

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: **012010-003** Project Number: 2009-09-023

Parent Company: Kawasaki Heavy Industries Ltd.

Parent Company Address: 1-1 Kawasaki-cho, Akashi, Japan

Installation Name: Kawasaki Motors Manufacturing Corp., U.S.A

Installation Address: 28147 Business Hwy 71, Maryville, MO 64468

Location Information: Nodaway County, S31, T64, R35

Application for Authority to Construct was made for:
Installation of a controlled pyrolysis cleaning furnace and an emergency generator. 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.

JAN 08 2010

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.

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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."

Kawasaki Motors Manufacturing Corp., U.S.A
Nodaway County, S31, T64, R35

- 1) **Superseding Condition**
The conditions of this permit supersede Special Conditions 2.B, 2.C and 2.D found in the previously issued construction permit 102009-004 issued by the Air Pollution Control Program.
- 2) **Emission Limitation**
 - A) Kawasaki Motors Manufacturing Corp., U.S.A shall emit less than 250.0 tons of carbon monoxide (CO) in any consecutive 12-month period from the entire installation. This limitation applies to the CO emissions from all equipment/processes installed or permitted at Kawasaki Motors Manufacturing Corp., U.S.A as of the issuance date of this permit.
 - B) Kawasaki Motors Manufacturing Corp., U.S.A shall emit less than 250.0 tons of volatile organic compounds (VOC) in any consecutive 12-month period from the entire installation. This limitation applies to the VOC emissions from all equipment/processes installed or permitted at Kawasaki Motors Manufacturing Corp., U.S.A as of the issuance date of this permit.
 - C) Kawasaki Motors Manufacturing Corp., U.S.A shall emit less than 10.0 tons individually or 25.0 tons combined of Hazardous Air Pollutants (HAPs) in any consecutive 12-month period from the entire installation. This limitation applies to the HAP emissions from all equipment/processes installed or permitted at Kawasaki Motors Manufacturing Corp., U.S.A as of the issuance date of this permit.
 - D) Attachment A, Attachment B, and Attachment C or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A, 2.B, and 2.C.
- 3) **Pyrolysis Cleaning Furnace Requirements**

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SPECIAL CONDITIONS:

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

- A) Kawasaki Motors Manufacturing Corp., U.S.A shall use the pyrolysis cleaning furnace (EP10C) exclusively to remove paint from metal hangars.
 - B) Natural gas shall be the only fuel burned in this pyrolysis cleaning furnace.
 - C) Kawasaki Motors Manufacturing Corp., U.S.A shall control CO and VOC emissions from the pyrolysis cleaning furnace (EP10C) using a direct flame afterburner as specified in the permit application. The afterburner shall be operated and maintained in accordance with the manufacturer's specifications.
 - D) Kawasaki Motors shall maintain an operating and maintenance log for the direct flame afterburner which shall include the following:
 - i) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - ii) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
- 4) **Emergency Generator Requirements**
The operating hours of the emergency generator (EG01) shall not exceed 500 hours in any consecutive twelve (12) month period. To facilitate the record keeping for this condition, the emergency equipment shall be equipped with a non-resettable running time meter.

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

Project Number: 2009-09-023
Installation ID Number: 147-0023
Permit Number:

Kawasaki Motors Manufacturing Corp., U.S.A
28147 Business Hwy 71
Maryville, MO 64468

Complete: September 14, 2009

Parent Company:
Kawasaki Heavy Industries Ltd.
1-1 Kawasaki-cho
Akashi, Japan

Nodaway County, S31, T64, R35

REVIEW SUMMARY

- Kawasaki Motors Manufacturing Corp., U.S.A has applied for authority to install a controlled pyrolysis cleaning furnace and an emergency generator.
- Hazardous air pollutant (HAP) emissions are expected from the proposed equipment in insignificant amounts.
- Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* of the New Source Performance Standards (NSPS) applies to the emergency generator.
- 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.
- A direct flame afterburner is being used to control the carbon monoxide (CO) and volatile organic compound (VOC) emissions from the painting hanger cleaning furnace #3 (EP10C) in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The pyrolysis cleaning furnace in this permit is classified as an incinerator. All incinerators are required to obtain a permit from the Air Pollution Control Program as mandated in 10 CSR 10-6.060. Potential emissions of all pollutants are less than de minimis levels.
- This installation is located in Nodaway 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 emergency generator as per the NSPS, Subpart IIII.
- A revision to your Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Kawasaki Motors Manufacturing Corporation (Kawasaki Motors) operates a gasoline engine manufacturing installation in Maryville, Missouri. Kawasaki Motors builds engines ranging from 4.5 horsepower (hp) up to 35.0 hp. These engines are primarily used in walk-behind lawn mowers, riding lawn mowers and all-terrain vehicles.

Kawasaki Motors is not considered an existing major source for construction permitting because of the 250-ton limit established for CO and VOC in previous permits and re-established in this permit to include the pyrolysis cleaning furnace. For New Source Review purposes, it is considered a minor source. The installation submitted a Part 70 State Operating Permit application (Project Number: 2006-03-047) on March 9, 2006.

The following construction permits have been issued to Kawasaki Motors Manufacturing Corp., U.S.A from the Air Pollution Control Program.

Table 1: Previously Issued Construction Permit Projects

Permit Number	Description
102009-004	2009-02-033: Installation of a new die casting machine, new crankcase machining line and new cylinder head machining line
092007-011	2007-05-059: Endurance testing Facility
062007-004	2006-10-085: Use of aviation fuel
092005-001A	2006-04-058: Amendment remove conditions
No Permit Required	2006-03-045: Die casting and crankcase machining
092005-001	2005-05-106: Install four new processes
012005-002	2004-10-003: Add two small engine assembly lines
032004-006	2003-10-049: Installation of a machining operation
No Permit Required	2003-06-036: Engine testing exhaust fans
082003-011	2003-05-091: Installation of a engine assembly line
062001-001A	2002-05-002: Correction or amendment change retaining compound.
No Permit Required	2001-05-090: 680cc LPG engines.
No Permit Required	2001-03-092: Installation of natural gas engines.
062001-001	2001-02-113: Installation of a wet vacuum impregnation system to seal porosity in aluminum parts
112000-010	2000-09-054: Installation of two (2) gasoline engine assembly lines
0699-024	1999-03-119: Installation of an assembly line for building internal combustion engines and installation of an electrode position paint system
0598-012	1998-02-0221: Addition of a wet paint booth and a process heater
0897-034	147-0023-017: Installation of a gasoline engine assembly line
0797-005	3340-0023-017: Installation of four (4) machining lines and six (6) heating/ventilation units
0494-009	3340-0023-016: Installation of an aluminum die casting machine and a machine process
0493-011	3340-0023-015: Installation of two (2) aluminum die casts and melting furnaces
0193-001	3340-0023-011: Installation of a powder paint booth
1291-004	3340-0023-009: Addition of chromate aluminum parts
0791-001A	3340-0023-008: Amendment to 0791-001
0791-001	3340-0023-007: Installation of gasoline engine assembly line and aluminum scrap furnaces
1190-004	3340-0023-006: Addition of connecting rod machine line and injection molding
0890-001	3340-0023-005: Installation of aluminum die cast engines

PROJECT DESCRIPTION

Kawasaki Motors is seeking authority to install a controlled pyrolysis cleaning furnace #3 (EP10C, also known as the Burn Off Furnace) for removing small amounts of cured organic paint from metal hangers. This unit will burn natural gas at a maximum heat input of 0.95 million British thermal units per hour (MMBtu/hr) and clean material at a throughput of approximately 0.01 tons per hour. This is the third furnace installed at this facility.

Kawasaki Motors is also installing an emergency generator (EG01S2). This generator will be used as a back up in the event of a power failure. The generator will burn natural gas and has a maximum fuel consumption rate of 1,786 cubic feet per hour. The generator will be limited to less than 500 hours of operation per year in order to document their emergency status with regards to showing compliance with the NSPS, Subpart IIII.

EMISSIONS/CONTROLS EVALUATION

The emission factors for the pyrolysis cleaning furnace were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4 *Natural Gas Combustion* (July 1998) and stack testing performed on a similar existing emission point (PE10). A direct flame after burner will be used in association with the furnace. Control efficiencies for CO and VOC were 90 and 96 percent, respectively. The emission factors for the emergency generator were obtained from Factor Information Retrieval (FIRE) V6.25, Source Classification Codes and Emission Factors Listings for Criteria Air Pollutants (SCC: 2-02-002-02). Potential emissions of the application represent the potential of the pyrolysis cleaning furnace, assuming continuous operation (8760 hours per year) and emergency generator, assuming a maximum of 500 hours of operation. The following table provides an emissions summary for this project. The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2008 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	11.23	8.90	0.005	N/A
SO _x	40.0	N/A	0.18	<<0.001	N/A
NO _x	40.0	< 40	19.50	0.66	N/A
VOC	40.0	< 250	150.47	0.027	N/A
CO	100.0	< 250	84.25	0.37	N/A
HAPs	10.0/25.0	< 10/25	1.16	0.01	N/A

N/A = Not Applicable

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The pyrolysis cleaning furnace in this permit is classified as an incinerator. All incinerators are required to obtain a permit from the Air Pollution Control Program as mandated in 10 CSR 10-6.060. Potential emissions of all pollutants are less than de minimis levels.

APPLICABLE REQUIREMENTS

Kawasaki Motors Manufacturing Corp., U.S.A 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 June 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

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Stationary Compression Ignition Internal Combustion Engines*, 40 CFR Part 60, Subpart IIII
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

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.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 11, 2009, received September 14, 2009, designating Kawasaki Heavy Industries Ltd. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated October 7, 2009.

Mr. Todd Turner
Environmental Coordinator
Kawasaki Motors Manufacturing Corp., U.S.A
28147 Business Hwy 71
Maryville, MO 64468

RE: New Source Review Permit - Project Number: 2009-09-023

Dear Mr. Turner:

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 revised 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 Susan Heckenkamp, at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:shk

Enclosures

c: Kansas City Regional Office
PAMS File: 2009-09-023

Permit Number: