy agreed to by Alumacraft.

In light of the high costs for control, the MPCA has determined that the company did not circumvent the installation of control, and is granting Alumacraft's request for a synthetic minor permit that covers not only the new paint booth, but the entire facility.

#### BACT for PM/PM<sub>10</sub>

The PM/PM<sub>10</sub> BACT analyses submitted by the Permittee's consultant for Paint Booths 2, 3, and 4 determined that BACT constitutes the use of High Volume Low Pressure (HVL) spray guns (transfer efficiency of 65% to 75%) coupled with panels filters with a control efficiency of 92%. However, according to Alumacraft, some of the coatings (mainly primer) can not be properly applied using HVL, and must be applied using air-assisted airless spray (30% transfer efficiency). Therefore, the permittee is only required to use the spray application method that is both feasible and yields the highest transfer efficiency. This is appropriate to ensure that PM/PM<sub>10</sub> is as low as possible because in addition to the permit requirement, the permittee has a financial incentive to use the highest transfer efficiency spray method in order to reduce the cost of coating material consumption.

In order to simplify recordkeeping for determining PM/PM<sub>10</sub> emissions, the permittee has agreed to use the lowest transfer efficiency value (30%) in all spray booth PM/PM<sub>10</sub> emission calculation equations.

Finally, Paint booths 2, 3, and 4 (EU 003, 004, and 010) have doors that are closed during painting, and therefore are total enclosures. As a result, the PM/PM<sub>10</sub> emission calculation formulas for these booths do not contain an 80% capture efficiency factor, unlike the equation for paint booth 1 (EU 002).

#### Total Facility Limits

The facility has chosen to accept limits that restrict potential emissions to less than major source levels as defined by new source review regulations. The permit contains limits for VOCs and PM/PM<sub>10</sub> of 95 tons per year. In addition, limits to retroactively restrict the paint booth VOC and PM<sub>10</sub> emissions from being major modifications under NSR have been added at the emission unit level.

*NESHAPs:* There is no NESHAP promulgated for this source type at this time.

*NESHAPs 112(g):* The new paint booth has potential HAP emissions that exceed the 10/25 threshold levels that define a major source under 40 CFR 63, Subp. B. However, that regulation for preconstruction review is applicable only to stand alone sources, in other words, sources that produce a final or interim product. The new paint booth is used to put a decorative stripe and final clear coat on boats that have been sanded, primed, and base coated in booths prior to this booth on the finishing line. Therefore, the booth is not a discrete processing unit in and of itself, and not subject to the preconstruction review requirements of 40 CFR 63, Subp. B.

*Environmental Review:* An environmental Assessment Worksheet is required for sources with potential emission increases greater than 100 tons per year. This modification does not have potential emissions greater than 100 tons per year due to limits that the facility has agreed to in its permit.

Total facility permit limits were set such that the facility is not allowed to make a major modification, (an addition that increases potential emissions by more than 100 tons per year), without amending its permit. At such time, environmental review would be required under Minn. R. 4410.

*Minnesota's Permitting Program:* Potential HAP emissions are greater than the 10/25 thresholds of HAPs. Therefore, the facility is considered a major source under the Part 70 permitting program, and this permit is issued as such.

*Changes Made After Public Notice:* Due to comments during the public notice period from EPA R5, BACT requirements for PB 2 and PB 3 were added (PB 2 and PB 3 were installed in the 1980s and were subject to NSR permitting at the time of installation). Emission calculation equations were changed at the total facility level, so that VOCs and PM/PM<sub>10</sub> are calculated at the emission unit or group level and then summed at the total facility level. In addition, GP 002 was created for the non-coating VOC sources, in order to track and record the VOC emissions from these processes. The following is a detailed summary of changes made:

Total Facility:

Removed 3 requirements for installation of monitoring equipment, calibration of monitoring equipment, and operation of monitoring equipment because these are inapplicable as the permit does not require operation of any monitoring equipment.

The PM/PM<sub>10</sub> and VOC compliance demonstration requirements and calculations were revised, although the proposed total facility limits did not change. The public notice

version contained PM/PM10 and VOC emission calculations at the total facility level that calculated emissions based on total facility coating usage. These equations were copied to the individual paint booth level (EU 002, 003, 004, and 010) and modified as necessary to calculate emissions based on coating usage by each paint booth. In the Total Facility section, the original equations were revised so that now they sum the emissions calculated at the emission unit (and GP 002 for VOCs) level. After the public notice was over, the permittee indicated that only paint booth 1 was not totally enclosed. Therefore, the PM/PM10 emission calculation equations were modified for paint booths 2, 3, and 4 to reflect the 100% enclosure.

Inserted requirements for obtaining coating material content data from coating supplier (MSDS or EDS).

EU 003, EU 004, EU 010:

Added BACT VOC limits as requested by EPA Region V, because potential emissions of VOC were significant under PSD when these modifications were made. Also added requirement to close paint booth door(s) when spraying to achieve 100% capture efficiency.

After the public notice was over, the permittee indicated that only paint booth 1 was not totally enclosed. Therefore, the PM/PM10 emission calculation equations were modified for paint booths 2, 3, and 4 to reflect the 100% enclosure.

GP 002:

Created GP 002 (non-coating VOC sources) and inserted requirements for VOC emissions monitoring.

#### **4. Conclusion**

Based on the information provided by Alumacraft, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 10300014-001 and this technical support document, will not cause or contribute to a violation of applicable federal and Minnesota Performance Standards or Ambient Air Quality Standards.

Staff Members on Permit Team: Marshall Cole, Jenny L. Reinertsen, Dan Brady

Attachments: Calculations