

**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 2007 - 004** Project Number: 2007-06-089

Parent Company: Ford Motor Company

Parent Company Address: The American Road, Dearborn, MI 48126

Installation Name: Ford Motor Company-Kansas City Assembly Plant

Installation Address: 8121 U.S. NE Highway 69, Claycomo, MO 64119

Location Information: Clay County, S27, T51N, R32W

Application for Authority to Construct was made for:  
The modification of the Enamel Booth (EP-20). Paint applicators will be moved from fixed positions to robotic arms. 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 18 2007

EFFECTIVE DATE

*James L. Karanovich*  
 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 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 with 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 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 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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REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2007-06-089  
Installation ID Number: 047-0019  
Permit Number:

Ford Motor Company-Kansas City Assembly Plant      Complete: 6/28/2007  
8121 U.S. NE Highway 69  
Claycomo, MO 64119

Parent Company:  
Ford Motor Company  
The American Road  
Dearborn, MI 48126

Clay County, S27, T51N, R32W

REVIEW SUMMARY

- Ford Motor Company-Kansas City Assembly Plant (Ford) has applied for authority to modify the Main Enamel Booth (EP-20) by moving paint applicators from fixed positions to robotic arms.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are xylene, ethylbenzene, glycol ethers and methanol.
- Subpart MM of the New Source Performance Standards applies to Automobile and Light Duty Truck Surface Coating Operations.
- Subpart IIII of the Maximum Achievable Control Technology regulations apply to the proposed equipment.
- A carbon absorption system and afterburner are being used to control the volatile organic compound (VOC) emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs and HAPs are below de minimis levels.
- This installation is located in Clay 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.
- Method 24 testing is required for the paint.
- A revision of the 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

Ford Motor Company - Kansas City Assembly Plant assembles passenger cars and trucks. The existing installation is considered a major source under construction permits and is a Part 70 source under operating permits.

The following new source review permits have been issued to Ford from the Air Pollution Control Program.

Permit Number	Description
0779-014	Spray booth modifications
1084-003	Paint shop modifications
0386-003	Truck E-coat modifications
0187-005	Eight paint repair booths
1187-002	Sealer oven
1089-001	Replacement paint shop
0990-009	New guidecoat system
0590-001	Protective transit coating application equipment
0690-016	Commercial sealer bake oven replacement
0692-016	Dual pass PVC enclosure and IR gel oven
0293-003	Replacement of blackout booth (water base) with an air house
1193-015	Automation of passenger car underbody sealer application
0594-034	Modification of the tutone/repair system into a main enamel spraybooth and oven system and designation as main enamel No. 2
0694-020	Installation of adhesive application station
0293-003A	Modification to compliance reporting for blackout booth
112000-014	Installation of six (6) low-NO <sub>x</sub> , direct-fired, natural gas space heaters with individual heat input capacities of 20 million british thermal units per hour.
082001-022	Installation of two (2) worker stations for application of glass cleaner and glass primer to vehicle quarter glass, which is subsequently installed onto a vehicle with adhesive by robot.
082001-022A	Amended the wording of the special conditions to apply only to the two worker stations instead of the whole installation.
112000-014A	Installation of seven (7) 20 MMBtu/hr space heaters rather than six (6) space heaters.
042006-012	Fluidized bed skid cleaner

## PROJECT DESCRIPTION

Ford has applied for authority to modify the Main Enamel Booth (EP-20) by replacing six bell applicators mounted on limited articulation fixtures with bell applicators mounted on robotic arms. The new applicators will have the same application capacity as the existing applicators. Emissions will be controlled by an existing carbon absorption system and an afterburner.

## EMISSIONS/CONTROLS EVALUATION

Emissions for this project were calculated using a mass balance approach. Ford provided topcoat emission reports for the months of March, April and May of 2007. These reports summarize the results for the Method 24 testing that Ford performs daily. The results show that the maximum VOC content is 4.2 pounds of VOC per gallon of coating, and the percentage of solids is 45.7 percent. Control efficiencies were obtained from previous permits. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project. It is important to note that this project will not cause a net increase in emissions at the installation. The six applicators being installed will replace six existing applicators in the Main Enamel Booth. An application rate was derived for the applicators using a maximum production rate of 58 vehicles per hour.

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	Project Conditioned Potential
PM <sub>10</sub>	15.0	N/D	69.25	1.75	N/A
SO <sub>x</sub>	40.0	Major	3.72	N/A	N/A
NO <sub>x</sub>	40.0	Major	75.40	N/A	N/A
VOC	40.0	Major	1,524.49	37.65	N/A
CO	100.0	N/D	63.03	N/A	N/A
Xylene	10.0	N/D	N/D	5.08	N/A
Ethylbenzene	10.0	N/D	N/D	2.54	N/A
HAPs	10.0/25.0	N/D	N/D	7.62	N/A

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

## 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 VOCs are within de minimis levels.

## APPLICABLE REQUIREMENTS

Ford Motor Company-Kansas City Assembly Plant 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*

### SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400*
- *New Source Performance Regulations, 10 CSR 10-6.070 – New Source Performance Standards (NSPS) for Automobile and Light Duty Truck Surface Coating Operations, 40 CFR Part 60, Subpart MM*
- *Control of Emissions From Industrial Surface Coating Operations, 10 CSR 10-2.230*
- *Maximum Achievable Control Technology Regulations, 10 CSR 10-6.075 – National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light duty Trucks, 40 CFR Part 63, Subpart IIII.*

## 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.

\_\_\_\_\_  
Michael Mittermeyer  
Environmental Engineer

\_\_\_\_\_  
Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated 6/28/2007, received 6/29/2007, designating Ford Motor Company as the owner and operator of the installation.
- Material Safety Data Sheets

Mr. Dennis Karl  
Regional Manager  
Ford Motor Company-Kansas City Assembly Plant  
8121 U.S. NE Highway 69  
Claycomo, MO 64119

RE: New Source Review Permit - Project Number: 2007-06-089

Dear Mr. Karl:

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 contact Michael Mittermeyer or me with the department's Air Pollution Control Program at P.O. Box 176, Jefferson City, MO 65102 or telephone (573) 751-4817. Thank you for your time and consideration.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH: mmk

Enclosure

c: Kansas City Regional Office  
PAMS File 2007-06-089

Permit Number: