

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: 2007-09-052

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, T51, R32

Application for Authority to Construct was made for:

Plantwide Applicability Limitation permit for Volatile Organic Compounds with pre-approved changes. This review was conducted in accordance with Section (8), 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 18 months from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within 18 months 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 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."*

Ford Motor Company - Kansas City Assembly Plant  
Clay County, S27, T51, R32

### 1. Superseding Condition

The conditions of this permit supersede all special conditions found in the following previously issued construction permits and amendments from the Air Pollution Control Program.

Permit Number
0678-008
1084-003 through 009
0386-003
0990-009
0690-016
0590-001
1089-001A
0293-003
1193-015
0594-034
0293-003A
112000-014
082001-022
082001-022A
112000-014A
042006-012

### 2. Annual Emission Limitation – Plantwide Applicability Limitation (PAL)

A. Ford Motor Company Kansas City Assembly Plant shall emit less than 2,363 tons of Volatile Organic Compounds (VOCs) from the entire installation in any consecutive 12-month period. The consecutive 12-month period shall not include time periods prior to issuance of this construction permit. Emissions during periods of start-up, shutdown, and malfunction of the control device shall be counted towards the limit during the 12-month period.

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# **SPECIAL CONDITIONS:**

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

- B. Ford Motor Company Kansas City Assembly Plant shall track VOC emissions and calculate the monthly and consecutive 12-month VOC emissions from the entire installation. Attachment A, or equivalent forms approved by the permitting authority shall be used to demonstrate compliance with Special Conditions 2.A.
  - C. Ford Motor Company Kansas City Assembly Plant shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 2.B. indicate that the source exceeds the limitation of Special Conditions Number 2.A.
  - D. Ford Motor Company Kansas City Assembly Plant shall keep documentation of any emission factors used to demonstrate compliance with Special Condition 2.A. Emission factors must be obtained from the most recent edition of AP-42, *Compilation of Air Pollutant Emission Factors*, the most recent stack performance test results, a mass balance approach using the Material Safety Data Sheets (MSDS) of all materials, and/or by a method approved by the permitting authority. Documentation sufficient to support the emission factors must accompany Attachment A required by Special Condition 2.B.
  - E. Ford Motor Company Kansas City Assembly Plant shall keep documentation of any overall control efficiencies used to demonstrate compliance with Special Condition 2.A. Overall control efficiency is the product of the capture efficiency and control efficiency of the pollution control device. Documentation sufficient to support the capture and control efficiencies must accompany Attachment A required by Special Condition 2.B.
  - F. Ford Motor Company Kansas City Assembly Plant shall keep documentation of all data relied upon, including but not limited to, any quality assurance/quality control data, in calculating the monthly and annual VOC emissions.
3. **Operational Requirement**  
 Ford Motor Company Kansas City Assembly Plant shall keep the ink, solvents and cleaning solutions in sealed containers whenever the materials are not in use. Ford Motor Company Kansas City Assembly Plant shall provide and maintain suitable easily read permanent markings on all inks, solvent and

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## SPECIAL CONDITIONS:

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

cleaning solution containers used with this equipment.

### 4. Pre-Approved Operational and Equipment Modifications

A. Ford Motor Company Kansas City Assembly Plant is authorized to perform the physical or operational changes, or changes deemed consistent with those physical or operational changes, listed in Attachment B, *Pre-Approved Changes*, without applying for or obtaining a construction permit or amendment from the permitting authority. Any increase or decrease in emissions of VOC resulting from the construction and operation of any of the above pre-approved changes are subject to the requirements listed in Special Condition 2. Any increase or decrease in emissions of non-VOC criteria air pollutants resulting from the construction and operation of any of the above pre-approved changes are subject to the requirements listed in Special Condition 23.

B. Ford Motor Company Kansas City Assembly Plant shall maintain a log of equipment installed and/or modified under the Pre-Approved Changes and the date on which construction and/or modification and operation began. In addition, Ford Motor Company Kansas City Assembly Plant shall maintain a log of equipment removed from the installation and the date on which it was removed. The log must account for all equipment present at the installation at any given time. Attachment C, or equivalent forms approved by the permitting authority, may be used for this purpose.

C. Ford Motor Company Kansas City Assembly Plant shall notify the permitting authority of all activities associated with any Pre-Approved Change according to Special Condition 5 and 6.

D. If Ford Motor Company Kansas City Assembly Plant wishes to make physical or operational changes that are not deemed consistent with the physical or operational changes listed in Attachment B of this construction permit and are not exempt from the construction permit rule, then Ford Motor Company Kansas City Assembly Plant must first apply for and obtain a construction permit or amendment according to 10 CSR 10-6.060, *Construction Permits Required*.

### 5. Notification of Actual Construction of Pre-Approved Change

A. Ford Motor Company Kansas City Assembly Plant shall submit written notification to the permitting authority (including the regional office) at least 10 days prior to the actual construction of any pre-approved change listed in Attachment B. The notification shall contain the following:

- 1) Detailed description of the physical or operational change including the

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## SPECIAL CONDITIONS:

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

- affect on existing equipment;
    - 2) A plant layout diagram with representation of existing equipment and physical or operational changes;
    - 3) A schedule of construction activities related to the pre-approved change;
    - 4) A statement of applicability for any New Source Performance Standard (NSPS), National Emissions Standard of Hazardous Air Pollutants (NESHAP), and/or state regulations not identified as core requirements in the operating permit;
    - 5) An emissions calculation sheet for the pre-approved change including any modeling required by Special Condition 7;
    - 6) A calculation sheet for the potential emissions of all criteria air pollutants except VOC for the pre-approved change;
    - 7) A summation of the potential emissions from completed and proposed pre-approved changes;
    - 8) A statement of verification that the physical or operational change will not result in installation emissions that exceed the limitations stated in Special Condition 2; and
    - 9) A summary of the impact analysis on the capture efficiency as outlined in Special Condition 9.D.
  - B. This notification shall become an enforceable part of this construction permit upon receipt by the permitting authority and Ford Motor Company Kansas City Assembly Plant shall comply with the terms and conditions of the notification.
  - C. The permitting authority may disapprove any activity that has not been demonstrated to the satisfaction of the Program to be related to the pre-approved changes. At that time, Ford Motor Company Kansas City Assembly Plant shall cease construction of the change until an appropriate authorization of the activities is obtained (such as a construction permit, if necessary).
6. Notification of Actual Start-up of Pre-Approved Change
- A. Ford Motor Company Kansas City Assembly Plant shall submit written notification to the permitting authority (including the regional office) at least 10 days prior to the actual start-up or operation of any pre-approved change listed in Attachment B. The notification shall contain the following:
    - i) Reference to the notification of actual construction including date of notification and brief description of change;
    - ii) Verification that the physical or operational change was completed as described in the original notification; and

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# **SPECIAL CONDITIONS:**

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

- iii) Scheduled date operations will be commenced.
  - B. It is a violation of this construction permit for Ford Motor Company Kansas City Assembly Plant to construct, modify or operate the installation not in accordance with the notification of 6.A. above.
7. Ambient Air Quality Analysis Requirement for Individual HAPs
 

Prior to submitting notification of a pre-approved change, Ford Motor Company Kansas City Assembly Plant must evaluate HAP emissions for the pre-approved change, not subject to a MACT, according to the following methodology:

  - A. For all HAPs listed in *Draft Acceptable Ambient Levels for Missouri* with a potential to emit greater than their respective threshold levels, Ford Motor Company Kansas City Assembly Plant shall perform screen modeling using the methods outlined in Special Condition 8 to determine the one-hour, 8-hour, 24-hour, and/or annual concentration of any individual HAP. The results of the screen modeling must be submitted with the notification required in Special Condition 5 for all pre-approved changes containing HAP, not subject to a MACT.
  - B. The 8-hour, 24-hour and/or annual concentrations shall be compared to the current, available Risk Assessment Levels for each HAP listed in *Draft Acceptable Ambient Levels for Missouri*.
  - C. If the screen modeling indicates that the emissions from the pre-approved change at the installation exceeds acceptable concentration levels as stated in the most current version of *Draft Acceptable Ambient Levels for Missouri*, then Ford Motor Company must submit and obtain approval for either of the following options prior to submitting notification of construction (Special Condition 5):
    - 1) Refined modeling, or
    - 2) An amendment to the flexible construction permit to include a federally enforceable limit on HAP emissions.
8. Screen Modeling Method for Individual HAPs
  - A. Ford Motor Company Kansas City Assembly Plant shall use the preferred screening method stated in 40 CFR Part 51 Appendix W, "*Guideline on Air Quality Models*".
  - B. The emission rate to be used in the model shall be the potential to emit of the individual HAP. Stack parameters used in the model shall be representative of actual stack parameters including height, diameter, flow rate/velocity, temperature, etc. If Ford Motor Company Kansas City

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

Assembly Plant wishes to use values other than the default values for any parameter with a default value, Ford Motor Company Kansas City Assembly Plant shall submit justification and obtain approval for the proposed value prior to use in the model.

### 9. Capture and Control Equipment

- A. The specified control device (e.g. thermal oxidizer, carbon adsorber, and/or fluidized bed carbon concentrator) must be in use at all times when a control efficiency is claimed for compliance with the VOC emissions limitation. When a control efficiency is claimed, the control device shall be operated and maintained in accordance with the manufacturer's specifications and within the temperature range determined in Special Condition 10.

#### B. Thermal Oxidizer Requirements

- 1) The operating temperature shall be continuously monitored and recorded when a control efficiency is claimed for compliance with the VOC emissions limitation. The operating temperature of the thermal oxidizer shall be maintained on a rolling 3-hour average within 50 degrees Fahrenheit of the average temperature of the oxidizer recorded during the compliance test specified in Special Condition 10. The acceptable temperature range may be reestablished by performing a new set of emission tests. The most recent sixty (60) months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request.
- 2) An assessment of RTO valve operation and leakage shall be conducted as part of the maintenance and inspection activities, at least annually.

#### C. Carbon Adsorber and Fluidized Bed Concentrator Requirements

- 1) Ford Motor shall monitor the emissions from the carbon adsorption and/or fluidized bed concentrator unit with an appropriate monitoring device to ensure that "breakthrough" has not occurred when a control efficiency is claimed for compliance with the VOC emissions limitation.
- 2) The monitoring device that is chosen, the parameters that will be monitored (e.g. desorption temperature), the frequency that the unit is monitored, and the level of organic emissions that constitutes "breakthrough" shall be developed in consultation with the Air



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

Pollution Control Program Enforcement Section. A proposal shall be submitted to the Enforcement Section within 15 days from the issuance of this permit.

### D. Capture Equipment Requirements

- 1) Ford Motor Company Kansas City Assembly Plant shall evaluate all pre-approved changes that involve VOC emissions directed to emission control equipment for potential impacts to emission control equipment capture efficiency. This evaluation shall include the following:
  - i. An impact analysis of the pre-approved change on the capture efficiency;
  - ii. An determination of the need for a new capture efficiency test based on the impact analysis;
  - iii. A summary of the evaluation to be included in the Notification of Actual Construction as stated in Special Condition 5.
- 2) Ford Motor Company Kansas City Assembly Plant shall develop a monitoring plan that, for each capture system (booth):
  - i) Identifies the operating parameter(s) to be monitored to assure capture efficiency,
  - ii) Explains why this parameter is appropriate for demonstrating ongoing compliance,
  - iii) Identifies the specific monitoring procedures, and
  - iv) Specifies the operating parameter value or range of values (or the procedures for establishing the values) that shall be maintained to demonstrate capture efficiency is being maintained.
- 3) The capture efficiency operating parameter(s) identified in Special Condition 9(D) shall be continuously monitored when a capture and control efficiency is claimed for compliance with the VOC emissions limitation. The most recent sixty (60) months of records shall be maintained on-site and shall be made immediately available to Missouri Department of Natural Resources' personnel upon request.

- ### E.
- Ford Motor Company Kansas City Assembly Plant shall install and maintain, for any intermittently controllable work station, a system to monitor when bypass of the control device system occurs while the work station is in operation.

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# **SPECIAL CONDITIONS:**

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

- F. Ford Motor Company Kansas City Assembly Plant shall maintain an operating and maintenance log for the capture and control systems (enclosures and thermal oxidizers) for a period of (60) sixty months which shall include the following:
- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
  - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
  - 3) A written record of regular inspection schedule, the date and results of all inspections including any actions or maintenance activities that result from that inspection.

## **10. Performance Testing**

- A. Ford Motor Company Kansas City Assembly Plant shall conduct performance tests on existing control devices in the following table and any future control devices used for compliance with the PAL.

Control Device	Location Description
Thermal Oxidizer	Passenger Topcoat Ovens RTO
	Commercial Guidecoat Booth RTO
	Commercial Guidecoat Oven RTO
	Commercial Topcoat Booth RTO
	Commercial Topcoat Ovens RTO
Carbon Wheel	Commercial Guidecoat Booth Carbon Wheel 1
	Commercial Guidecoat Booth Carbon Wheel 2
	Commercial Topcoat Carbon Wheel 3
	Commercial Topcoat Carbon Wheel 4
	Commercial Topcoat Carbon Wheel 5
	Commercial Topcoat Carbon Wheel 6

Ford Motor Company Kansas City Assembly Plant shall determine the VOC and HAP destruction and/or removal efficiencies and operating parameters of these control devices when all the processes controlled by these devices are in normal operation. These control efficiencies will be used in Attachment A for compliance.

- B. For each capture system, Ford Motor Company Kansas City Assembly Plant shall:
- 1) Confirm that the capture system continues to meet the requirements of EPA Method 204 from an approved performance test with no changes to operating parameters, or
  - 2) Conduct a performance test to determine the capture efficiency

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

and establish the value or range of values for the selected operating parameter(s) when all the processes controlled by these devices are in normal operation.

These capture efficiencies shall be used in Attachment A for compliance.

- C. Section 6 of EPA method 204 of 40 CFR part 51, Appendix M shall be used to confirm that an enclosure meets the requirements for permanent total enclosures. If the enclosure meets the permanent total enclosure criteria and directs all VOC to a control device, a capture efficiency of 100 percent may be assumed.
- D. By June 30, 2008 for the Passenger Paint Shop and by December 31, 2008 for the Commercial Paint Shop and, henceforth, within 5 years of the most recent performance tests, Ford Motor Company Kansas City Assembly Plant shall:
  - 1) Conduct performance tests to verify the operating parameters and/or the control efficiencies of the control devices ; and
  - 2) Confirm the capture efficiencies of the total or partial enclosures by Special Condition 10.B.1) or 10.B.2).

For any control device installed subsequent to the issuance of this construction permit, performance tests shall be performed within sixty (60) days after installation, but not later than 180 days after initial start-up of the control equipment.
- E. Testing shall be conducted in accordance with the procedures outlined in Special Condition 11. Ford Motor Company Kansas City Assembly Plant shall maintain a record of the results of all performance tests required by Special Conditions 10.A. and 10.B.

## 11. Proposed Test Plan

- A. A completed Proposed Test Plan Form (enclosed) must be submitted to the Air Pollution Control Program, Enforcement Section, within 30 days prior to the proposed test date so that the Air Pollution Control Program, Enforcement Section, may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Staff Director prior to conducting the required emission testing.
- B. Two (2) copies of a written report of the performance test results shall be submitted to the Staff Director within 30 days of completion of any required testing. The report must include legible copies of the raw data

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

sheets, analytical instrument laboratory data and complete sample calculations from the required U.S. EPA Method for at least one (1) sample run.

- C. The test report is to fully account for all operational and emission parameters addressed both in the construction permit conditions as well as in any other applicable state or federal rules or regulations.
12. **Startup, Shutdown, and Malfunction Requirement**  
Ford Motor Company Kansas City Assembly Plant shall develop and implement an operation and maintenance plan to minimize the instances of excess emissions during start-up, shutdown and malfunction. The operation and maintenance plan shall detail procedures for maintaining, repairing and operating the various sources and their controls during all periods of operation, including start-up, shutdown and malfunction.
  13. **Reopening of the Construction Permit**
    - A. The permitting authority may reopen this construction permit to accomplish the following actions:
      - 1) Revise Special Condition 2 to reflect an increase in the PAL as outlined in Special Condition 18.
      - 2) Reduce the PAL to reflect newly applicable Federal and/or State requirements with compliance dates after the issuance of this construction permit.
      - 3) Reduce the PAL if the permitting authority determines that a reduction is necessary to avoid causing or contributing to a National Ambient Air Quality Standard (NAAQS) or Prevention of Significant Deterioration (PSD) increment violation, or to an adverse impact on air quality in a Class I area.
    - B. All reopenings that increase the PAL level are required to be placed on public notice for at least a 30-day period for submittal of public comment.
  14. **PAL Effective Period**  
The PAL in Special Condition 2 will be effective for ten (10) years. The PAL term commences on the date of issuance of this construction permit.
  15. **Permit Application Submission Requirements**
    - A. Between six and eighteen months prior to the expiration of the PAL in Special Condition 2, Ford Motor Company Kansas City Assembly Plant shall submit a complete application for the renewal or expiration of the PAL in Special Condition 2. For PAL renewal, Ford Motor Company

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## SPECIAL CONDITIONS:

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

Kansas City Assembly Plant will be required to comply with Special Condition 16. For PAL expiration, Ford Motor Company Kansas City Assembly Plant will be required to comply with Special Condition 17.

- B. Once a complete application according to Special Condition 15.A. is received by the permitting authority, the PAL in Special Condition 2 will remain in effect until a revised PAL or a revised permit incorporating allowable limits is issued by the permitting authority.
  - C. Failure to submit a complete application according to Special Condition 15.A. to the permitting authority at least six (6) months prior to the expiration of the PAL is a violation of this construction permit and will result in the termination of the PAL on the date of expiration. At the time of termination, Ford Motor Company Kansas City Assembly Plant will be required to comply with Special Condition 17.
16. PAL Renewal Requirements
- A. A complete application shall consist of written documentation and/or calculations for the following items:
    - 1) A proposed PAL level;
    - 2) A list of all emissions units with applicable Federal or State requirements;
    - 3) The potential emissions of all current equipment at the installation;
    - 4) Identification of the baseline period;
    - 5) Baseline actual emissions; and
    - 6) A compliance plan for the proposed PAL.
  - B. The permitting authority will have the final authority to set the new plantwide emissions limitation based on the following guidelines:
    - 1) If the baseline actual emissions at the time of renewal are equal to or greater than 80 percent of the PAL, the PAL may be renewed at the same level.
    - 2) The PAL may not be set at a level that is greater than the potential to emit of the entire installation.
    - 3) The PAL shall be adjusted to account for any applicable State or Federal requirement with a compliance date that occurs during the effective period of this PAL.
    - 4) A PAL level higher than the current PAL level cannot be approved unless otherwise approved through Special Condition 18.
  - C. Any request to renew the PAL level is required to be placed on public notice for at least a 30-day period for submittal of public comment.

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## SPECIAL CONDITIONS:

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

### 17. Expiration of the PAL

- A. If Ford Motor Company Kansas City Assembly Plant does not wish to renew the PAL of this construction permit, Ford Motor Company Kansas City Assembly Plant shall apply for and obtain a construction permit for each emissions unit (or each group of emissions units) that existed under the PAL.
- B. A complete application shall consist of a proposed allowable emission limitation for each emissions unit (or each group of emissions units) by distributing the PAL allowable emissions for the installation among each of the emissions units that existed under the PAL. If the PAL had not yet been adjusted for an applicable requirement that became effective during the PAL effective period, such distribution shall be made as if the PAL had been adjusted.
- C. The PAL in Special Condition 2 will remain in effect until a revised construction permit is issued by the permitting authority.
- D. Any physical change or change in the method of operation at the installation that meets the definition of major modification will be subject to major construction permitting requirements.
- E. Ford Motor Company Kansas City Assembly Plant shall continue to comply with any State or Federal applicable requirements that may have applied either during the PAL effective period or prior to the PAL effective period except for the emissions limitations that are superseded in Special Condition 1.

### 18. Increase of the PAL during the Effective Period

- A. If Ford Motor Company Kansas City Assembly Plant wishes to alter Special Condition 2 of this construction permit to allow the installation to emit more than 2,363 tons per year of VOC, Ford Motor Company Kansas City Assembly Plant shall submit a complete application to request an increase in the PAL meeting all the requirements for a major modification.
- B. A complete application shall consist of written documentation and/or calculations to accomplish the following items:
  - 1) Identify the emissions units contributing to the increase in emissions so as to cause Ford Motor Company Kansas City Assembly Plant's emissions to equal or exceed the PAL in Special Condition 2.

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

- 2) Determine the Best Available Control Technology (BACT) equivalent controls for each emission unit using current technology.
  - 3) Demonstrate that the sum of the baseline actual emissions of the small emissions units, plus the sum of the baseline actual emissions of the significant and major emissions units assuming application of BACT equivalent controls, plus the sum of the allowable emissions of the new or modified emissions units exceeds the PAL.
  - 4) Comply with the provisions of a current BACT analysis for all emissions unit(s) identified in Special Condition 18.B(1) in accordance with the requirements of 10 CSR 10-6.060 section (8) regardless of the magnitude of the emissions increase resulting from them.
- C. The revised PAL shall be effective on the day any emissions unit that is part of the PAL major modification becomes operational and begins to emit VOC.
- D. The revised PAL level shall be placed on public notice for at least a 30-day period for submittal of public comment.
19. Requirements for the Early Termination of the PAL
- A. If Ford Motor Company Kansas City Assembly Plant wishes to terminate the PAL in Special Condition 2 of this construction permit, Ford Motor Company Kansas City Assembly Plant will be required to comply with the provisions of State Rule 10 CSR 10-6.060.
  - B. Activities that are subject to Special Condition 19.A. are any physical and/or operational changes performed after issuance of this construction permit and in accordance with this construction permit.
  - C. Upon termination of the PAL, this construction permit will be void and all previously issued construction permits cited in Special Condition 1 will be reinstated.
  - D. The new construction permit will include a BACT analysis utilizing current technologies, a netting analysis performed by the installation and any other requirements that the permitting authority deems necessary pursuant to 10 CSR 10-6.060 section (8). The results of the BACT and netting analyses shall be submitted to the permitting authority for review and approval.

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## SPECIAL CONDITIONS:

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

- E. If Ford Motor Company Kansas City Assembly Plant requests termination of the PAL during the effective period, the PAL in Special Condition 2. will remain in effect until a valid construction permit is issued by the permitting authority pursuant to 10 CSR 10-6.060.
20. **Records Retention Requirement**  
 Ford Motor Company Kansas City Assembly Plant shall maintain all records required by this construction permit for not less than ten (10) years unless otherwise specified in a special condition.  
 Ford Motor Company Kansas City Assembly Plant shall make these records available immediately to any Missouri Department of Natural Resources' personnel upon request.
  21. **Reporting Requirement**
    - A. Ford Motor Company Kansas City Assembly Plant shall submit a semi-annual emissions report to the permitting authority within 30 days after the end of each reporting period. The reporting periods are January 1 – June 30 and July 1- December. The report shall contain the following information:
      - 1) Identification of owner and operator and the permit number;
      - 2) Total annual emissions in tons per year based on a 12-month rolling total for each month in the reporting period;
      - 3) A summary of all data relied upon, including but not limited to, any Quality Assurance or Quality Control data, in calculating the monthly and annual VOC emissions;
      - 4) A list of any emissions units modified or added to the installation during the preceding 6-month period;
      - 5) The number, duration, and cause of any deviations or monitoring malfunctions, and any corrective action taken;
      - 6) A notification of shutdown of any monitoring system, whether the shutdown was permanent or temporary, the reason for the shutdown, the anticipated date that the monitoring system will be fully operational or replaced with another monitoring system, and whether the emissions unit monitored by the monitoring system continued to operate, and the calculation of the emissions of VOC;
      - 7) A signed statement by the responsible official certifying the truth, accuracy, and completeness of the information provided in the report.
    - B. Ford Motor Company Kansas City Assembly Plant shall submit reports to the permitting authority within ten (10) days of any deviations or exceedance of permitting requirements. The report shall contain the



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## SPECIAL CONDITIONS:

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

following information:

- 1) The identification of owner and operator and the permit number:
- 2) The permit requirement that experienced the deviation or that was exceeded:
- 3) Emissions resulting from the deviation or the exceedance: and
- 4) A signed statement by the responsible official certifying the truth, accuracy, and completeness of the information provided in the report.

### 22. Quality Assurance/Quality Control Plan

Ford Motor Company Kansas City Assembly Plant shall maintain an operation and maintenance plan on site at all times. A table of contents of the plan shall be submitted to the permitting authority within 60 days of the issuance of this construction permit and updated within 60 days of receipt of the performance test reports required of Special Condition 11. The plan shall be a detailed, specific to the Kansas City Assembly Plant and include the following information:

- A. A preventative maintenance program for avoidance of excess emissions which shall include all maintenance activities, with inspection schedule, repair actions, and replacements inventory.
- B. A range of operating conditions and outlet variables for normal operation.
- C. A summary of operating conditions and outlet variables for all control equipment that will be monitored for malfunction or breakdown and a description of the method of detecting and informing responsible personnel of any malfunction or breakdowns, including alarm systems, lights and other indicators.
- D. A description of the generic corrective procedures that will be taken in the event of a malfunction or breakdown in order to restore compliance with the applicable emission limitations and permit conditions (e.g. reducing of production rate).

### 23. Emission Limitation for Non-VOC pollutants

- A. Ford Motor Company Kansas City Assembly Plant shall maintain documentation of the summation of the potential emissions of all criteria air pollutants except VOC from completed and proposed pre-approved changes. Attachment D, or equivalent forms approved by the permitting authority shall be used for this purpose.
- B. If the records from Special Condition 23.A. indicate that the summation of potential emissions of any of the following criteria air pollutant exceeds its respective de minimis level as indicated in Special Condition 23.B.(1), Ford Motor Company Kansas City Assembly Plant shall comply with the provisions of Special Condition 23.B.(1)-(3) for that particular pollutant.

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# **SPECIAL CONDITIONS:**

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

- 1) Ford Motor Company Kansas City Assembly Plant shall emit less than the following amounts for each listed criteria air pollutant in any consecutive 12 month period from all equipment, which has been installed under the authority of pre-approved changes set forth in Special Condition 4.A. and listed in Attachment B, *Pre-Approved Changes*:

Pollutant	Limitation
Particulate Matter less than 10 microns in diameter (PM <sub>10</sub> )	15.0
Sulfur Oxides (SO <sub>x</sub> )	40.0
Nitrogen Oxides (NO <sub>x</sub> )	40.0
Carbon Monoxide (CO)	100.0

- 2) Ford Motor Company Kansas City Assembly Plant shall track and calculate the monthly emissions of the listed criteria air pollutants in Special Condition 23.B (1) from all equipment listed in Attachment B, *Pre-Approved Changes*. Attachment E, or equivalent forms approved by the permitting authority shall be used to demonstrate compliance with Special Conditions 23.B.(1).
- 3) Ford Motor Company Kansas City Assembly Plant shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 23.B(2) indicate that the source exceeds the limitation of Special Conditions Number 23.B(1).

## **24. Emission Limitations from Previous Construction Permits**

### **A. Nitrogen Oxide Limitation from Permit Number 112000-014(A)**

- 1) Ford Motor Company Kansas City Assembly Plant shall emit no more than 31.6 tons of nitrogen oxides (NO<sub>x</sub>) in any 12-month consecutive period from the seven (7) 20 million BTU per hour low-NO<sub>x</sub>, direct-fired, natural gas space heaters permitted herein. Ford Motor Company Kansas City Assembly Plant shall maintain a monthly record of the amount of natural gas burned to demonstrate compliance with this limitation.
- 2) Attachment F or an equivalent form approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 24.A.

### **B. VOC Content Limitation from Permit Number 1089-001A**

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## SPECIAL CONDITIONS:

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

- 1) Ford Motor Company Kansas City Assembly Plant shall maintain an emission limit of 8.5 pounds per gallon applied coating solvents (24-hour basis) for the Commercial Topcoat (truck topcoat) only.
  - 2) Ford Motor Company Kansas City Assembly Plant must keep records for each coating demonstrating the daily volume-weighted average emission rate in pounds of VOC per gallon applied coating solvents for the Commercial Topcoat (truck topcoat) only.
- C. VOC Content Limitation from Permit Number 0690-016 (EU0140 - Commercial Sealer)  
Ford Motor Company Kansas City Assembly Plant must meet an emission limit of 0.16 kilograms VOC per liter of applied coating solids. Ford Motor Company Kansas City Assembly Plant must follow the testing guidelines contained in 60.393 of Supart MM, and use the reference methods and procedures contained in 60.396. Testing must be done within sixty days after reaching maximum production rate, but not later than 180 days after the initial startup date when production vehicles travel through the oven.
- D. VOC Content Limitation from Permit Number 0594-034
- 1) Ford Motor Company Kansas City Assembly Plant shall meet an emission limit of 13.1 pounds of VOC per gallon of applied coating solids from the operation of the passenger topcoat system.
  - 2) Ford Motor Company Kansas City Assembly Plant must keep records for each coating demonstrating the daily volume-weighted average emission rate in pounds of VOC per gallon applied coating solvents for the passenger topcoat system.
- E. Ford Motor Company Kansas City Assembly Plant shall report to the Air Pollution Control Program's (APCP) Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 24 indicate that the source exceeds the emission limitation of Special Condition 24.
25. Operational Requirements from Previous Construction Permits
- A. Stack Identifications from Permit Number 1089-001A  
Ford Motor Company Kansas City Assembly Plant shall supply the Air Pollution Control Program blueprints showing rooftop locations of all exhaust stacks for both existing and new stacks. Each stack must be identified by the associated source operation name and a short code that Ford chooses. There must be a unique code for all stacks associated with each new process. Ford must physically paint these codes onto the corresponding exhaust stacks on the roof. The code system Ford uses

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# **SPECIAL CONDITIONS:**

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

can be symbols (alpha/numeric), color bars, or another system approved by the personnel. This action will allow department personnel to identify which source is not meeting regulatory requirements, if the situation occurs. This condition must be met no later than ninety (90) days after start-up. Start-up is when production vehicles begin to travel through the new truck line.

## **B. Fluidized Bed Skid Cleaner Requirements from Permit Number 042006-012**

- 1) Ford Motor Company Kansas City Assembly Plant shall use the fluidized bed skid cleaner (EP49) exclusively to remove non-chlorinated/non-hazardous coatings from metal parts.
- 2) Natural gas or propane shall be the only fuels burned in the fluidized bed skid cleaner (EP49).

## **26. Emergency Equipment Requirements**

- A. The operating hours of the emergency generator shall not exceed 500 hours in any consecutive 12-month period. To facilitate the record keeping for this condition, the emergency generator shall be equipped with a non-resetable running time meter.
- B. Attachment G or an equivalent form shall be used to record the hours of operation. These records shall include the operating hours for that month and the total hours of operation for the previous 12-month period.
- C. Ford Motor Company Kansas City Assembly Plant shall report to the Air Pollution Control Program's (APCP) Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 26.B. indicate that the source exceeds the Special Condition 26.A.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (8) REVIEW

Project Number: 2007-09-052  
Installation ID Number: 047-0019  
Permit Number:

Ford Motor Company - Kansas City Assembly Plant      Complete:  
8121 U.S. NE Highway 69      Reviewed:  
Claycomo MO 64119

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

Clay County, S27, T51, R32

REVIEW SUMMARY

- Ford Motor Company Kansas City Assembly Plant has applied for a plantwide applicability limitation (PAL) permit for pre-approved changes at the existing auto assembly plant in Claycomo, MO.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. However, HAP emissions may not exceed acceptable ambient air quality concentrations as required by special conditions of this construction permit.
- Subpart MM of the New Source Performance Standards (NSPS), for *Automobile and Light Duty Truck Surface Coating Operations*, applies to the installation.
- The Maximum Achievable Control Technology (MACT) standards, 40 CFR Part 63, Subpart IIII, National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light Duty Trucks, applies to the installation.
- A regenerative thermal oxidizer and carbon adsorbers are currently being used to control the VOC emissions from equipment at this installation.
- This review was conducted in accordance with Section (8) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Emissions of VOC for the entire installation are conditioned with a PAL.
- 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 PAL permit were not determined. However, screen modeling for HAPs is required as specified in the special conditions of this construction permit.
- Emissions testing is required for the source.
- A Part 70 Operating Permit application amendment is required for this installation within 1 year of issuance of this construction permit.
- Approval of this permit is recommended with special conditions.

## INSTALLATION DESCRIPTION

Ford Motor Company Kansas City Assembly Plant (Ford Motor Company) owns and operates an existing automobile assembly plant in Claycomo, Missouri. A list of existing equipment and a summary of the existing emission points can be found in Table B. In an attempt to clarify and consolidate previously confusing emission point assignments, Ford Motor Company has proposed new emission point number assignments to the existing emission points. The new assignments are also provided in Table B.

This installation is a major source of SO<sub>x</sub>, NO<sub>x</sub>, HAPs and VOC emissions. A Part 70 Operating permit application was submitted to the Air Pollution Control Program on May 13, 1997 and is currently under Technical Review. The following permits have been issued to Ford Motor Company Kansas City Assembly Plant from the Air Pollution Control Program.

Table 1: Previously Issued Construction Permits

Permit Number	Description
1176-010 through 014	New processes
1177-005 through 006	Storage tanks
1277-005 through 006	Steam boilers
0678-008	Painting
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
0690-016	Protective transit coating application equipment
0590-001	Commercial sealer bake oven replacement
1089-001A	Consent Decree
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 tune/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
072007-004	Modification of the Main Enamel Booth (EP-20) by moving paint applicators from fixed positions to robotic arms

One purpose of this construction permit is to supercede the special conditions of previously issued construction permits. Ford has 32 construction permits issued to them by the Air Pollution Control Program. Most of the superceded conditions will be rendered unnecessary with the issuance of this permit. Some conditions are being carried over because they are not affected by the PAL. Specifically, the special conditions of Permit Numbers 112000-014(A) and 042006-012 address non-VOC (i.e. NO<sub>x</sub> and HAP) issues that must continue to be effective. Permit Numbers 1089-001(A), 0690-016, and 0594-034 contain special conditions that set emission rates and/or requirements that were established by consent decree, BACT or compliance reasons. These conditions are re-instated in this permit for continuing compliance.

All previous permit conditions have been subsumed into the conditions of this construction permit and are, therefore, unnecessary or repetitive in nature. Special Condition 1 was set forth to supercede the special conditions of 16 construction permits. The remaining 16 construction permits that are not mentioned in Special Condition 1 do not have special conditions.

Ford is a global company that continuously works to reduce the environmental footprint of its manufacturing operations worldwide by improving energy efficiency and increasing the use of renewable resources. Ford has reduced its global operational energy use by 27 percent overall (12 percent per vehicle built), CO<sub>2</sub> emissions by 31 percent (16 percent per vehicle built), and water use by more than 25 percent (11 percent per vehicle built) since 2000. These improvements can be attributed to a number of sustainability initiatives that Ford has implemented at manufacturing facilities including the replacement or upgrade of heating, ventilating and cooling systems; improvements in lighting and vehicle painting systems, and water reduction and recycling projects. In addition, Ford has been recognized by the U.S. Environmental Protection Agency for its energy conservation efforts with the 2006 and 2007 Energy Star Partner of the Year Award, which is the first time an automaker has won in successive years.

## PROJECT DESCRIPTION

Ford Motor Company has applied for a Plantwide Applicability Limitation (PAL) permit from the Air Pollution Control Program which will limit emissions on VOC from the entire installation. Under the PAL permit, Ford Motor Company will be allowed to construct pre-approved changes at the installation with little advance notice. The PAL permit is

expected to lower overall plant emissions and increase manufacturing flexibility.

The pre-approval of certain types of physical and operational changes in the permit is designed, in part, to facilitate the facility's implementation of pollution prevention projects, including potential installation of control devices on previously uncontrolled equipment. This permit is explicitly designed to enable the Kansas City Assembly Plant to accomplish this in a streamlined manner.

This construction permit is based on newly reformed federal regulations that were finalized in December of 2002 and adopted into the Missouri State Rules and Implementation Plan in July of 2007. Due to the novelty of these regulations in Missouri permitting, much of the actual language of the regulations has been used in setting the special conditions needed to demonstrate compliance with the emission limitation of this construction permit (i.e. performance testing, monitoring, record keeping and reporting).

The PAL permit limits plantwide VOC emissions based on historical actual emissions and a reasonable operational margin. With the issuance of this construction permit, the company would be allowed to make modifications to operations without triggering major or minor construction permitting as long as emissions from the installation remained below the PAL "emissions cap". A PAL cap is established for existing emissions units with an emissions history greater than 24-months, using the average rate of emissions during any one consecutive 24-month period. This 24-month period must be contained within the 10-year period immediately preceding the application for a PAL.

Once the average is determined, a reasonable operating margin can be added to the average and must be set such that major construction is not triggered. This assures that the environment sees no significant increase in emissions compared to the baseline actual emissions existing before the PAL is established.

In order to give the company flexibility in making changes quickly to their facility that will meet market demands, the permitting authority is granting Ford Motor Company a PAL permit. Based on existing potential emissions, Ford Motor Company is currently considered major for VOC, HAPs, SOx, and NOx, and minor for all other criteria air pollutants. Under this application, Ford Motor Company has requested a PAL for only VOC. To determine the PAL, emissions reported in the Emissions Inventory Questionnaires (EIQs) were examined and a two-year average was calculated over the last 10 years for VOC. Table 2 summarizes these values.

Table 2: Two-year averages of VOC emissions over the last 10 years

Emission Year	Emission of VOC (tons)	2-year Average of VOC Emissions (tons)
2007	NA	NA
2006	1524.49	1524
2005	1722.76	1624
2004	1903.66	1813
2003	1926.51	1915
2002	2321.33	2124



2001	2326.56	2324
2000	1626.02	1976
1999	1744.11	1685
1998	1908.23	1826
1997	2359.99	2134

The two years that produced the highest two- year average emissions of VOC were 2001 and 2002 with an average of 2324 tons of VOC per year. To set the emissions cap, a reasonable operating margin for VOC was set just below the significance levels for major source reviews, which is 40 tons per year. Therefore, the total allowable emissions limit set forth in this construction permit is 2363 tons of VOC per year (2324 +39).

Attachment A, or any form approved by the permitting authority, will be used to demonstrate compliance with the emissions limitation. Attachment A is intended to account for emissions from the entire installation including any equipment added or removed under authority of this construction permit. Minor emission sources, such as space heaters, must also be included in the compliance demonstration even though the equipment may be “exempt” from construction permits. The method of compliance (e.g. mass balance) must also be indicated on the Attachment. Although Attachment A implies that emissions must be reconciled monthly, Ford Motor Company will be required to account for daily emissions that occur as a result of start-up, shut-down, and/or malfunction of the control device. Accordingly, Ford Motor Company may use monthly inventory data to backcast daily emissions prorated on each day’s production rates during such times.

For equipment that is added or removed under authority of this construction permit, Ford Motor Company must keep a record of these additions/removals per Special Condition 4.B. Furthermore, Ford Motor Company must verify any emission factors and control efficiencies applied to emissions from the installation through documentation accompanying the Attachment. Documentation may include Material Safety Data Sheets (MSDS) specific to the material being used and/or recent stack performance test results. In particular, the documentation should include explicit details on how the emission factor and/or control efficiency was determined. This type of flexibility should allow Ford Motor Company the opportunity to use better emission factors as they become available.

Under the emissions limitation, Ford Motor Company is authorized to perform physical and operational changes stated in the list of pre-approved changes found in Attachment B, *Pre-Approved Changes*. Prior to construction of a pre-approved change, Ford Motor Company is required to send notification of construction to the Air Pollution Control Program. Special Condition 5 outlines the elements required in the notification, including an emissions summary and an impact analysis of the change on other operational factors such as capture efficiency. The pre-approved changes are reviewed at the time of the change using, where applicable, the Protocol for Determining the Daily Volatile Organic Compound emission Rate of Automobile and Light-Truck Topcoat Operations (EPA-450/3-88-018).

One of the advantages of the pre-approved changes is the opportunity for pollution reduction by allowing Ford Motor Company the flexibility to increase production or add equipment by adding control devices. Currently, Ford Motor Company controls VOC emissions from the Passenger paint shop with the Topcoat Oven Regenerative Thermal Oxidizer. Emissions from the Commercial paint shop are controlled using the Guidecoat Booth, Guidecoat Oven, Topcoat Booth, and Topcoat Oven Regenerative Thermal Oxidizers and the Guidecoat Booth and Topcoat Booth Carbon Adsorbers. Ford Motor Company is considering additional control equipment such as the fluidized bed carbon concentrator followed by a thermal oxidizer for control of VOC emissions.

This construction permit may be amended to include activities that are not identified in the original list of pre-approved modifications if those activities will not increase emissions over the PAL. However, Ford Motor Company may not amend this construction permit to increase the PAL itself for any reason. To amend the PAL would result in the termination of this construction permit and would require Ford Motor Company to apply for and obtain a new permit under Section (8) regulations per Special Condition 18.

For modifications that are not considered a pre-approved change and increase potential emissions of criteria air pollutants other than VOC and HAP, the installation must submit a construction permit application for evaluation and approval. In order for the installation to obtain any additional construction permits, the emissions must be below de minimis levels for that pollutant to avoid major source review.

In addition, when Ford Motor Company submits notification of a pre-approved change that produces emissions other than VOC, Ford Motor Company is required to include a calculation sheet and a summation of potential emissions of all criteria air pollutants except VOC for the proposed pre-approved changes and all completed pre-approved changes. Proposed pre-approved changes consist of any equipment for which a notification has been received including the equipment proposed in the current notification. A record of the summation must also be kept on site as specified in Special Condition 23.

The purpose of these special conditions is to set forth provisions for recordkeeping for equipment installed under authority of the pre-approved changes with potential emissions greater than de minimis levels for non-VOC pollutants. This is required to ensure these pollutants do not trigger major review for these phased projects. Therefore, once the potential emissions of a non-VOC criteria air pollutant exceeds de minimis levels, Ford Motor Company will be required to maintain a 12-month rolling average of actual emissions below de minimis levels from all completed pre-approved changes for that particular criteria air pollutant.

For example, if Ford Motor Company were to install sources with the following emissions under authority of a pre-approved change (see Table 3), Ford Motor Company would not be required to comply with an emissions limitation for PM<sub>10</sub>, SO<sub>x</sub>, or CO. However, upon installation of the third source, Ford Motor Company would be required to track NO<sub>x</sub> emissions for all three sources and not exceed an annual limitation of 40 tons.

Table 3: Example Applicability Summary for Special Condition 23

Pollutant	Source 1	Source 2	Source 3	Summation
PM <sub>10</sub>	1.0	1.3	1.0	3.3
SO <sub>x</sub>	0.1	0.1	0.1	0.3
NO <sub>x</sub>	14.0	16.6	13.1	43.7
CO	12.0	14.0	11.0	37.0

From a timeline perspective, in this example, if source 1 and 2 were installed in 2010 and 2011, respectively, and source 3 were installed in 2013, the limit would not become effective until 2013.

Besides VOC emissions, some materials are anticipated to contain HAP, which are required to meet state requirements as outlined in Special Conditions 7 and 8. Based on the potential emissions of each specific HAP, Ford Motor Company is required to determine the impact of the HAP on the ambient air for each pre-approved change that is not subject to a MACT standard if the potential to emit of the HAP exceeds its SMAL. To do this, Ford Motor Company must screen using the EPA preferred screening method prior to operation. The modeled screening concentration must then be compared to the acceptable concentrations found in the Missouri document *Draft Acceptable Ambient Levels for Missouri*, which is maintained by the permitting authority. Ford Motor Company must also contact the Program for the most recent update to the document to ensure compliance with the construction permit. If modeled concentrations are above acceptable concentration levels on any averaging period (i.e. 3-hour, 8-hour, 24-hour, and/or annual), Ford Motor Company may not commence operation until Ford Motor Company completes refined modeling to document ambient concentrations are below acceptable concentration levels or applies for and obtains a construction permit limiting the HAP emissions.

Once this construction permit is issued, Ford Motor Company is authorized to construct and operate any pre-approved modification in accordance with the notification system (Special Conditions 5 and 6). Prior to commencement of construction and operation, Ford Motor Company must submit notification to the permitting authority describing all required details of the operational and/or physical changes being performed. As a part of the notification, Ford Motor Company is required to submit a statement verifying that the physical or operational change will not result in installation emissions that exceed the plantwide limitation. Construction permits staff believes that the notifications are similar to pre-construction waivers, where the applicant is requesting authority to start construction before issuance of the permit. In this case, if a change is determined to be inconsistent with the pre-approved changes, and the change requires an amendment to the permit, the statement of verification serves as assurance that the change will not affect the limit. Once received, these notifications will become incorporated into the construction permit, and compliance with the notifications will be enforceable.

The plantwide limitation set forth in this construction permit is effective for a period of ten (10) years from the date of issuance. At least six (6) months prior to, but not earlier than 18 months from, the expiration date of this plantwide limitation, Ford Motor Company must submit a request for either the renewal of or the termination of the PAL per Special Conditions 14 through 19.

Once a request for renewal is received by the permitting authority, the PAL will continue as an enforceable requirement. At that time, the PAL will be re-evaluated to account for newly applicable requirements and/or declining potential emissions. For example, if Ford Motor Company removes equipment from the installation that results in a total decrease in potential emissions below the current PAL, the renewed PAL must be adjusted downward accordingly. On the other hand, if applicable requirements and potential emissions remain the same, or if the Director deems it appropriate, the PAL may remain at the same level.

However, if Ford Motor Company wishes to allow the PAL to terminate, Ford Motor Company must submit a proposed approach for allocating the plantwide limitation among existing emissions units for review and approval. The allowable emission limitations for each emissions units will be based on a 12-month rolling basis. In addition, once the original PAL expires, Ford Motor Company may not perform activities previously approved under this construction permit and must comply with the permitting requirements found in Sections (5), (6), (7), (8), and (9), as appropriate.

Ford Motor Company may terminate the plantwide limitation through walk away provisions of this construction permit by requesting an increase in the limitation or by simply requesting termination. If Ford Motor Company wishes to walk away from the terms of this construction permit, Ford Motor Company may vacate the permit and return to the requirements of previously issued construction permits. For all construction commenced in the duration of this construction permit, Ford Motor Company is required to apply for and obtain a new permit under Section (8) regulations for each project with potential emissions that exceed the significance threshold(s). In addition, a complete netting analysis is required for all emissions reductions and increases that occurred over the life of the construction permit.

Once Ford Motor Company requests termination of, expiration of, or an increase in the PAL, Ford Motor Company must submit appropriate applications for revised or replacement permits. During any review by the permitting authority and until a valid construction permit is issued, Ford Motor Company must continue to comply with the plantwide limitation in Special Condition 2 of this construction permit.

## EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies obtained from the most recent edition of the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, shall be used to determine compliance with the plantwide limitation of VOCs unless performance testing data is available and approved by the Air Pollution Control Program. For materials that contain VOCs and for which there is a Material Safety Data Sheet (MSDS), a mass balance approach should be used to determine emissions from the process. The upper limit of any content range stated in the MSDS must be used in the calculations unless approved tests indicate a more appropriate value. Per permitting authority policy, it is assumed that all VOCs and HAPs contained in the material will be emitted into the atmosphere unless an alternative method is approved by the Program.

Approval can be requested through the notification process.

Due to the nature of the flexible permit, potential emissions of the application and existing potential emissions were not determined. Existing actual emissions were taken from the 2006 EIQ. The following table provides an emissions summary for this project.

Table 4: 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 <sub>10</sub>	15.0	N/D	69.25	N/D	N/A**
SO <sub>x</sub>	40.0	Major	3.72	N/D	N/A**
NO <sub>x</sub>	40.0	Major	75.40	N/D	N/A**
VOC	40.0	Major	1524.49	N/D	<2,363.0
CO	100.0	N/D	63.03	N/D	N/A**
HAPs	10.0/25.0	N/D	N/A	N/D	N/A**

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

\*\* Not applicable unless the potential to emit of the installed pre-approved changes exceeds de minimis levels (see Special Condition 23)

## PERMIT/RULE APPLICABILITY

This review was conducted in accordance with Section (8) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. This is a PAL permit for VOC with de minimis limitations on all other criteria air pollutants.

## 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.
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

#### AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling is required to determine the ambient impact of hazardous air pollutants (HAP) from any physical or operational change performed under the pre-approved changes of this construction permit. Currently, the EPA preferred method for screening is Screen 3 modeling.

#### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (8), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Emily Wilbur  
Environmental Engineer

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Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated September 17, 2007, received September 19, 2007, designating Ford Motor Company 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.

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