AIR EMISSION PERMIT NO. 11700018- 002

IS ISSUED TO

US Marine Corporation
918 Sioux Dr
Pipestone, Pipestone County, MN 56164

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):

Permit Type	Application Date
Total Facility Operating Permit	October 7, 1999

This permit authorizes the permittee to 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: Federal; Part 70 / Limits to avoid NSR
Issue Date: January 22, 2001
Expiration: January 22, 2006
All Title I Conditions do not expire.

Ann M. Foss
Manager
North and South Major Facilities

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:

U.S. Marine Corporation operates a reinforced fiberglass boat manufacturing facility located in Pipestone, MN. The facility consists of three buildings designated as Pipestone I, Pipestone II and Pipestone III. At the time of permit issuance, the Pipestone I building is being used as warehouse space.

This permit establishes a federally-enforceable FlexCap synthetic minor limit of 240 tons per year for VOCs. The permit allows U.S. Marine to install, modify, or move emission units of pre-determined types as long as total facility emissions remain within the permit limits.

Equipment at the facility at the time of permit issuance is shown on the following page.

Equipment at the Facility at the Time of Permit Issuance

Emission Unit ID #	Stack Vent ID #	Control Equipment ID #	Description*	Manufacturer/ Model #
801	801	401	P2: Basecoat gun	Magnum/ATG 3500
802	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
803	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
804	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
805	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
806	802-803	402-403	P2: Syntactic foam gun	TAH Industries/450 Autogun
807	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
808	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
809	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
810	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
811	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
812	806	406	P2: Chopper gun, small parts	Venus/G83
813	806	406	P2: Gelcoat gun, small parts	Magnum/ATG 3500
----	807	407	P2: Mold preparation area	Not applicable
814	808-809	408-409	P2: Chopper gun, decks	Venus/G83
815	808-809	408-409	P2: Chopper gun, decks	Venus/G83
816	808-809	408-409	P2: Chopper gun, decks	Venus/G83
817	808-809	408-409	P2: Chopper gun, decks	Venus/G83
----	810	----	P2: Mold shop	Not applicable
818	811	410	P2: Basecoat gun	Magnum/ATG 3500
819	811	410	P3: Chopper gun, basecoat	Venus/G83
820	812	411	P3: Chopper gun, decks	Venus/G83
821	812	411	P3: Chopper gun, decks	Venus/G83
822	813	412	P3: Spray gun, mold repair	Magnum/ATG 3500
823	814	413	P3: Gelcoat gun	Magnum/ATG 3500
824	814	413	P3: Gelcoat gun	Magnum/ATG 3500
825	814	413	P3: Gelcoat gun	Magnum/ATG 3500
826	814	413	P3: Gelcoat gun	Magnum/ATG 3500
827	814	413	P3: Gelcoat gun	Magnum/ATG 3500
828	814	413	P3: Vinylester gun	Venus/G83
829	815-816	414-415	P3: Chopper gun, hulls	Venus/G83
830	815-816	414-415	P3: Chopper gun, hulls	Venus/G83
831	815-816	414-415	P3: Chopper gun, hulls	Venus/G83

***** P2 or P3 denotes that the unit is at the Pipestone 2 or Pipestone 3 building, respectively.

All Control Equipment (CE 401-415) consists of panel filters. Emission units classified as insignificant activities are listed in Appendix II of this permit.

TABLE A: LIMITS AND OTHER REQUIREMENTS

01/22/01

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

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
VOC Emissions: Less than or equal to 240.0 tons/year based on a 12-month rolling sum, to be calculated by the 15th day of each month for the previous 12-month period, as described in this permit. All VOC-containing materials used in all operations shall be included in this calculation.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21.
Material Content: VOC contents in all materials shall be determined by the Material Safety Data Sheet (MSDS) or Certificate of Analysis (COA) provided by the supplier for each material used. If a material content range is given on the MSDS or COA, the highest number in the range shall be used in all permit calculations. Other alternative methods approved by the MPCA may be used to determine the VOC content. The Commissioner reserves the right to require the Permittee to determine the VOC content of any material according to EPA and/or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS or COA data.	Minn. R. 7007.0800, subp. 4 and subp. 5
Monthly Recordkeeping - VOC Emissions By the 15th day of each month, the Permittee shall calculate and record the following: 1. The total of all VOC containing materials used for the previous calendar month. This record shall include the VOC content of each material as determined by the Material Content requirement of this permit. 2. The VOC emissions for the previous month using the formulas specified in this permit. 3. The 12-month rolling sum of VOC emissions for the previous 12 months, by summing the monthly VOC emissions calculated for the previous 12 months.	Minn. R. 7007.0800, subp. 4 and subp. 5
Monthly Calculation -- VOC Emissions The Permittee shall calculate VOC emissions using the following equations: VOC (tons/month) = S + M + V S = (A1 x B1 / 2000) + (A2 x B2 / 2000) + (A3 x B3 / 2000) + ... M = (C1 x D1 / 2000) + (C2 x D2 / 2000) + (C3 x D3 / 2000) + ... V = (E1 x F1) + (E2 x F2) + (E3 x F3) + ... where: S = styrene emissions in tons per month A# = Amount of styrene-containing resin/gelcoat material used, in tons B# = Emission factor for styrene, based on weight percent styrene and the spray technology used. (see Note 1)	Minn. R. 7007.0800, subp. 4 and subp. 5
Monthly calculation, continued M = methyl methacrylate (MMA) emissions in tons per month C# = Amount of MMA-containing gelcoat material used, in tons D# = Emission factor for MMA, based on weight percent MMA and the spray technology used. (see Note 1) V = Non-styrene and non-MMA VOC emissions in tons per month E# = Amount of material containing VOC other than styrene or MMA used, in tons F# = weight percent non-styrene and non-MMA VOC in each material used, determined as required in the Material Content requirement of this permit. NOTE 1: The emission factor shall be the appropriate factor from Appendix 1, until such time as EPA finalizes a new AP-42 emission factor. When finalized, the new AP-42 factor shall be used. The Permittee may propose to use a site-specific emission factor derived from MPCA approved performance tests. If approved by MPCA, this site-specific factor shall be used.	Minn. R. 7007.0800, subp. 4 and subp. 5
Labeling Requirement: The Permittee shall permanently display on each fixed emission unit the Emission Unit (EU) number and, on each item of air pollution control equipment, the Control Equipment (CE) number. The identifying number shall be legible from a safe distance.	Title I Condition: Monitoring for limit to avoid classification as a major source under 40 CFR Section 52.21.
Equipment List: The Permittee shall maintain a written list of all emission units on site that are not insignificant activities. The list shall include the type of equipment; identifying number; dates of installation, modification and/or reconstruction; and reference to applicable Standards of Performance for New Stationary Sources (40 CFR pt. 60) and National Emission Standards for Hazardous Air Pollutants (40 CFR pt. 63).	Title I Condition: Recordkeeping for limit to avoid classification as a major source under 40 CFR Section 52.21.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

Updating the Equipment List: The list shall be updated to include new or modified equipment before making a change. New emission units may be installed if they are of a type already listed in this permit, and existing units may be modified or moved, without obtaining a permit amendment, provided total facility emissions remain within the limits specified in the permit. If a proposed change triggers an applicable requirement that is not contained in this permit, the change must go through the appropriate procedure in Minn. R. ch. 7007.	Title I Condition: Recordkeeping for limit to avoid classification as a major source under 40 CFR Section 52.21
The Permittee shall not "construct" or "reconstruct" a major source of hazardous air pollutants as defined in 40 CFR part 63, Subpart B, section 63.2 without first obtaining a permit amendment.	Title I Condition: Limit to avoid 40 CFR part 63, Subpart B and Minn. R. 7007.3010
The Permittee must obtain a permit amendment prior to any construction or reconstruction (as defined in 40 CFR part 63, subpart A) which subjects the source to a relevant emission standard that has been promulgated in 40 CFR part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories.	Title I Condition: Limit to avoid 40 CFR part 63, Subpart A
40 CFR part 60 and 40 CFR part 61 Sources: The Permittee must obtain a permit amendment prior to the stationary source containing an affected facility as defined in 40 CFR 60.2, as amended, that is subject to a standard under 40 CFR part 60, as amended (Standards of Performance for New Stationary Sources). The Permittee must also obtain a permit amendment prior to the stationary source being subject to a standard under 40 CFR part 61, as amended (National Emission Standards for Hazardous Air Pollutants).	Minn. R. 7007.0250, subp. 2
Insignificant Activities: The Permittee shall evaluate the emissions from changes made under Minn. R. 7007.1300 on an annual basis. The Permittee shall not make any change that causes emissions to exceed permit thresholds without first obtaining a major permit amendment.	Title I Condition: Recordkeeping for limit to avoid classification as a major source under 40 CFR Section 52.21.
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 until a permit amendment has been issued.	Title I Condition: Limit to avoid classification as a major source under 40 CFR Section 52.21.
The Permittee shall not begin construction of any single project or projects that are connected or phased which will cause a total increase in actual emissions of greater than 99 tons per year for any criteria pollutant without first getting a permit amendment to authorize the project. Connected and phased have meanings as defined in Minn. R. 4410.0200 subps. 9b and 60. The Permittee shall not begin construction of any other project which is listed in Minn. R. 4410.4300 or Minn. R. 4410.4400 without first getting a permit amendment to authorize the project. Such projects may require the completion of an Environmental Assessment Worksheet or an Environmental Impact Statement prior to the amendment being issued. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 4410.4300 and Minn. R. 4410.4400
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)
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. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

01/22/01

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

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
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
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.	Minn. R. 7007.0800, subp. 2: Minn. R. 7007.0800, subp. 16(J)
Emissions Inventory Report: due 91 days after the 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
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)
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)
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 7002.0095
Fuel Usage: Only natural gas or propane may be burned in fuel burning equipment at the facility.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

01/22/01

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

Subject Item: **GP 001 Stack Vents**

Associated Items: SV 801 P2: Basecoat/bottom paint

SV 802 P2: Hull stiffening

SV 803 P2: Hull lamination

SV 804 P2: Gelcoat

SV 805 P2: Gelcoat

SV 806 P2: Small parts lamination

SV 808 P2: Deck stiffening

SV 809 P2: Deck lamination

SV 811 P3: Basecoat

SV 812 P3: Deck lamination

SV 813 P3: Mold shop (spray gun)

SV 814 P3: Gelcoat

SV 815 P3: Hull lamination

SV 816 P3: Hull stiffening

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity . This limit applies separately to each stack vent.	Minn. R. 7011.0715, subp. 1(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. This limit applies separately to each stack vent.	Minn. R. 7011.0715, subp. 1(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

01/22/01

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

Subject Item: **GP 003 Filters**

Associated Items: CE 401 Mat or Panel Filter

CE 402 Mat or Panel Filter

CE 403 Mat or Panel Filter

CE 404 Mat or Panel Filter

CE 405 Mat or Panel Filter

CE 406 Mat or Panel Filter

CE 407 Mat or Panel Filter

CE 408 Mat or Panel Filter

CE 409 Mat or Panel Filter

CE 410 Mat or Panel Filter

CE 411 Mat or Panel Filter

CE 412 Mat or Panel Filter

CE 413 Mat or Panel Filter

CE 414 Mat or Panel Filter

CE 415 Mat or Panel Filter

What to do	Why to do it
Total Particulate Matter: greater than or equal to 73.6 percent control efficiency	Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: greater than or equal to 73.6 percent control efficiency	Minn. R. 7007.0800, subp. 2
The Permittee shall operate and maintain each particulate filter any time the corresponding process equipment is in operation.	Minn. R. 7007.0800, subp. 2
Operation and Maintenance of Filters: The Permittee shall operate and maintain each filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available on site for use by staff and for review by MPCA staff.	Minn. R. 7007.0800, subp. 14
Daily Inspections: Once each operating day, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes, and any other matter that may affect the filter's performance. The Permittee shall maintain a daily written record of the filter inspections.	Minn. R. 7007.0800, subp. 2, subp. 5 and subp. 14
Periodic Inspections: The Permittee shall inspect the control equipment components as required by the manufacturer's specifications. The frequency of the inspections shall be specified in the O & M Plan. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 2, subp. 5 and subp. 14
Corrective Actions: If the filters or any of their components are found to need repair, the Permittee shall follow the O & M Plan for the panel filter and take corrective action as soon as possible. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subp. 2, subp. 5 and subp. 14
The Permittee may replace emission units, move emission units or add new emission units to those currently controlled by equipment listed in GP 003 provided that all replaced or added emission units are vented through control equipment meeting the requirements of GP 003.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.0300

TABLE B: SUBMITTALS

01/22/01

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

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

01/22/01

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility

TABLE B: RECURRENT SUBMITTALS

01/22/01

Facility Name: US Marine Corp

Permit Number: 11700018 - 002

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. The report covers all deviations experienced during the calendar year. A copy of this report shall also be submitted to the U.S. EPA Regional Office.	Total Facility
Equipment List	due 30 days after end of each calendar year following Permit Issuance. The list is to be submitted with the Compliance Certification. This report shall describe changes made to the stationary source without applying for an amendment. Such changes must comply with the requirements of this permit.	Total Facility

APPENDIX MATERIAL
Facility Name:US Marine Corp
Permit Number: 11700018-002

Appendix I

Emission Factors for Open Molding of Composites

Emission Rate in Pounds of Styrene Emitted per Ton of Resin or Gelcoat Processed

Application Process	Styrene content in resin/gelcoat, %[1]																			
	<33[2]	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**>50[2]**
Manual	0.126 x %styrene x 2000	83	89	94	100	106	112	117	123	129	134	140	146	152	157	163	169	174	180	((0.286 x %styrene) - 0.0529) x 2000
Manual w/ Vapor Suppressed Resin VSR[3]	**Manual emission factor** [listed above] x (1 - (0.50 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Atomized	0.169 x %styrene x 2000	111	126	140	154	168	183	197	211	225	240	254	268	283	297	311	325	340	354	((0.714 x %styrene) - 0.18) x 2000
Mechanical Atomized with VSR[3]	**Mechanical Atomized emission factor** [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Non-Atomized	0.107 x %styrene x 2000	71	74	77	80	83	86	89	93	96	99	102	105	108	111	115	118	121	124	((0.157 x %styrene) - 0.0165) x 2000
Mechanical Non-Atomized with VSR[3]	**Mechanical Non-Atomized emission factor** [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Filament application	0.184 x %styrene x 2000	122	127	133	138	144	149	155	160	166	171	177	182	188	193	199	204	210	215	((0.2746 x %styrene) - 0.0298) x 2000
Filament application with VSR[4]	0.120 x %styrene x 2000	79	83	86	90	93	97	100	104	108	111	115	118	122	125	129	133	136	140	0.65 x ((0.2746 x %styrene) - 0.0298) x 2000
Gelcoat Application	0.445 x %styrene x 2000	294	315	336	356	377	298	418	439	460	481	501	522	543	564	584	605	626	646	((1.03646 x %styrene) - 0.195) x 2000
Covered-Cure after Roll-Out	**Non-VSR process emission factor** [listed above] x (0.80 for Manual <or> 0.85 for Mechanical)																			
Covered-Cure without Roll-Out	**Non-VSR process emission factor** [listed above] x (0.50 for Manual <or> 0.55 for Mechanical)																			

Emission Rate in Pounds of Methyl Methacrylate Emitted per Ton of Gelcoat Processed

Application Process	MMA content in gelcoat, %[5]																			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**0**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**≥20**
Gel coat application[6]	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	0.75 x %MMA x 2000

Notes

1. Including styrene monomer content as supplied, plus any extra styrene monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.

2. Formulas for materials with styrene content < 33% are based on the emission rate at 33% (constant emission factor expressed as percent of available styrene), and for styrene content > 50% on the emission rate based on the extrapolated factor equations; these are not based on test data but are believed to be conservative estimates. The value for "% styrene" in the formulas should be input as a fraction. For example, use the input value 0.30 for a resin with 30% styrene content by weight.

3. The VSR reduction factor is determined by testing each resin/suppressant formulation according to the procedures detailed in the *CFA Vapor Suppressant Effectiveness Test*.
4. The effect of vapor suppressants on emissions from filament winding operations is based on the *Dow Filament Winding Emissions Study*.
5. Including MMA monomer content as supplied, plus any extra MMA monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
6. Based on gelcoat data from *NMMA Emission Study*.

This table is based on the CFA *Unified Emissions Factors* document, dated April 7, 1999.

Appendix II

Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300, subpart	Activity	Applicable Requirement(s)
3(A)	Fuel use: space heaters fueled by kerosene, natural gas, or propane.	Minn. R. 7011.0510/0515
3(B)	Two natural gas-fired forced air furnaces rated at 0.105 and 0.205 million BTU/hr.	Minn. R. 7011.0510/0515
3(D)	Miscellaneous wood shop activities from which emissions are collected and routed to an air cleaning system which is vented inside of the building 100 percent of the time.	Minn. R. 7011.0710/0715
3(D)	Two grinding booths from which emissions are collected and routed to an air cleaning system which is vented inside of the building 100 percent of the time.	Minn. R. 7011.0710/0715
3(H)	Brazing, soldering or welding equipment.	Minn. R. 7011.0510/0515, Minn. R. 7011.0610 and Minn. R. 7011.0710/0715
3(I)	Four natural gas-fired boilers rated at 0.512, 0.501, 0.501 and 0.409 million Btu/hr.	Minn. R. 7011.0510/0515
3(J)	Fugitive Emissions from roads and parking lots.	Minn. R. 7011.0150
3(K)	Infrequent use of spray paint equipment for upkeep of buildings, machinery, vehicles and supporting equipment.	Minn. R. 7011.0710/0715 OR Minn. R. 7011.0105/0110
4(B)	Eight natural gas-fired air make-up units rated at 5.4, 2.4, 2.4, 2.4, 6.0, 6.5, 2.8, 2.8 and 6.3 million BTU/hr.	Minn. R. 7011.0510/0515
4(B)	Three rubber hose cutting stations.	Minn. R. 7011.0710/0715
4(B)	Small parts cleaner using non-HAPs solvents.	Minn. R. 7011.0710/0715 OR Minn. R. 7011.0105/0110
4(B)	Silicone sealant usage (tube application) and carpet adhesive usage (spray application).	Minn. R. 7011.0710/0715 OR Minn. R. 7011.0105/0110
4(B) and 4(C)	Use of floatation foam injection equipment.	Minn. R. 7011.0710/0715 OR Minn. R. 7011.0105/0110
4(B) and 4(C)	Use of brush applied clear wood sealants.	Minn. R. 7011.0710/0715 OR Minn. R. 7011.0105/0110
4(B) and 4(C)	Resin storage tanks with capacities below 10,500 gallons.	Minn. R. 7011.1505

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 11700018-002

This technical support document is for all the interested parties of 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 (list both if different)	Facility Address (SIC Code: 3732)
U.S. Marine Corporation P.O. Box 9029 Everett, WA 98206 Contact: Donald Barnhill Phone: (360)435-5571	918 Sioux Drive Pipestone, MN 56164 Pipestone County

1.2. Description of the facility

U.S. Marine Corporation operates a reinforced fiberglass boat manufacturing facility located in Pipestone, MN. This facility will be subject to the MACT standard for fiberglass boat manufacturing upon promulgation of the standard. The facility consists of three buildings designated as Pipestone I, Pipestone II and Pipestone III. The Pipestone I building is currently used as warehouse space. U.S. Marine is requesting the issuance of a "FlexCap" total facility operating permit. The FlexCap permit would replace the current Part 70 Manufacturing General Permit under which the facility is currently operating. U.S. Marine intends to obtain permission under the permit to install, modify, or move emission units of pre-determined types as long as total facility emissions remain within the permit limits.

U.S. Marine proposes to limit facility-wide emissions of VOCs to less than 240 tons per year as a 12-month rolling sum. Equipment currently at the facility is shown in the following table.

Equipment at the Facility

Emission Unit ID #	**Stack Vent ID #**	**Control Equipment ID #**	**Description***	**Manufacturer/ Model #**
801	801	401	P2: Basecoat gun	Magnum/ATG 3500

802	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
803	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
804	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
805	802-803	402-403	P2: Chopper gun, hulls	Venus/G83
806	802-803	402-403	P2: Syntactic foam gun	TAH Industries/450 Autogun
807	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
808	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
809	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
810	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
811	804-805	404-405	P2: Gelcoat gun	Magnum/ATG 3500
812	806	406	P2: Chopper gun, small parts	Venus/G83
813	806	406	P2: Gelcoat gun, small parts	Magnum/ATG 3500
----	807	407	P2: Mold preparation area	Not applicable
814	808-809	408-409	P2: Chopper gun, decks	Venus/G83
815	808-809	408-409	P2: Chopper gun, decks	Venus/G83
816	808-809	408-409	P2: Chopper gun, decks	Venus/G83
817	808-809	408-409	P2: Chopper gun, decks	Venus/G83
----	810	----	P2: Mold shop	Not applicable
818	811	410	P2: Basecoat gun	Magnum/ATG 3500
819	811	410	P3: Chopper gun, basecoat	Venus/G83
820	812	411	P3: Chopper gun, decks	Venus/G83
821	812	411	P3: Chopper gun, decks	Venus/G83
822	813	412	P3: Spray gun, mold repair	Magnum/ATG 3500
823	814	413	P3: Gelcoat gun	Magnum/ATG 3500
824	814	413	P3: Gelcoat gun	Magnum/ATG 3500
825	814	413	P3: Gelcoat gun	Magnum/ATG 3500
826	814	413	P3: Gelcoat gun	Magnum/ATG 3500
827	814	413	P3: Gelcoat gun	Magnum/ATG 3500
828	814	413	P3: Vinylester gun	Venus/G83
829	815-816	414-415	P3: Chopper gun, hulls	Venus/G83
830	815-816	414-415	P3: Chopper gun, hulls	Venus/G83
831	815-816	414-415	P3: Chopper gun, hulls	Venus/G83

***** P2 or P3 denotes that the unit is at the Pipestone 2 or Pipestone 3 building, respectively.

1.3 Description of any changes allowed with this permit issuance

Since the total quantity of VOC emissions is limited, the Permittee may install new equipment as long as the new equipment is of a type already listed in the permit. Monthly calculations are required to document that VOC emissions remain below the permitted limit of 240.0 tons per 12-month period.

1.4. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

	PM Tpy	PM10 tpy	SO2 tpy	NOx tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	33.4	3.6	0.1	17.1	14.4	240.9[3]	240.0	240.0
Total Facility Actual Emissions[1]	2.2	2.2	0.0	0.79	0.65	141.8	NR[2]	NR[2]

1 As reported in the 1998 Emission Inventory
2 NR = Actual emissions not reported (not required to be reported).
3 Includes emissions from combustion.

Table 2. Facility and Permit Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD		VOC	PM, PM_{10}, NO_x, SO_2, CO
NAAR **Not Applicable**			
Part 70 Permit Program	VOC, HAPs		PM_{10}, NO_x, SO_2, 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:
Total Facility	40 CFR 52.21	Limits set to avoid major source classification under PSD for emissions of VOCs.
EU 801 to	Minn. R. 7011.0715	Standards of Performance for Post-1969 Industrial

EU 831		Process Equipment.

3. Technical Information

3.1 Compliance with Minn. R. 7011.0715

The only significant sources of particulate matter emissions from the facility are the spray booths. Minn. R. 7011.0715, Standards of Performance for Post-1969 Industrial Process Equipment, establishes that a Permittee may not be required to reduce particulate matter emissions below the concentration permitted in Minn. R. 7011.0735, which gives concentrations (in gr/dscf) based on source gas volume (in dscfm). According to the permit application, stack vent 814 has the highest design flow of all the stack vents at the facility of 24,000 acfm. Since the exit gas temperature is 70 degrees F (very close to the standard temperature of 68 degrees F), it will be assumed that actual gas flow is equal to dry standard gas flow. Based on a flow of 24,000 dscfm, the most stringent limit which can be applied to the stack is 0.067 gr/dscf.

Performance testing conducted in June 1996 at U.S. Marine yielded the following results:

U.S. Marine Particulate Testing (June 1996)					
Source	**Control**	**Operating Rate**	**PM Emission Rate**	**PM_{10} Emission Rate**	**Emission Factor (lb/lb of material)**
Gelcoat booth	Wall filter	5.6 lb/min	0.35 lb/hr (0.0042 gr/acf) (0.0045 gr/dscf)	0.02 lb/hr (0.00024 gr/acf) (0.0002 gr/dscf)	1.04×10^{-3} (PM) 5.95×10^{-5} (PM_{10})
Basecoat booth	Wall filter	5.5 lb/min	0.05 lb/hr (0.00075 gr/acf) (0.0009 gr/dscf)	0.02 lb/hr (0.0003 gr/acf) (0.0002 gr/dscf)	1.52×10^{-4} (PM) 6.06×10^{-5} (PM_{10})
Grinding booth	Settling chamber	5 lb/hr	1.42 lb/hr (0.0096 gr/acf) (0.0106 gr/dscf)	0.13 lb/hr (0.00088 gr/acf) (0.0007 gr/dscf)	0.284 (PM) 0.026 (PM_{10})

The two grinding booths at the facility are now vented inside the building and therefore qualify as insignificant activities. Emissions from the gelcoat and basecoat booth are well below the most stringent limit that can be applied to any stack vent of 0.067 gr/dscf. As indicated previously, actual flow is assumed to equal standard flow. Based upon these test results, it appears that emissions from the stack vents at the facility will be well below the limits established in Minn. R. 7011.0715.

3.2 Explanation of Delta Groupings

There are two groups (GP 004 and GP 005) which appear in the Delta facility emissions summary which do not have emission units or stack vents associated with them. GP 004 represents facility-wide fuel burning activities, which are classified as insignificant activities. GP 005 represents the two grinding booths, which are vented internally and are also classified as insignificant activities.

3.3 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 Programs, 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 3 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 3. Emission Units Subject to Periodic Monitoring

EU/ GP/ CE	Emission limit (Basis)	Additional Monitoring	Discussion
Total Facility	VOC = 240.0 tons per year on a 12 month rolling basis (limit to avoid NSR)	Recordkeeping: Monthly records of material purchased, on-going records of VOC contents Calculations: Monthly calculation of VOC emissions	The facility will base records on actual quantity of VOC and VOC-containing materials purchased. Assumption is that all non-styrene and non-methyl methacrylate VOC purchased is emitted, on a 12-month rolling sum basis. Styrene and methyl methacrylate from the resin and gelcoat are to be calculated using UEF emission factors (given in Appendix I of the permit); all other VOCs are calculated using a conventional mass balance technique.
EUs 801-831 (SVs 801-816)	PM: variable, depending on airflow Opacity: less than or equal to 20% (Minn. R. 7011.0715)	Recordkeeping, O & M and Inspections of the panel filters	The only limit that applies is under Minn. R. 7011.0715. Stack testing indicates that particulate matter emissions will be well below the level allowed.

3.4 Comments Received During the Public Comment Period

During the public comment period, comments were received from US Marine. US Marine requested that VOC emissions from the facility be based on the amount of VOC-containing material used, as opposed to the amount purchased. US Marine also requested that the labeling requirement for emission units and control equipment be applied only to fixed units as opposed to all units.

In response to the above comments, page A-1 of the permit was changed to allow for calculation of VOC emissions based on the amount of VOC-containing material used. In addition, the labeling requirement on page A-1 was also changed to allow for labeling of only fixed emission units and control equipment.

4. Conclusion

Based on the information provided by U.S. Marine Corporation, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 11700018-002 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Craig Thorstenson, Glenn Giefer
Peer Review: Toni Volkmeier

Attachments: Calculations

Permit Action Number:
Date: 3/2/2004