CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT

Ford Electronics and Refrigeration Corporation
4747 Western Avenue
Connersville, Indiana 47331

is hereby authorized to construct

a modification to the automotive parts manufacturing plant, consisting of the following equipment:

(a) one (1) thermal de-oiler (De-oiler #1) processing a maximum of 6,000 pounds of metal parts per hour, using a maximum of 30 pounds of oil per hour, with a thermal incinerator using natural gas as supplementary fuel at a heat input rate of 7.5 million (MM) British thermal units (Btu) per hour for control of volatile organic compounds (VOC), exhausting through two (2) stacks (DO1 and DO2); and

(b) one (1) thermal de-oiler (De-oiler #2) processing a maximum of 2,400 pounds of metal parts per hour, using a maximum of 40 pounds of oil per hour, with a thermal incinerator using natural gas as supplementary fuel at a heat input rate of 2.5 MMBtu per hour for control of VOC, exhausting through one (1) stack (DO3).

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-041-9441-00004	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

Construction Conditions

General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).

2. That this permit to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:

   (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

   (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

   (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

   (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-7-19 (Fees)

   (e) The Permittee has submitted their Part 70 permit application (T-041-6896-00004) on October 11, 1996 for the existing source. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

Operation Conditions

General Operation Conditions

1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).

2. That the permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

Preventive Maintenance Plan

3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:

   (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.

   (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.

   (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

   The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):

   (a) In the event that ownership of the two (2) thermal de-oilers is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.

   (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.

   (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

   (a) Violation of any conditions of this permit.

   (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM, or other public official having jurisdiction.

Performance Testing

7. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed on the two (2) thermal incinerators for VOC emissions from each of the two (2) thermal incinerators within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.

(a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.

(b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.

(c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.

(d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are not acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

(e) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

Malfunction Condition

8. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

Annual Emission Reporting

9. That pursuant to 326 IAC 2-6 (Emission Reporting), the Permittee must annually submit an emission statement for the source. This statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The annual statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.

Opacity Limitations

10. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:

(a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.

(b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

Fugitive Dust Emissions

11. That pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the permittee shall be in violation of 326 IAC 6-4 (Fugitive Dust Emissions) if any of the criteria specified in 326 IAC 6-4-2(1) through (4) are violated. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM. [326 IAC 6-4-5(c)].

BACT Condition

12. That pursuant to 326 IAC 8-1-6, the thermal incinerators (rated at 7.5 MMBtu per hour and 2.5 MMBtu per hour, respectively) on each of the two (2) thermal de-oilers (De-oiler #1 and #2) shall be in operation at all times that each of the de-oilers is in operation. When operating, the thermal incinerators on De-oiler #1 and De-oiler #2 shall maintain minimum operating temperatures of 1,500° F and 1,560º F, respectively, and a gas residence time in the oxidizing zone for each incinerator of 1.0 second, or a temperature and gas residence time determined in the compliance tests (described in Operation Condition 7) to maintain at least 95% destruction of VOC captured and a capture efficiency of 100%.

Open Burning

13. That the permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6.

Emergency Reduction Plans

14. Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within 180 calendar days from the issuance date of this permit.

(c) If the ERP is disapproved by IDEM, OAM, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP. If after this time, the Permittee does not submit an approvable ERP, IDEM, OAM , shall supply such a plan.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAM, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate level. [326 IAC 1-5-3]

15. Record Keeping Requirement

To document compliance with Operation Condition 12, the Permittee shall maintain daily records of the following operational parameters for each of the two (2) thermal incinerators during normal operation:

(a) operating temperature; and

(b) gas residence time in the oxidizing zone.

16. Any change or modification which may increase actual VOC emissions to 40 tons per twelve (12) consecutive month period, from the equipment covered in this permit, must be approved by the Office of Air Management (OAM) before such change may occur.

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - (317) 233-5967

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ?_____, 100 LBS/HR VOC ?_____, 100 LBS/HR SULFUR DIOXIDE ?_____ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ?_____ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON THE NEXT PAGE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Ford Electronics and Refrigeration Corporation PHONE NO. (765) 827-7353

LOCATION: (CITY AND COUNTY) Connersville, Fayette County

PERMIT NO. 041-9441 AFS PLANT ID: 041-00004 AFS POINT ID: _____ INSP: Pete Kachur
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____
_____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 19____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 19____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

_____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

_____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____
_____
_____

MALFUNCTION REPORTED BY:
_____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE NEXT PAGE

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO2, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____

_____

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name:	Ford Electronics and Refrigeration Corporation
Source Location:	4747 Western Avenue, Connersville, Indiana 47331
County:	Fayette
Construction Permit No.:	CP-041-9441-00004
SIC Code:	3714
Permit Reviewer:	Trish Earls/EVP

The Office of Air Management (OAM) has reviewed an application from Ford Electronics and Refrigeration Corporation relating to the construction and operation of a modification to the automotive parts manufacturing plant, consisting of the following equipment:

(a) one (1) thermal de-oiler (De-oiler #1) processing a maximum of 6,000 pounds of metal parts per hour, using a maximum of 30 pounds of oil per hour, with a thermal incinerator using natural gas as supplementary fuel at a heat input rate of 7.5 million (MM) British thermal units (Btu) per hour for control of volatile organic compounds (VOC), exhausting through two (2) stacks (DO1 and DO2); and

(b) one (1) thermal de-oiler (De-oiler #2) processing a maximum of 2,400 pounds of metal parts per hour, using a maximum of 40 pounds of oil per hour, with a thermal incinerator using natural gas as supplementary fuel at a heat input rate of 2.5 MMBtu per hour for control of VOC, exhausting through one (1) stack (DO3).

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
DO1	De-oiler #1	51	1.5	5,000	1,500
DO2	De-oiler #1	51	1.5	5,000	1,500
DO3	De-oiler #2	51	1.17	1,400	1,560

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on February 4, 1998.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (three (3) pages).

Total Potential and Allowable Emissions

Indiana Permit Allowable Emissions Definition (after compliance with applicable rules, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	--	0.6
Particulate Matter (PM10)	--	0.6
Sulfur Dioxide (SO_2)	--	0.0
Volatile Organic Compounds (VOC)	--	306.7
Carbon Monoxide (CO)	--	1.5
Nitrogen Oxides (NO_x)	--	6.1
Single Hazardous Air Pollutant (HAP)	--	0.0
Combination of HAPs	--	0.0

(a) The potential emissions before control are less than the allowable emissions, therefore, the potential emissions before control are used for the permitting determination.

(b) Allowable emissions (as defined in the Indiana Rule) of VOC are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

County Attainment Status

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_X) are precursors for the formation of ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Fayette County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Fayette County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source Part 70 Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	19.0
PM10	19.0
SO_2	115.0
VOC	857.4
CO	16.8
NO_x	67.4

(a) This existing source is a major stationary source because at least one attainment regulated pollutant is emitted at a rate of 250 tons per year.

(b) These emissions were based on the Part 70 application submitted by the company on October 11, 1996.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit, where applicable):

Pollutant	PM (ton/yr)	PM10 (ton/yr)	SO_2 (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO_x (ton/yr)
Proposed Modification	0.6	0.6	0.0	15.4	1.5	6.1
Contemporaneous Increases	--	--	--	--	--	--
Contemporaneous Decreases	--	--	--	--	--	--
Net Emissions						
PSD or Offset Significant Level	25	15	40	40	100	40

(a) This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source has submitted their Part 70 (T-041-6896-00004) application on October 11, 1996. The equipment being reviewed under this permit shall be incorporated in the submitted Part 70 application.

Federal Rule Applicability

(a) There are no New Source Performance Standards (326 IAC 12), 40 CFR Part 60 applicable to this facility.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63 applicable to this facility.

40 CFR 63.460 - 63.468, Subpart T, National Emission Standards for Halogenated Solvent Cleaning

The two (2) thermal de-oilers are not subject to the requirements of Subpart T because they do not use halogenated solvents and are not vapor or cold solvent cleaning machines.

State Rule Applicability

326 IAC 2-6 (Emission Reporting)

This facility is subject to 326 IAC 2-6 (Emission Reporting), because the source emits more than 100 tons/yr of VOC and SO_2. Pursuant to this rule, the owner/operator of this facility must annually submit an emission statement of the facility. The annual statement must be received by July 1 of each year and must contain the minimum requirements as specified in 326 IAC 2-6-4.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Visible Emissions Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), visible emissions shall meet the following, unless otherwise stated in this permit:

(a) Visible emissions shall not exceed an average of forty percent (40%) opacity in twenty-four (24) consecutive readings as determined by 326 IAC 5-1-4,

(b) Visible emissions shall not exceed sixty percent (60%) opacity for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The two (2) thermal de-oilers (De-oiler #1 and #2) are subject to the requirements of 326 IAC 8-1-6. This rule requires all facilities constructed after January 1, 1980, which have potential VOC emission rates of 25 or more tons per year, and which are not otherwise regulated by other provisions of 326 IAC 8, to reduce VOC emissions using Best Available Control Technology (BACT). Each of the thermal de-oilers has potential VOC emissions greater than 25 tons per year and each facility will be constructed after January 1, 1980. Ford Electronics and Refrigeration Corporation has submitted a BACT analysis as part of this permit application. The use of a thermal incineration system on each thermal de-oiler with an estimated VOC destruction efficiency of 95% and a capture efficiency of 100% has been determined to be BACT for the two (2) thermal de-oilers. As part of the BACT analysis, Ford has also reviewed other control options and compared them to the use of thermal incineration which is considered BACT. The results of these comparisons are as follows:

(a) Other Destruction Systems

The destruction of organic compounds usually requires temperatures ranging from 1,200ºF to 2,200ºF for direct thermal incinerators or 600ºF to 1,200ºF for catalytic systems. Combustion temperature depends on the chemical composition and the desired incineration destruction efficiency. Carbon dioxide and water vapor are the typical products of complete combustion.

Fume incinerators typically need supplemental fuel. Concentrated VOC streams with high heat contents obviously require less supplementary fuel than more dilute streams. VOC streams sometimes have a heat content high enough to be self-sustaining, however VOC concentrations of this magnitude are not expected in this application. Natural gas is the most common fuel for VOC incinerators, but fuel oil is an option in some circumstances.

Combustion control technologies include: recuperative thermal incineration, regenerative thermal incineration, recuperative catalytic incineration, regenerative catalytic incineration and flares. In evaluating various options, Ford has considered the need to supply supplemental fuel in the form of natural gas to assist with combustion, and the desire to recover heat from the system. Ford has determined that none of the other control systems identified are capable of achieving a destruction efficiency greater than the 95% efficiency anticipated for its system. On this basis, Ford has determined that the selected control option is the best with regard to economics and control efficiency achieved.

(b) Capture Systems

Organic compounds may be reclaimed by one of three possible methods; adsorption, absorption (scrubbing) or condensation. In general, the organic compounds are separated from the emission stream and reclaimed for reuse or disposal. Depending on the nature of the contaminant and the inlet concentration of the emission stream, recovery technologies can reach efficiencies well in excess of 90%.

These control systems are most effective with lower molecular weight compounds which are in the air stream in a moderate to high concentration. The VOC present in the air stream from the de-oilers will be high molecular weight compounds, and are expected to be at a low concentration in the exhaust. Ford has determined that the selected control system will achieve a much higher removal efficiency at a lower cost than any of the capture system control options.

(c) Material Substitution

VOC reduction may also be achieved in process equipment through redesign of equipment to lessen VOC evaporated to the atmosphere, or by substituting compounds with lower VOC content into the process. In the case of the two de-oilers proposed for Ford, these units are, in fact, illustrations of this approach relative to the current use of trichloroethylene degreasers. The two de-oilers will reduce the quantity of VOC emitted to the atmosphere and will also replace a hazardous air pollutant (trichloroethylene) with an organic compound which contains no hazardous air pollutants. Thus, Ford believes that the proposed de-oilers satisfy the best technology for its process to reduce VOC emissions while achieving product quality.

A stack test will be required to be performed on one of the two (2) thermal incinerators to verify the required operating parameters and destruction efficiency for the thermal incinerators. This test will be a representative test for both thermal incinerators.

326 IAC 8-3 (Organic Solvent Degreasing Operations)

The two (2) thermal de-oilers (De-oiler #1 and #2) are not subject to the requirements of 326 IAC 8-3. For facilities constructed after July 1, 1990, this rule only applies to the type of degreasers described in 326 IAC 8-3-1(b)(1)(A) through (1)(C). Because the de-oilers are not the types of degreasers described in subdivision (1)(A) through (1)(C), they are not subject to the requirements of 326 IAC 8-3.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This rule applies to sources commencing operation after October 7, 1974 and before January 1, 1980, located anywhere in the state with potential emissions of 100 tons per year or greater of VOC. This source is not subject to the requirements of 326 IAC 8-6 because although the source has potential VOC emissions greater than 100 tons per year, the source commenced operation before October 7, 1974, and is located in Fayette County.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) None of these listed air toxics will be emitted from this proposed construction.

Conclusion

The construction of the two (2) thermal de-oilers (De-oiler #1 and #2) will be subject to the conditions of the attached proposed **Construction Permit No. CP-041-9441-00004.**

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for New Construction and Operation

Source Name:	Ford Electronics and Refrigeration Corporation
Source Location:	4747 Western Avenue, Connersville, Indiana 47331
County:	Fayette
Construction Permit No.:	CP-041-9441-00004
SIC Code:	3714
Permit Reviewer:	Trish Earls/EVP

On March 20, 1998, the Office of Air Management (OAM) had a notice published in the News Examiner, Connersville, Indiana, stating that Ford Electronics and Refrigeration Corporation had applied for a construction permit to construct and operate a modification to the existing automotive parts manufacturing plant, consisting of the installation of two (2) thermal de-oilers with thermal incineration as air pollution control. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the OAM has decided to make the following changes to the Construction Permit and the TSD:

1. In operation condition no. 7 of the Construction Permit, page 4 of 8, the source was required to test only one (1) of the two (2) thermal oxidizers. This would only apply if the two oxidizers were identical. Each of the oxidizers has a different fuel heat input rate, different stack flow rates, and different stack temperatures. Therefore, stack testing should be required for both of the thermal oxidizers because they are not identical units. Operation condition no. 7 of the Construction Permit, now on page 4 of 9, is revised from:

   Performance Testing

   7. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed for VOC emissions from one of the two (2) thermal incinerators within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.

      (a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.

      (b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.

      (c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.

(d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

(e) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

to the following (changes in bold):

Performance Testing

7. That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed **on the two (2) thermal incinerators** for VOC emissions from **each** of the two (2) thermal incinerators within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. These tests shall be performed according to 326 IAC 3-2.1 (Source Sampling Procedures) using the methods specified in the rule or as approved by the Commissioner.

(a) A test protocol shall be submitted to the OAM, Compliance Data Section, 35 days in advance of the test.

(b) The Compliance Data Section shall be notified of the actual test date at least two (2) weeks prior to the date.

(c) All test reports must be received by the Compliance Data Section within 45 days of completion of the testing.

(d) Whenever the results of the stack test performed exceed the level specified in this permit, appropriate corrective actions shall be implemented within thirty (30) days of receipt of the test results. These actions shall be implemented immediately unless notified by OAM that they are **not** acceptable. The Permittee shall minimize emissions while the corrective actions are being implemented.

(e) Whenever the results of the stack test performed exceed the level specified in this permit, a second test to demonstrate compliance shall be performed within 120 days. Failure of the second test to demonstrate compliance may be grounds for immediate revocation of this permit to operate the affected facility.

Note that part (d) of operation condition no. 7 was changed to correct a typographical error.

2. The last paragraph of the discussion on the applicability of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) in the State Rule Applicability section of the TSD, page 6 of 6, has been revised to reflect the changes in the stack testing requirement discussed above. The paragraph is revised from:

A stack test will be required to be performed on one of the two (2) thermal incinerators to verify the required operating parameters and destruction efficiency for the thermal incinerators. This test will be a representative test for both thermal incinerators.

to the following (changes in bold):

A stack test will be required to be performed on **each** of the two (2) thermal incinerators to verify the required operating parameters and destruction efficiency for **each of** the thermal incinerators.

3. To ensure that there are records of the operational parameters necessary for the two (2) thermal incinerators to maintain their required destruction and capture efficiencies, an additional operation condition was added to the construction permit, page 6 of 9, requiring record keeping of the operational parameters for the two (2) thermal incinerators to demonstrate compliance with Operation Condition 12 (BACT Condition). The condition reads as follows:

15. Record Keeping Requirement
To document compliance with Operation Condition 12, the Permittee shall maintain daily records of the following operational parameters for each of the two (2) thermal incinerators during normal operation:

(a) operating temperature; and

(b) gas residence time in the oxidizing zone.

Appendix A: Emission Calculations
Emissions Summary

Company Name: Ford Electronics and Refrigeration Corporation
Address City IN Zip: 4747 Western Avenue, Connersville, Indiana 47331
CP: 041-9441
Plt ID: 041-00004
Reviewer: Trish Earls
Date: February 23, 1998

Allowable Emissions Definition (tons/year)

Pollutant	Emissions Generating Activity: Thermal De-oilers	Emissions Generating Activity: Combustion	**TOTAL**
PM	0.00	0.60	0.6
PM-10	0.00	0.60	0.6
SO2	0.00	0.00	0.0
NOx	0.00	6.10	6.1
VOC	306.60	0.10	306.7
CO	0.00	1.50	1.5
HAPs	0.00	0.00	0.0

Total emissions based on rated capacity at 8,760 hours/year.

New Source PSD Definition (tons/year)

Pollutant	Emissions Generating Activity: Thermal De-oilers	Emissions Generating Activity: Combustion	**TOTAL**
PM	0.00	0.60	0.6
PM-10	0.00	0.60	0.6
SO2	0.00	0.00	0.0
NOx	0.00	6.10	6.1
VOC	15.33	0.10	15.4
CO	0.00	1.50	1.5
HAPs	0.00	0.00	0.0

Total emissions based on rated capacity at 8,760 hours/year.

Appendix A: Emission Calculations
VOC and Particulate
From Thermal De-Oilers

Company Name: Ford Electronics and Refrigeration Corporation
Address City IN Zip: 4747 Western Avenue, Connersville, Indiana 47331
CP: 041-9441
Plt ID: 041-00004
Reviewer: Trish Earls
Date: February 23, 1998

State Potential Emissions (uncontrolled):

Material (as applied)	Process	Density (Lb/Gal)	Weight % Volatile (H20& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	lb VOC /gal solids	Transfer Efficiency
Oak Draw 951 (Oil)	De-Oiler #1	6.84	100.00%	0.00%	100.00%	0.00%	0.00%	4.386	1.00	6.84	30.00	720.00	131.40	0.00	N/A	100.00%
Oak Draw 951 (Oil)	De-Oiler #2	6.84	100.00%	0.00%	100.00%	0.00%	0.00%	5.848	1.00	6.84	40.00	960.00	175.20	0.00	N/A	100.00%
Total State Potential Emissions:											**70.00**	**1680.00**	**306.60**	**0.00**		

Federal Potential Emissions (controlled):

	Control Efficiency		Controlled VOC lbs per Hour	Controlled VOC lbs per Day	Controlled VOC tons per Year	Controlled PM tons/yr
	VOC	PM				
Total Federal Potential Emissions:	95.00%	0.00%	**3.50**	**84.00**	**15.33**	**0.00**

Methodology:

Pounds of VOC per Gallon = (Density (lb/gal) * Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids) * Transfer Efficiency

Total = Sum of all solvents used

Controlled emission rate = uncontrolled emission rate * (1 - control efficiency)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
10 < MM BTU/HR <100
Supplementary Fuel Heat Input Rate

Company Name: Ford Electronics and Refrigeration Corporation
Address City IN Zip: 4747 Western Avenue, Connersville, Indiana 47331
CP: 041-9441
Plt ID: 041-00004
Reviewer: Trish Earls
Date: February 23, 1998

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
10.0	87.6

Heat Input Capacity includes:
Supplementary fuel heat input rate for the thermal incinerators on De-oiler #1 and #2.

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	14.0	14.0	0.6	140.0	2.8	35.0
Potential Emission in tons/yr	0.6	0.6	0.0	6.1	0.1	1.5

Methodology:
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors for NOx: Uncontrolled = 100, Low NOx burner = 83, Flue gas recirculation = 30
Emission Factors for CO: Uncontrolled = 35, Low NOx Burner = 61, Flue gas recirculation = 34
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton