

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 0 8 - 0 1 3 Project Number: 2008-02-011

Parent Company: Modine Manufacturing Company

Parent Company Address: 1500 DeKoven Avenue, Racine, WI 53403

Installation Name: Modine Manufacturing Company

Installation Address: 822 Industrial Drive, Trenton, MO 63683

Location Information: Grundy County, S9, T61N, R24W

Application for Authority to Construct was made for the installation of a new radiator core builder with associated fin machine. 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 30 2008

EFFECTIVE DATE

Steven J. Jule for JWS

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 departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 start up of this (these) air contaminant source(s).

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 source(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.

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: Project Number: 2008-02-011

Parent Company: Modine Manufacturing Company

Parent Company Address: 1500 DeKoven Avenue, Racine, WI 53403

Installation Name: Modine Manufacturing Company

Installation Address: 822 Industrial Drive, Trenton, MO 63683

Location Information: Grundy County, S9, T61N, R24W

Application for Authority to Construct was made for the installation of a new radiator core builder with associated fin machine. 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.

EFFECTIVE DATE

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 departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 start up of this (these) air contaminant source(s).

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 source(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.

Page No.	3
Permit No.	
Project No.	2008-02-011

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."

Modine Manufacturing Company
Grundy County, S9, T61N, R24W

1. Modine Manufacturing Company shall keep the lubricant oil in sealed containers whenever the materials are not in use. Modine Manufacturing Company shall provide and maintain suitable, easily read, permanent markings on lubricant oil containers used with this equipment.

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

Project Number: 2008-02-011
Installation ID Number: 079-0004
Permit Number:

Modine Manufacturing Company
822 Industrial Drive
Trenton, MO 63683

Complete: 2/4/2008

Parent Company:
Modine Manufacturing Company
1500 DeKoven Avenue
Racine, WI 53403

Grundy County, S9, T61N, R24W

REVIEW SUMMARY

- Modine Manufacturing Company has applied for authority to install a matrix radiator core builder with associated fin machine.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment but only in trace amounts.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- 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 Grundy County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment.

- If Modine Manufacturing Co. would like to keep the installation-wide emissions limits in its current intermediate operating permit (100 tons per year of criteria air pollutants, 10.0 tons per year of individual HAPs, 25.0 tons per year of total HAPs), an application to modify the intermediate operating permit is required for this installation within ninety (90) days of equipment startup. If Modine Manufacturing Co. chooses to remove these emission limits, it shall submit a part 70 operating permit application within one (1) year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Modine Manufacturing Company operates a radiator production facility in Trenton, Missouri (S9, T61N, R24W). The unconditioned potential emissions of volatile organic compounds (VOCs), particulate matter less than ten (10) microns in diameter (PM₁₀), and hazardous air pollutants (HAPs) are greater than their respective major source thresholds for construction permitting and limited in their intermediate operating permit to 100 tons per year for VOC and PM₁₀, 10.0 tons per year for individual HAPs, and 25.0 tons per year for combined HAPs. However, the intermediate operating permit issued to the facility in December, 2007, limited VOC and PM₁₀ emissions to below 100 tons per year, individual HAPs emissions to below 10.0 tons per year, and combined HAPs emissions to below 25.0 tons per year.

The following permits have been issued to Modine Manufacturing Company from the Air Pollution Control Program.

Permit Number	Description
0177-005	Soldering Dip Pots
0782-003-007	Hard Tube Mill
0384-004	Hard Tube Mill
0685-001	Production Line Modification
0986-010	Hard Tube Mill & Beta Welder
1086-007	Hard Tube Mill
1286-005	Beta-Weld Operation
0387-002	Beta-Weld Operation
0188-001	Welded Tube Mill
0388-005	Beta-Weld Machine
1191-015	Automatic Solder Pour Line Installation
0894-026	Nocolok Brazing Oven
1296-015	Aluminum Paint Booth
0997-030	Addition of One Aluminum Area Fin Machine and Two Aluminum Presses
0298-018	Spray Paint Booth
0398-003	One Aluminum Truck Radiator Fin Machine
0798-028	Beta-Weld Operation
1098-019	Oil Fogging Operating
0199-005	Two Seaming Stations and One Welding Station
0599-007	New Aluminum Fin Machine
1299-012	New Radiator Production Line
012000-018	Installation of a New Aluminum Fin Machine
082000-013	Installation of a Burn-Off Oven for Powder Paint Hooks
112003-004	Installation of a New Aluminum Fin Machine
082004-018	Installation of a New Aluminum Fin Machine
082005-009	Installation of New Fin Machine, Welding Operations, and Test Station.

No Notice of Violations (NOVs) has been issued to this facility within the last five (5) years.

PROJECT DESCRIPTION

The installation proposes to add a new matrix radiator core builder with associated fin machine to support an additional product line. The fin machine will be used to form fin components out of aluminum coil stock. Formed fins will then be supplied to the core matrix builder machine, along with other components such as formed tubes, header plates and side components, where the heat exchanger cores will be assembled.

EMISSIONS/CONTROLS EVALUATION

The fin forming operation will utilize a vanishing lubricant oil (PS-1805) with high flash petroleum solvent fraction. Volatile Organic Compounds (VOCs) will be emitted from the oil. VOCs are expected to be the only significant air pollutants emitted from the addition of the equipment. The material safety data sheet (MSDS) for the oil does not list any chemicals that may be emitted as Hazardous Air Pollutants (HAPs). It is assumed that HAPs will be released from the use of the oil but only in negligible amounts. Nitrogen Oxides (NO_x), Sulfur Oxides (SO_x), Carbon Monoxides (CO), and Particulate Matter less than ten microns in diameter (PM₁₀) emissions are not expected from the equipment.

Tests conducted by the company shows that at a speed of 128 ft/min, 1.56 lbs/hr of lubricant oil will be used in the fin forming process. Since the maximum speed of the fin machine is 400 ft/min, this emission rate is scaled up to 4.875 lbs/hr for calculating potential to emit of VOCs. Also for the purpose of calculating VOC potential to emit, it was assumed that 100% of the lubricants are emitted as VOCs, and that the equipment operates continuously throughout the year (8760 hours). No control devices will be used to control VOC emissions from the equipment.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions*	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	<100.00	0.18	0.00	N/A
SO _x	40.0	0.06	N/D	0.00	N/A
NO _x	40.0	13.0	2.10	0.00	N/A
VOC	40.0	<100.0	15.33	21.35	N/A
CO	100.0	2.80	1.77	0.00	N/A
HAPs	10.0/25.0	<10.0/25.0	N/D	0.00	N/A

N/A = Not Applicable; N/D = Not Determined

*Intermediate operating permit issued on December 7, 2007 limited the installation to 100 tons per year of PM₁₀ and VOCs, 10.0 tons per year of individual HAPs, and 25.0 tons per year of total HAPs.

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

Modine Manufacturing Company 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
- *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 10-3.090

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.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated 1/17/2008, received 2/4/2008, designating Modine Manufacturing Company as the owner and operator of the installation.
- Northeast Regional Office Site Survey, dated 2/20/2008.
- Material Safety Data Sheets for the lubricant oil (SP-1805).

Mr. Edward Besaw
Environmental Engineer
Modine Manufacturing Company
1500 DeKoven Avenue
Racine, WI 53403

RE: New Source Review Permit - Project Number: 2008-02-011

Dear Mr. Besaw:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, 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, your new source review permit application and with your amended operating permit 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 Chia-Wei Young, at the departments' 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

Kendall B. Hale
New Source Review Unit Chief

KBH:cwyl

Enclosures

c: Northeast Regional Office
PAMS File: 2008-02-011

Permit Number: