

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **07 2 0 1 2 - 0 0 1**

Project Number: 2012-05-107
Installation Number: 105-0050

Parent Company: MEP Acquisition Corp, d/b/a Marine Electric Products

Parent Company Address: 1401 Tower Rd., Lebanon, MO 65536

Installation Name: Marine Electric Products

Installation Address: 1401 Tower Rd., Lebanon, MO 65536

Location Information: Laclede County, S13, T34N, R16W

Application for Authority to Construct was made for:
Construction of an additional spray booth at an existing fiberglass boat component manufacturing plant. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUL 02 2012

EFFECTIVE DATE

Handwritten signature of Kyrá L. Moore in cursive script.

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of startup of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual startup of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Marine Electric Products
Laclede County, S13, T34N, R16W

1. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permit (Permit Number 052009-007) issued by the Air Pollution Control Program.

2. **Hazardous Air Pollutants (HAPs) Emission Limitations**
 - A. Marine Electric Products shall emit less than 10.0 tons of styrene and 25.0 tons total HAPs in any consecutive 12-month period from the entire installation as listed in Table 1.

Table 1: List of equipment at the installation

Emission Point	Description
EP01 (existing)	Resin spray booth
EP02 (existing)	Resin spray booth
EP03A (existing)	Resin spray booth
EP03B (existing)	Resin spray booth
EP03C (new)	Resin spray booth
EP04 (existing)	Paint booth and coating oven heater

- B. Attachment A and Attachment B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 2.A.
3. **Control Device Requirement-Spray Booth Filter**
 - A. Marine Electric Products shall control particulate emissions from the resin spray booths (EP01-EP03A,B and C) using filters as specified in the permit application.
 - B. The filters shall be operated and maintained in accordance with the manufacturer's specifications. Replacement filters shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

4. **Record Keeping and Reporting Requirements**
 - A. Marine Electric Products shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used.
 - B. Marine Electric Products shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2012-05-107
Installation ID Number: 105-0050
Permit Number:

Marine Electric Products
1401 Tower Rd.
Lebanon, MO 65536

Complete: June 14, 2012

Parent Company:
MEP Acquisition Corp, d/b/a Marine Electric Products
1401 Tower Rd.
Lebanon, MO 65536

Laclede County, S13, T34N, R16W

REVIEW SUMMARY

- Marine Electric Products has applied for authority to construct an additional spray booth at an existing fiberglass boat component manufacturing plant.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are styrene, methyl methacrylate, and cobalt compounds.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart WWWW, National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production does not apply to the proposed equipment since the installation is not a major source of HAPS.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Laclede County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was performed for styrene since the potential emissions of the project are greater than the Screening Model Action Level (SMAL).

- Emissions testing are not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Marine Electrical Products, Inc., located at Laclede County, operates an electrical shroud (dashboard) manufacturing facility for small fishing and pleasure boats. The fiberglass or plastic shrouds are fitted with instrumentation such as speedometers, gas gages and switches. The assembled shroud has all the necessary instrumentation and wiring for the make and model of boat it will be installed in at the boat manufacturing facility.

This manufacturing plant consists of four (4) resin lay-up spray booths (EP01 - EP03A&B), and a paint booth and coating oven heater (EP04). The installation is considered a synthetic de minimis source for construction permitting purposes. No operating permit is necessary for this installation.

The following New Source Review permits have been issued to Marine Electric Products from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
102001-012	Construction of a resin booth, paint booth and cure oven (FID 105-0037)
052009-007	Installation of four resin booths, a paint booth and a cure oven.

PROJECT DESCRIPTION

Marine Electric Products, Inc. has applied for authority to install an additional resin spray booth (EP03C) to manufacture fiberglass shrouds. The spray booth will use a Mechanical Non-Atomized Spray Gun. The maximum hourly design rate (MHDR) of the booth was determined assuming the manufacture of 15 parts per day during an 8-hour shift and an application of 0.5 gallons of resin per part. Applying a safety factor, the applicant has proposed an application rate of 1.5 gallons per hour. Previous permits have used 0.27 tons of resin processed per hour with a styrene content of 34%. However, an application rate of 1.5 gallons per hour is more accurate. Therefore, this review was based on an application rate of 1.5 gallons per hour.

The spray booth is equipped with a filter that will control the emissions of particulate matter. A control efficiency of 90% was assumed for the filter.

EMISSIONS/CONTROLS EVALUATION

HAPS are the main pollutant of concern in this project. The emission factor of styrene for EP03C is calculated using the method described in the Unified Emissions Factors for Open Molding of Composites (July 23, 2001) for non-atomized application. The potential emissions of methyl methacrylate, cobalt compounds and particulate matter were determined by mass balance computations using the worst-case percent content or specific gravity indicated in the applicable Material Safety Data Sheets (MSDS). The following is a summary of the information used in the mass balance calculations.

Table 3: Summary of mass balance information

Styrene	34% by weight
Methyl methacrylate	2.8 % by weight
Cobalt compounds	1% by weight
Solids	40% by weight
Specific gravity of resin	1.4

Based on the new information from the applicant, the MHDR of the existing resin booths were revised. The existing potential emissions were recalculated using the new MHDR and existing information from Project #2007-09-005. Existing actual emissions were taken from the 2011 Emissions Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

The applicant has requested an installation-wide de minimis limit on styrene emissions and total HAPs to remain a de minimis source. Therefore, the styrene limit in Permit Number 052009-007 is being superseded and re-instated by the conditions of this construction permit to incorporate all the emission units at the installation. Styrene is the HAP with the greatest potential to emit. Therefore, a de minimis limit was applied only to styrene. If it is determined that the potential emissions of any other individual HAP is greater than the de minimis level, Marine Electric Products, Inc. will be required to limit the individual HAP emissions to de minimis level to remain a synthetic de minimis source. The following table provides an emissions summary for this project.

Table 4: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2011 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential*
PM	25.0	12.57	0	3.13	N/A
PM ₁₀	15.0	12.57	0	3.13	N/A
PM _{2.5}	10.0	N/D	0	N/D	N/A
SO _x	40.0	10.10	0	N/A	N/A
NO _x	40.0	1.63	0	N/A	N/A
VOC	40.0	39.16	0	4.97	N/A
CO	100.0	0.22	0	N/A	N/A
Total HAPs	10.0/25.0	28.33	3.50	5.04	<25
Styrene	1**	11.32	N/D	2.83	<10
Methyl methacrylate	10**	N/D	N/D	2.14	N/A
Cobalt compounds	0.1**	N/D	N/D	0.08	N/A

N/A = Not Applicable; N/D = Not Determined *By limiting total HAPs and styrene emissions to de minimis levels for the entire installation, the potential emissions of both PM₁₀ and VOC will be indirectly limited to below their respective de minimis levels

for the entire installation. **The regulatory de minimis level has been replaced with the Screening Model Action Level for each individual HAP.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Marine Electric Products shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-6.405

AMBIENT AIR QUALITY IMPACT ANALYSIS

The potential emissions of styrene for the project are above the SMAL for styrene. Therefore, ambient air quality modeling was performed using AERSCREEN to determine the impact of styrene on the ambient air. Based on the stack parameters in application for the new spray booth, the project will not exceed the Risk Assessment Levels for styrene.

Table 5: Screening model results

Pollutant	Modeled Impact ($\mu\text{g}/\text{m}^3$)	RAL ($\mu\text{g}/\text{m}^3$)	Time Period
Styrene	263.5	2240	24-hour
	43.92	333	Annual

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Emily Wilbur
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 23, 2010, received May 30, 2012, designating MEP Acquisition Corp, d/b/a Marine Electric Products as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Unified Emission Factors for Open Molding of Composites, July 23, 2001.
- Material Safety Data Sheets

Ms. Joy Throop
EH&S Manager
Marine Electric Products
1401 Tower Rd.
Lebanon, MO 65536

RE: New Source Review Permit - Project Number: 2012-05-107

Dear Ms. Throop:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions and your new source review permit application is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Emily Wilbur, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:ewl

Enclosures

c: Southwest Regional Office
PAMS File: 2012-05-107

Permit Number: