

**CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT**

**Ken-Koat, Inc.
1605 Riverfork Drive East
Huntington, Indiana 46750**

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-069-9246-00018	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM), and presented in the permit application.

A.1 General Information

The Permittee owns and operates a metal coating operation with a thermal oxidizer for VOC emission control.

Responsible Official: Linda Snyder
Source Address: 1605 Riverfork Drive East, Huntington, IN. 46750
Mailing Address: 1605 Riverfork Drive East, Huntington, IN. 46750
SIC Code: 3479
County Location: Huntington
County Status: Attainment for all criteria pollutants
Source Status: Part 70 Permit Program
Major Source, under PSD Rules

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

New Equipment:

- (a) One (1) dip conveyor designated as #2, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 11.73 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 5.32 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #1, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.

- (b) One (1) dip conveyor designated as #3, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 19.06 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 4.29 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #2, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.

- (c) One (1) dip conveyor designated as #4, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 17.60 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 3.96 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #2, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.

- (d) One (1) dip and spin designated as #2, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 17.97 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 4.10 lb/hr, and

- exhausts to a stack designated as #C3.
3. One (1) electric heater which exhausts to a stack designated as #C3.
- (e) One (1) dip and spin designated as #3, with the following equipment:
1. One (1) coating tank with a maximum topcoat application rate of 18.70 lb/hr, and exhausts to a stack designated as #C3.
 2. One (1) primer tank with a maximum primer application rate of 4.27 lb/hr, and exhausts to a stack designated as #C3.
 3. One (1) electric heater which exhausts to a stack designated as #C3.
- (f) One (1) natural gas thermal oxidizer designated as #CE3, with a maximum heat input capacity of 6.00 mmBtu/hr and a minimum oxidizing zone temperature of 1400 degrees Fahrenheit.

Existing equipment:

- (a) Four (4) HVLP spray booths for metal inserts, designated as #1, #2, #3 and #4, with a maximum adhesive application rate for booths #1, #2, #3 and #4 of 5.94 lb/hr, 11.91 lb/hr, 4.92 lb/hr and 4.38 lb/hr. Booths #1 through #4 are controlled by dry filters. Booth #1 exhausts to a stack designated as S-10 and is limited to 24 ton/yr of VOC. Booth #2 exhausts to a stack designated as S-11 and Booth #3 exhausts to a stack designated as S-1 and both are limited to 24 ton/yr. Booth #4 exhausts to a stack designated as S-2 and is limited to 24 ton/yr.
- (b) One (1) dip and spin for metal inserts, designated as #1, a maximum adhesive application rate of 5.68 lb/hr, limited to 24 ton/yr VOC and exhausts to a stack designated as S-18.
- (c) One (1) hand painting operation for metal inserts, with a maximum adhesive application rate of 1.04 lb/hr, coated by either brushes or a small dip pot, and exhausts indoors as fugitive VOC emissions.
- (d) One (1) burn-off oven, designated as #1, maximum heat input capacity of 1 mmBtu/hr, ventilated to an afterburner with 90% control efficiency and exhausts to a stack designated as C4.
- (e) Four (4) chain on edge machines, designated as #1, #2, #3 and #4, with a maximum adhesive application rate for the chain on edge machines #1, #2, #3 and #4 of 9.38 lb/hr, 2.2 lb/hr, 21.51 lb/hr and 16.08 lb/hr. Chain on Edge #1 exhausts to stacks designated as S-12 and S-13 and is limited to 24 ton/yr of VOC. Chain on Edge #2 exhausts to a stack designated as S-6 and is limited to 24 ton/yr. Chain on Edge #3 exhausts to stacks designated as S-3, S-4 and S-5 and will be controlled by the new thermal oxidizer. Chain on Edge #4 exhausts to stacks S-22, S-23 and S-24 and will be controlled by the new thermal oxidizer.
- (f) One (1) ransburg coating process, controlled by the new thermal oxidizer, a maximum metal insert rate of 1,000 lb/hr and consists of the following:
1. One (1) electrostatic paint booth, designated as #1, with a maximum application rate of 11.42 lb/hr and exhausts to a stack designated as #15.
 2. One (1) natural gas-fired oven, designated as #1 and exhausts to a stack designated as #16.
 3. One (1) electrostatic paint booth, designated as #2, with a maximum application rate of 11.42 lb/hr and exhausts to a stack designated as #15.

- (g) Three (3) steel grit blasters, designated as blast #1, #2, and #3, each with a maximum metal insert throughput of 1200 lb/hr, controlled by a baghouse designated as CE#1 and exhausts to a stack designated as #C1.
- (h) One (1) dip conveyor designated as #1, with a maximum application rate of 34.93 lb/hr, utilizes dryer #1, will be controlled by the new thermal oxidizer and exhausts to a stack designated as #C3
- (i) Three (3) aluminum oxide grit blasters, designated as Alox #1, #2 and #3. The maximum metal insert throughput of Alox #1 is 1200 lb/hr, controlled by a baghouse designated as CE#2 and exhausts to a stack designated as #C2. The maximum metal insert throughput of Alox #2 and #3 is 40 lb/hr and exhausts indoors as fugitive PM emissions.
- (j) One (1) open top degreaser, with a maximum trichloroethylene consumption rate of 12 gallons per day and exhausts inside the building.
- (k) One (1) phosphate cleaning line, consisting of a series of washes and rinses and exhausts to a stack designated as S-25.
- (l) One (1) natural gas boiler with a maximum heat input capacity of 5.23 mmBtu/hr.

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source will be required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22).
- (b) The source has submitted their Title V application (T-069-7676-00018), on December 13, 1996.

SECTION B GENERAL CONSTRUCTION AND OPERATION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

Construction Conditions [326 IAC 2-1-3.4]

B.1 General Construction Conditions

- (a) 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).
- (b) 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.

B.2 Effective Date of the Permit [IC13-15-5-3]

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

B.3 Revocation of Permits [326 IAC 2-1-9(b)]

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.

B.4 Permit Review Rules [326 IAC 2]

Notwithstanding Condition B.11, 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).

B.5 First Time Operation Permit [326 IAC 2-1-4]

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 source has submitted their Part 70 permit application (**T-069-7676-00018**) on December 13, 1996. The equipment covered under this permit shall be incorporated in the submitted Part 70 application.

Operation Conditions

B.6 General Operation Conditions

- (a) 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).
- (b) 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 (IC13-17) and the rules promulgated thereunder.

B.7. Preventive Maintenance Plan [326 IAC 1-6-3]

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.

B.8 Malfunctions Report [326 IAC 1-6-2]

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]

B.9 Transfer of Permit [326 IAC 2-1-6]

Pursuant to 326 IAC 2-1-6 (Transfer of Permits):

- (a) In the event that ownership of this metal coating operation 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.

B.10 Permit Revocation [326 IAC 2-1-9]

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).

B.11 Availability of Permit [326 IAC 2-1-3(I)]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitation and Standards

C.1 PSD Major Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The entire source shall be considered major under the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, after the issuance of this construction permit.
- (b) The VOC PTE of the existing equipment shall not exceed 249 tons per year. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.
- (c) Any change or modification which may increase the potential emissions to the following:
 - 1.) 25 tons per year or more (326 IAC 2-1),
 - 2.) 100 tons per year or more, and greater than 10 tons per year for a single HAP or combination HAPs greater than 25 tons per year (326 IAC 2-7),
 - 3.) 250 tons per year or more (326 IAC 2-2),from the equipment covered in this construction permit must be approved by the Office of Air Management (OAM) before such change may occur.

C.2 Operation of Equipment

All air pollution control equipment listed in this permit shall be in placed or operated at all times that the emission units vented to the control equipment are in operation, as described in Section D of this permit.

Testing Requirements

C.3 Performance Testing [326 IAC 3-6]

That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed for the VOC and HAPs control efficiency of the recuperative thermal oxidizer and the minimum operating temperature, 1400 degrees Fahrenheit, of the recuperative thermal oxidizer to maintain at least a 94.1% capture efficiency and a 98% destruction rate 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 3-6 (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.

Compliance Monitoring Requirements

C.4 Compliance Monitoring [326 IAC 2-1-3]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment, no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee shall notify:

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

in writing, no more than ninety (90) days after receipt of this permit, with full justification of the reasons for the inability to meet this date and a schedule which it expects to meet. If a denial of the request is not received before the monitoring is fully implemented, the schedule shall be deemed approved.

C.5 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the requirements of this permit shall be performed, according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

Corrective Actions and Response Steps

C.6 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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 days from the date on which this source commences operation.
- (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, then 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 episode level. [326 IAC 1-5-3]

Record Keeping and Reporting Requirements

C.7 Annual Emission Reporting [326 IAC 2-6]

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.

C.8 Monitoring Data Availability [326 IAC 2-1-3]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing. All observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.9 General Record Keeping Requirements [326 IAC 2-1-3]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location and available within one (1) hour upon verbal request of an IDEM, OAM, representative, for a minimum of three (3) years. They may be stored elsewhere for the remaining two (2) years providing they are made available within thirty (30) days after written request.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures.

- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.10 General Reporting Requirements [326 IAC 2-1-3]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

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

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any report shall be submitted within thirty (30) days of the end of the reporting period.
- (d) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) an excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) an emergency as defined in 326 IAC 2-7-1(12); or
 - (3) failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.
- (e) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (f) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

SECTION D.1

FACILITY CONDITIONS

- (a) One (1) dip conveyor designated as #2, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 11.73 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 5.32 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #1, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.
- (b) One (1) dip conveyor designated as #3, with the following equipment:
 - (a) One (1) coating tank with a maximum topcoat application rate of 19.06 lb/hr, and exhausts to a stack designated as #C3.
 - (b) One (1) primer tank with a maximum primer application rate of 4.29 lb/hr, and exhausts to a stack designated as #C3.
 - (c) One (1) natural gas drying oven designated as #2, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.
- (c) One (1) dip conveyor designated as #4, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 17.60 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 3.96 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #2, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.
- (d) One (1) dip and spin designated as #2, with the following equipment:
 - 4. One (1) coating tank with a maximum topcoat application rate of 17.97 lb/hr, and exhausts to a stack designated as #C3.
 - 5. One (1) primer tank with a maximum primer application rate of 4.10 lb/hr, and exhausts to a stack designated as #C3.
 - (c) One (1) electric heater which exhausts to a stack designated as #C3.
- (e) One (1) dip and spin designated as #3, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 18.70 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 4.27 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) electric heater which exhausts to a stack designated as #C3.
- (f) One (1) natural gas thermal oxidizer designated as #CE3, with a maximum heat input capacity of 6.00 mmBtu/hr, minimum oxidizing zone temperature of 1400°F and controls the new equipment listed above in parts a-e.

Emissions Limitation and Standards

D.1.1 Volatile Organic Compounds (Miscellaneous Metal Coatings) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), no owner or operator of a facility engaged in the surface coating of miscellaneous metal parts or products may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of the following:

Coatings	Limit (pounds of VOC/gallon of coating less water delivered to the dip tank)
Extreme Performance Coat	3.5

- (b) When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC emitted to the atmosphere per gallon of coating less water delivered to the applicator, the thermal oxidizer shall maintain a minimum 94.1% capture efficiency and a minimum 98% destruction efficiency of the volatile organic compound (VOC) captured. These efficiencies and the use of the thermal oxidizer are required by 326 IAC 8-1-2(a)(2). Based upon 326 IAC 8-1-2(c) and the overall control efficiency of 92.2%, the VOC content of the coating per gallon solids delivered to the dip tank shall be limited to 67.8. This overall efficiency of 92.2% shall be maintained in order to demonstrate compliance with 326 IAC 8-2-9 and 326 IAC 8-1-2(a)(2).
- (c) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

D.1.2 New Source Toxics Control [326 IAC 2-1-3.4]

- (a) The allowable HAP emissions shall be based on the Maximum Achievable Control Technology (MACT) analysis determined by the Office of Air Management. The MACT, for the new coating facilities, listed above in section D.1, shall be the thermal oxidizer, described in Condition D.1.1(b), in combination with the application method of dip coating. The overall efficiency of this control device shall be 92.2%.

D.1.3 PSD Minor Modification

- (a) Any change or modification which may increase the VOC PTE of these new facilities to greater than 249 tons per year, shall need prior approval.
- (b) The source shall be considered major after this modification is in operation because the total VOC PTE exceeds 250 tons per year.

Compliance Determinations

D.1.4 Testing Requirements

- (a) Testing of this facility is specifically required by this permit. Compliance with the control efficiency and minimum operating temperature specified in Condition D.1.1(b) shall be determined by a performance test conducted in accordance with Section C - Performance Testing.
- (b) During the period within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, a performance test shall be required to demonstrate that the source is complying with 326 IAC 8-2-9.
- (1) If the oxidizer is determined to demonstrate compliance, the required temperature and control efficiency shall be specified.
 - (2) If the oxidizer is determined to not demonstrate compliance, the efficiency needed to comply with 326 IAC 8-2-9 shall be determined by the performance test.
 - (3) The source shall be required to comply with the required control efficiency as determined by the performance test.

D 1.5 Volatile Organic Compound (VOC) Compliance Determination

Compliance with the VOC content and usage limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3)(A) using formulation data supplied by the coating manufacturer. However, IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Compliance Monitoring Requirements

D 1.6 Recuperative Thermal Oxidizer Operations

- - (a) When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC per gallon of coating less water, the thermal oxidizer shall maintain a minimum operating temperature of 1400° F, or a minimum operating temperature as determined by the most recent compliance test, to maintain a minimum 94.1% capture efficiency and a 98% destruction efficiency of the volatile organic compound (VOC) captured. The recuperative thermal oxidizer shall operate at all times, to demonstrate compliance with Conditions D.1.1 and D.1.2, when dip conveyors #2, #3, and #4 and dip and spins #2 and #3 are in operation.
 - (b) Any change or modification which may increase the VOC actual emissions to 250 tons per year or more shall require prior approval.

Record Keeping Requirements

D.1.7 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1 and D.1.2 the Permittee's shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits and/or the VOC and HAPs emission limits established in Conditions D.1.1 and D.1.2.
 - (1) The amount of VOC and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The monthly volume-weighted average VOC content of the coating as applied;
 - (4) The cleanup solvent usage for each month;
 - (5) The total VOC usage for each month;
 - (6) Monthly emissions in pounds of VOC and HAPs; and
 - (7) The total HAP usage for each month.
- (b) To document compliance with Condition D.1.1(b), records of the minimum operating temperature shall be maintained daily.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2 FACILITY CONDITIONS

- (a) Four (4) HVLP spray booths for metal inserts, designated as #1, #2, #3 and #4, with a maximum adhesive application rate for booths #1, #2, #3 and #4 of 5.94 lb/hr, 11.91 lb/hr, 4.92 lb/hr and 4.38 lb/hr. Booths #1 through #4 are controlled by dry filters. Booth #1 exhausts to a stack designated as S-10 and is limited to 24 ton/yr of VOC. Booth #2 exhausts to a stack designated as S-11 and Booth #3 exhausts to a stack designated as S-1 and both are limited to 24 ton/yr. Booth #4 exhausts to a stack designated as S-2 and is limited to 24 ton/yr.
- (b) One (1) dip and spin for metal inserts, designated as #1, a maximum adhesive application rate of 5.68 lb/hr, limited to 24 ton/yr VOC and exhausts to a stack designated as S-18.
- (c) One (1) hand painting operation for metal inserts, with a maximum adhesive application rate of 1.04 lb/hr, coated by either brushes or a small dip pot, and exhausts indoors as fugitive VOC emissions.
- (d) One (1) burn-off oven, designated as #1, maximum heat input capacity of 1 mmBtu/hr, ventilated to an afterburner with 90% control efficiency and exhausts to a stack designated as C4.
- (e) Four (4) chain on edge machines, designated as #1, #2, #3 and #4, with a maximum adhesive application rate for the chain on edge machines #1, #2, #3 and #4 of 9.38 lb/hr, 2.2 lb/hr, 21.51 lb/hr and 16.08 lb/hr. Chain on Edge #1 exhausts to stacks designated as S-12 and S-13 and is limited to 24 ton/yr of VOC. Chain on Edge #2 exhausts to a stack designated as S-6 and is limited to 24 ton/yr. Chain on Edge #3 exhausts to stacks designated as S-3, S-4 and S-5 and will be controlled by the new thermal oxidizer. Chain on Edge #4 exhausts to stacks S-22, S-23 and S-24 and will be controlled by the new thermal oxidizer.
- (f) One (1) ransburg coating process, controlled by the new thermal oxidizer, a maximum metal insert rate of 1,000 lb/hr and consists of the following:
 - 1. One (1) electrostatic paint booth, designated as #1, with a maximum application rate of 11.42 lb/hr and exhausts to a stack designated as #15.
 - 2. One (1) natural gas-fired oven, designated as #1 and exhausts to a stack designated as #16.
 - 3. One (1) electrostatic paint booth, designated as #2, with a maximum application rate of 11.42 lb/hr and exhausts to a stack designated as #15..
- (g) Three (3) steel grit blasters, designated as blast #1, #2, and #3, each with a maximum metal insert throughput of 1200 lb/hr, controlled by a baghouse designated as CE#1 and exhausts to a stack designated as #C1.
- (h) One (1) dip conveyor designated as #1, with a maximum application rate of 34.93 lb/hr, utilizes dryer #1, will be controlled by the new thermal oxidizer and exhausts to a stack designated as #C3
- (i) Three (3) aluminum oxide grit blasters, designated as Alox #1, #2 and #3. The maximum metal insert throughput of Alox #1 is 1200 lb/hr, controlled by a baghouse designated as CE#2 and exhausts to a stack designated as #C2. The maximum metal insert throughput of Alox #2 and #3 is 40 lb/hr and exhausts indoors as fugitive PM emissions.
- (j) One (1) open top degreaser, with a maximum trichloroethylene consumption rate of 12 gallons per day and exhausts inside the building.
- (k) One (1) phosphate cleaning line, consisting of a series of washes and rinses and exhausts to a stack designated as S-25.
- (l) One (1) natural gas boiler with a maximum heat input capacity of 5.23 mmBtu/hr.

Emissions Limitation and Standards

D.2.1 Volatile Organic Compounds (Miscellaneous Metal Coatings) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), no owner or operator of a facility engaged in the surface coating of miscellaneous metal parts or products may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of the following:

Coatings	Limit (pounds of VOC/gallon of coating less water delivered to the dip tank)
Extreme Performance Coat	3.5

- (b) When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC emitted to the atmosphere per gallon of coating less water delivered to the applicator, the thermal oxidizer shall maintain a minimum 94.1% capture efficiency and a minimum 98% destruction efficiency of the volatile organic compound (VOC) captured. These efficiencies and the use of the thermal oxidizer are required by 326 IAC 8-1-2(a)(2). Based upon 326 IAC 8-1-2(c) and the overall control efficiency of 92.2%, the VOC content of the coating per gallon solids delivered to the dip tank shall be limited to 67.8. This overall efficiency of 92.2% shall be maintained in order to demonstrate compliance with 326 IAC 8-2-9 and 326 IAC 8-1-2(a)(2).
- (c) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.
- (d) The input of VOC including clean up solvent, minus the VOC solvent shipped out, delivered to the applicators of the paint booths #1, #2, #3 and #4 shall be limited to 24 tons per year per facility, rolled on a monthly basis. Therefore, the requirements of 326 IAC 8-2-9 will not apply.
- (e) The input of VOC of dip and spin #1 and chain on edges #1 and #2 shall be limited to 24 tons per year per facility, rolled on a monthly basis. Therefore, the requirements of 326 IAC 8-2-9 will not apply.

D.2.2 PM Process Operations [326 IAC 6-3]:

Pursuant to 326 IAC 6-3 (Process Operations), the following applies:

- (a) the allowable PM emission rate from the three (3) steel grit blasters shall not exceed 2.91 pounds per hour per blaster when operating at a total process weight rate of 1200 pounds per hour per blaster.
- (b) the allowable PM emission rate from aluminum oxide blaster #1 shall not exceed 2.91 pounds per hour when operating at a total process weight rate of 1200 pounds per hour.
- (c) the allowable PM emission rate from the aluminum blaster #2 and #3 shall not exceed 0.55 pounds per hour per blaster when operating at a total process weight rate of 40 pounds per hour per blaster.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.2.3 Particulate Emission Limitations [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from 5.23 million BTU/hour boiler shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26}; \quad \text{where} \quad Pt = \text{Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.}$$

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

For Q less than 10 mmBtu/hr, Pt shall not exceed 0.6 lb/mmBtu. This is equivalent to 3.14 lb/hr of PM.

D.2.4 PSD Minor Modification

That the VOC input of the existing equipment shall be limited to 249 tons per year, rolled on a monthly basis. This production limitation is equivalent to VOC PTE of 249 tons per year, rolled on a monthly basis. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

D.2.5 NESHAP 40 CFR Part 63 Subpart T Requirements

Pursuant to 40 CFR part 63 Subpart T (Halogenated Solvent Cleaning), the open top degreaser shall comply with the following conditions:

1. Design standards for batch vapor machines are the following:
 - (a) Idling and downtime mode cover, or reduced room draft less than 50 feet per minute.
 - (b) Freeboard ratio of 0.75 or greater.
 - (c) Automated parts handling system working at 11 feet per minute or less
 - (d) Sump shut off device if liquid levels drop to below sump heater coils.
 - (e) Vapor level control device in case vapor level rises above condenser.
 - (f) Each machine must have primary condenser.
 - (g) Each machine equipped with lip exhaust shall be vented to a carbon absorber.

2. Work practice standards for batch vapor machines are the following:
 - (a) Use covers or reduce room drafts.
 - (b) Parts baskets shall not occupy more than 50% of the solvent/air interface area unless it moves 3 feet per minute or less.
 - (c) Spraying is to be done in vapor zone or other enclosed area of machine.
 - (d) Parts are to be positioned so solvent drains freely from them.
 - (e) Parts or baskets shall not be removed until dripping stops.
 - (f) When starting unit, turn on primary condenser before sump heater.
 - (g) When shutting down unit, turn off sump heater and allow vapors to collapse before turning off primary condenser.
 - (h) When adding or removing solvent, use threaded or leakproof couplings and locate fill pipe below solvent surface.
 - (i) Maintain machine and controls per manufacturer's specifications.
 - (j) Solvent cleaning operators must complete and pass a NESHAP test if required by inspector.
 - (k) Store waste solvent, sump bottoms, and still bottoms inclosed containers.
 - (l) Sponges, fabric, wood, and paper shall not be cleaned.

3. Control Option; Table 1 Equipment Standards:

Cleaning Machine Type/size (m ² solvent/air interface area)	Overall Emission Limit (3 month rolling average)
Batch Vapor Cleaning Machines (> 1.2 m ²) (larger than 13 sq. ft.)	150 kilograms/month/sq. ft. (30.6 lb/month/sq. ft)

D.2.6 Open Top Vapor Degreaser Operations [326 IAC 8-3-3]

Pursuant to 326 IAC 8-3-3 (Open Top Vapor Degreaser Operations), the owner or operator of the open top degreaser shall:

- (a) equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;
- (b) keep the cover closed at all times except when processing work loads through the degreaser;
- (c) minimize solvent carry out by:
 - (1) racking parts to allow complete drainage;
 - (2) moving parts in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);
 - (3) degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (4) tipping out any pools of solvent on the cleaned parts before removal; and
 - (5) allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry;
- (d) not degrease porous or absorbent materials, such as cloth leather, wood, or rope;
- (e) not occupy more than half of the degreaser's open top area with the workload;
- (f) not load the degreaser such that the vapor level drops more than fifty percent (50%) of the vapor depth when the workload is removed;
- (g) never spray above the vapor level;
- (h) repair solvent leaks immediately, or shut down the degreaser;
- (i) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (j) not use workplace fans near the degreaser opening;
- (k) not allow visually detectable water in the solvent exiting the water separator; and
- (l) provide a permanent, conspicuous label summarizing the operating requirements.

D.2.7 Open Top Vapor Degreaser Operations [326 IAC 8-3-6]

- (a) Pursuant to 326 IAC 8-3-6(a) (Open Top Vapor Degreaser Operation and Control), the owner or operator of an open top vapor degreaser shall ensure that the following control equipment requirements are met:
- (1) Equip the degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.
 - (2) Equip the degreaser with the following switches:
 - (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
 - (B) A spray safety switch which shuts off spray pump if the vapor level drops more than four (4) inches.
 - (3) Equip the degreaser with a permanent, conspicuous label which lists the opening requirements outlined in subsection (b).
 - (4) Equip the degreaser with one (1) of the following control devices:
 - (A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).
 - (B) A refrigerated chiller.
 - (C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.
 - (D) A carbon adsorption system with ventilation which, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.
 - (E) Other systems of demonstrated equivalent or better control as those outlined in clauses (A) through (D). Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-6(b) (Open Top Vapor Degreaser Operation and Control), the owner or operator of an open top vapor degreaser shall ensure that the following operating requirements are met:
- (1) Keep the cover closed at all times except when processing workloads through the degreaser.
 - (2) Minimize solvent carry out emissions by:
 - (A) Racking articles to allow complete drainage;
 - (B) Moving articles in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);

- (C) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (D) Tipping out any pools of solvent on the cleaned articles before removal; and
 - (E) Allowing articles to dry within the degreaser for at least fifteen (15) seconds or until visually dry.
- (3) Prohibit the entrance into the degreaser of porous or absorbent materials such as, but not limited to, cloth, leather, wood, or rope.
 - (4) Prohibit occupation of more than one-half ($\frac{1}{2}$) of the degreaser's open top area with the workload.
 - (5) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.
 - (6) Prohibit solvent spraying above the vapor level.
 - (7) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.
 - (8) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
 - (9) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.
 - (10) Prohibit the use of workplace fans near the degreaser opening.
 - (11) Prohibit visually detectable water in the solvent exiting the water separator.

Compliance Determinations

D.2.8 Testing Requirements

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the VOC and PM limits specified in Conditions D.2.1 and D.2.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.9 Volatile Organic Compound (VOC) Compliance Determination

Compliance with the VOC content and usage limitations contained in Condition D.2.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3)(A) using formulation data supplied by the coating manufacturer. However, IDEM, OAM, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.2.10 Particulate Matter (PM)

- (a) The dry filters for PM control shall be in operation at all times when the paint booths are in operation.

- (b) The baghouses for PM control shall be in operation at all times when the aluminum oxide blaster #1 and steel grit blasters #1-#3 are in operation.

Compliance Monitoring Requirements

D.2.11 Recuperative Thermal Oxidizer Operations

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- (a) When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC per gallon of coating less water, the thermal oxidizer shall maintain a minimum operating temperature of 1400° F, or a minimum operating temperature as determined by the most recent compliance test, to maintain a minimum 94.1% capture efficiency and a 98% destruction efficiency of the volatile organic compound (VOC) captured. The recuperative thermal oxidizer shall operate at all times, to demonstrate compliance with Conditions D.2.1, when chain on edges # 3 and #4 and the ransburg process are in operation.
- (b) Any change or modification which may increase the VOC actual emissions to 250 tons per year or more shall require prior approval.

D.2.12 Monitoring [326 IAC 2-1-3]

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, daily observations shall be made of the overspray while one or more of the spray equipment is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Weekly inspections shall be performed of the paint booths emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an overspray emission, evidence of overspray emission, or other abnormal emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

D.2.13 Baghouse Inspections

An inspection shall be performed each calendar quarter of the all the baghouses. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.

D.2.14 Failure Detection

In the event that a bag's failure has been observed:

- (i) The affected compartments will be shut down immediately until the failed units have been replaced.
- (ii) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

D.2.15 Visible Emissions Notations

- (a) Weekly visible emission notations of the paint booths and blasters' stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

Record Keeping Requirements

D.2.16 Record Keeping Requirements

- (a) To document compliance with Conditions D.2.1 and D.2.4 the Permittee's shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits and/or the VOC and HAPs emission limits established in Conditions D.2.1 and D.2.4.
 - (4) The amount of VOC and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (5) A log of the dates of use;
 - (6) The monthly volume-weighted average VOC content of the coating as applied;
 - (4) The cleanup solvent usage for each month;
 - (5) The total VOC usage for each month;
 - (6) Monthly emissions in pounds of VOC and HAPs; and
 - (7) The total HAP usage for each month.
- (b) To document compliance with Condition D.2.5, a record of the following shall be maintained:

Machine Type/Control Equipment	Lifetime Records	5 Year Records
Batch vapor, in-line vapor and in-line cold cleaners complying with the equipment standards or idling emission limits	<p>Owners manual, or if not available, written operation and maintenance procedures</p> <p>Records of date of installation of machine and control equipment</p> <p>Records of tests to determine dwell time for each part or basket</p> <p>Records of Halogenated HAP solvent used</p>	<p>Information of actions taken to monitor each control device for which monitoring is required to indicate compliance with equipment standards or idling emission limits, including initial performance test and periodic monitoring</p> <p>Estimated annual solvent consumption rate for each machine</p>

- (c) To document compliance with Condition D.2.2 and D.2.12, the Permitted shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (d) To document compliance with D.2.15, the Permitted shall maintain records of daily visible emission notations of the aluminum oxide blaster, steel grit blasters and paint booths' stacks exhaust.
- (e) To document compliance with D.2.13, the Permitted shall maintain records of the Baghouse inspections and bags replaced.
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.17 Reporting Requirements

- (a) A quarterly summary of the information to document compliance with Condition D.2.1(d) & (e) and D.2.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.
- (b) The following shall be submitted to the address listed in Section C - General Reporting Requirements:

Type of Machine	Report	Existing Source	New Source
Batch vapor, in-line vapor and in-line cold cleaners complying with the equipment standards or idling emission limits	<p>Initial compliance report</p> <p>Solvent emission report</p> <p>Exceedance report</p>	<p>May 1, 1998</p> <p>Annually</p> <p>Semiannually if no exceedances occur, quarterly if exceedances occur</p>	<p>150 days after start-up</p> <p>Annually</p> <p>Semiannually if no exceedances occur, quarterly if exceedances occur</p>

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 REVERSE SIDE ? Y N

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

COMPANY: Ken-Koat, Inc. PHONE NO. (219) 356-4192

LOCATION: Huntington, Indiana Huntington County
PERMIT NO. 069-9246 AFS PLANT ID: 069-00018 AFS POINT ID: _____ INSP: _____
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 MITTED 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: _____

FAX NUMBER - 317233-5967

**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:

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**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Dip and Spin #1
Pollutant: VOC PTE
Limit: 24.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Chain on Edge #1
Pollutant: VOC PTE
Limit: 24.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Chain on Edge #2
Pollutant: VOC PTE
Limit: 24.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Paint Booth #1
Pollutant: VOC PTE
Limit: 24.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Paint Booth #2
Pollutant: VOC PTE
Limit: 24.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Paint Booth #3
Pollutant: VOC PTE
Limit: 24.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Paint Booth #4
Pollutant: VOC PTE
Limit: 24.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Ken Koat
Location: 1605 Riverfork Drive East, Huntington, Indiana 46750
Permit No.: 069-9246-00018
Source: Existing Equipment
Pollutant: VOC PTE
Limit: 249.0 tons per twelve month period

Year: _____

Month	VOC Usage (tons/month)	VOC Usage for previous month(s) (tons)	VOC Usage for twelve month period (tons)

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name: Ken-Koat, Inc.
Source Location: 1605 Riverfork Drive East
County: Huntington
Construction Permit No.: CP-069-9246-00018
SIC Code: 3479
Permit Reviewer: Nysa L. James

The Office of Air Management (OAM) has reviewed an application from Ken-Koat, Inc. relating to the construction and operation of metal coating operation, consisting of the following equipment:

Entire Source:

New facilities:

- (a) One (1) dip conveyor designated as #2, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 11.73 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 5.32 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #1, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.
- (b) One (1) dip conveyor designated as #3, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 19.06 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 4.29 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #2, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.
- (c) One (1) dip conveyor designated as #4, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 17.60 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 3.96 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as #2, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.
- (d) One (1) dip and spin designated as #2, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 17.97 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 4.10 lb/hr, and exhausts to a stack designated as #C3.

3. One (1) electric heater which exhausts to a stack designated as #C3.
- (e) One (1) dip and spin designated as #3, with the following equipment:
 1. One (1) coating tank with a maximum topcoat application rate of 18.70 lb/hr, and exhausts to a stack designated as #C3.
 2. One (1) primer tank with a maximum primer application rate of 4.27 lb/hr, and exhausts to a stack designated as #C3.
 2. One (1) electric heater which exhausts to a stack designated as #C3.
- (f) One (1) natural gas thermal oxidizer designated as #CE3, with a maximum heat input capacity of 0.80 mmBtu/hr, minimum oxidizing zone temperature of 1400°F and controls the new equipment listed above in parts a-e.

The VOC PSD minor limit for the existing equipment will also be specified in this permit to indicate that the existing source, prior to these new units, is a minor source.

Existing equipment:

- (a) Four (4) HVLP spray booths for metal inserts, designated as #1, #2, #3 and #4, with a maximum adhesive application rate for booths #1, #2, #3 and #4 of 5.94 lb/hr, 11.91 lb/hr, 4.92 lb/hr and 4.38 lb/hr. Booth #1 exhausts to a stack designated as S-10 and is limited to 24 ton/yr of VOC. Booth #2 exhausts to a stack designated as S-11 and Booth #3 exhausts to a stack designated as S-1 and both are limited to 24 ton/yr. Booth #4 exhausts to a stack designated as S-2 and is limited to 24 ton/yr.
- (b) One (1) dip and spin for metal inserts, designated as #1, a maximum adhesive application rate of 5.68 lb/hr, limited to 24 ton/yr VOC and exhausts to a stack designated as S-18.
- (c) One (1) hand painting operation for metal inserts, with a maximum adhesive application rate of 1.04 lb/hr, coated by either brushes or a small dip pot, and exhausts indoors as fugitive VOC emissions.
- (d) One (1) burn-off oven, designated as #1, maximum heat input capacity of 1 mmBtu/hr, ventilated to an afterburner with 90% control efficiency and exhausts to a stack designated as C4.
- (e) Four (4) chain on edge machines, designated as #1, #2, #3 and #4, with a maximum adhesive application rate for the chain on edge machines #1, #2, #3 and #4 of 9.38 lb/hr, 2.2 lb/hr, 21.51 lb/hr and 16.08 lb/hr. Chain on Edge #1 exhausts to stacks designated as S-12 and S-13 and is limited to 24 ton/yr of VOC. Chain on Edge #2 exhausts to a stack designated as S-6 and is limited to 24 ton/yr. Chain on Edge #3 exhausts to stacks designated as S-3, S-4 and S-5 and will be controlled by the new thermal oxidizer. Chain on Edge #4 exhausts to stacks S-22, S-23 and S-24 and will be controlled by the new thermal oxidizer.
- (f) One (1) electrostatic disc coating process, consisting of two (2) booths with a maximum application rate of 11.42 lb/hr each and exhausts to stacks designated as S-14 and S-15 and will be controlled by the new thermal oxidizer.

- (g) Three (3) steel grit blasters, designated as blast #1, #2, and #3, each with a maximum metal insert throughput of 1200 lb/hr, controlled by a baghouse designated as CE#1 and exhausts to a stack designated as #C1.
- (h) One (1) dip conveyor designated as #1, with a maximum application rate of 34.93 lb/hr, utilizes dryer #1, will be controlled by the new thermal oxidizer and exhausts to a stack designated as #C3
- (i) Three (3) aluminum oxide grit blasters, designated as Alox #1, #2 and #3. The maximum metal insert throughput of Alox #1 is 1200 lb/hr, controlled by a baghouse designated as CE#2 and exhausts to a stack designated as #C2. The maximum metal insert throughput of Alox #2 and #3 is 40 lb/hr and exhausts indoors as fugitive PM emissions.
- (j) One (1) open top degreaser, with a maximum trichloroethylene consumption rate of 12 gallons per day and exhausts to a stack designated as S-25.
- (k) One (1) phosphate cleaning line, consisting of a series of washes and rinses and exhausts to a stack designated as S-25.
- (l) One (1) natural gas boiler with a maximum heat input capacity of 5.23 mmBtu/hr.

Enforcement Issues

IDEM is aware that the existing equipment have been constructed and operated prior to receipt of the proper permit. IDEM is also aware that the source has been operating at PSD levels without the proper permit. IDEM is reviewing these matters and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Stack Summary (New Equipment)

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S-20	Dip Coat #2	23	1	1,200	Ambient
C3	Dip coating operations (#3 & #4) and Dip and Spin Coating operations(#2 & #3)	23	1.65	25,000	Ambient

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.

An application for the purposes of this review was received on November 26, 1997, with additional information received on June 25, 1998.

Emissions Calculations (New Equipment)

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (12 pages). Also see Appendix B for detailed example calculations.

Total Potential and Allowable Emissions (New Equipment)

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)	-	0.04
Particulate Matter (PM10)	-	0.04
Sulfur Dioxide (SO ₂)	--	0.00
Volatile Organic Compounds (VOC)	133.97	1361.44
Carbon Monoxide (CO)	--	0.10
Nitrogen Oxides (NO _x)	--	0.30
Methyl Isobutyl Ketone	3.66	37.2
Methyl Ethyl Ketone	4.41	44.79
Formaldehyde	0.01	0.11
Toluene	81.45	827.74
Xylene	27.27	277.17
Carbon Tetrachloride	0.01	0.08
Trichloroethylene	8.95	91.00
Ethyl Benzene	1.74	17.65
Combination of HAPs	127.50	1295.74

- (a) Allowable emissions are determined from the applicability of rule 326 IAC 8-2-9 and 326 IAC 2-1-3.4.
 - (i) Allowable VOC emissions are determined from the applicability of rule 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations). The emission limit for all applicable paint booths and dip conveyors of VOC is 3.5 lb VOC/gal of less water.
 - (ii) Allowable HAPs emissions are determined from the applicability of rule 326 IAC 2-1-3.4 (Maximum Achievable Control Technology). The allowable emissions from the HAPs listed above were determined based on the MACT analysis. The MACT for such facilities listed in this permit is the Thermal Oxidizer which has a capture efficiency of 92% and a destruction efficiency of 98%, in combination with the application method of dip coating. The HAPs after control emissions were determined by OAM, page 12 of 12 of Appendix A, and such after control emissions will be the HAP allowable emissions.
- (b) The allowable emissions based on the rules cited are less than the potential emissions, therefore, the allowable emissions are used for the permitting determination.

- (c) 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.
- (d) Allowable emissions (as defined in the Indiana Rule) of a single hazardous air pollutant (HAP) are greater than 10 tons per year and/or the allowable emissions of any combination of the HAPs are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, a construction permit is required.

County Attainment Status

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Huntington County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Huntington County has been classified as attainment or unclassifiable for NO_x, CO, SO₂, and Particulate Matter. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

The source submitted a letter on March 23, 1998, requesting to take a 249 ton/yr limit on the existing unpermitted facilities. Actual VOC emissions, based on the Title V application submitted on December 13, 1996, of the unpermitted existing facilities are 287.67 ton/yr. The source shall take a VOC PTE limit of 249 tons/yr which is below the PSD threshold and therefore, 326 IAC 2-2 does not apply.

On March 7, 1997, the Indiana Department of Environmental Management found the source to have constructed and operated without a permit. At that time, it was also determined that the existing equipment was out of compliance with 326 IAC 8-2-9, according to Agreed Order A-2735.

Existing Source, PSD, Part 70 or FESOP 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	48.1
PM10	11.38
SO ₂	0.02
VOC	249.0
CO	0.58
NO _x	2.76

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the Part 70 application (T-069-7676-00018), submitted by the company on December 13, 1996.
- (c) This existing source has taken a **249** ton/yr limit on VOC emissions prior to these new facilities. Therefore, this source is **not** considered major. This source will be required to comply with the daily rolling reporting for the limited existing equipment.

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	1.41	1.41	0.00	133.97	0.10	0.30
PSD or Offset Threshold Level	250	250	250	250	250	250

This modification to an existing minor stationary source is not major because the emission 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-069-7676-00018) application on December 13, 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) and 40 CFR Part 60 applicable to this facility.
- (b) Since the degreaser's cleaning solvent is 100% trichloroethylene, NESHAP 40 CFR Part 63 Subpart T applies to the degreaser. Pursuant to NESHAP 40 CFR Part 63 Subpart T, the following shall be applicable:
 - 1. Design standards for batch vapor machines are the following:
 - (a) Idling and downtime mode cover, or reduced room draft less than 50 feet per minute.
 - (b) Freeboard ratio of 0.75 or greater.
 - (c) Automated parts handling system working at 11 feet per minute or less.

- (d) Sump shut off device if liquid levels drop to below sump heater coils.
- (e) Vapor level control device in case vapor level rises above condenser.
- (f) Each machine must have primary condenser.
- (g) Each machine equipped with lip exhaust shall be vented to a carbon absorber.

2. Work practice standards for batch vapor machines are the following:
- (a) Use covers or reduce room drafts.
 - (b) Parts baskets shall not occupy more than 50% of the solvent/air interface area unless it moves 3 feet per minute or less.
 - (c) Spraying is to be done in vapor zone or other enclosed area of machine.
 - (d) Parts are to be positioned so solvent drains freely from them.
 - (e) Parts or baskets shall not be removed until dripping stops.
 - (f) When starting unit, turn on primary condenser before sump heater.
 - (g) When shutting down unit, turn off sump heater and allow vapors to collapse before turning off primary condenser.
 - (h) When adding or removing solvent, use threaded or leakproof couplings and locate fill pipe below solvent surface.
 - (i) Maintain machine and controls per manufacturer's specifications.
 - (j) Solvent cleaning operators must complete and pass a NESHAP test if required by inspector.
 - (k) Store waste solvent, sump bottoms, and still bottoms inclosed containers.
 - (l) Sponges, fabric, wood, and paper shall not be cleaned.

3. Control Option:

Table 1 Equipment Standards:

Cleaning Machine Type/size (m ² solvent/air interface area)	Control Combinations
Batch Vapor Cleaning Machines (> 1.2 m ²) (larger than 13 sq. ft.)	Freeboard Refrigeration Device; Freeboard Ratio of 1.0; and Superheated Vapor

4. Table 2 Monitoring Requirement:

Control Equipment	Monitoring Frequency	Specific Requirements
Freeboard Refrigeration Device	Weekly	Temperature at the center of the chilled air blanket is not to exceed 30% of the solvent boiling point.
Superheated Vapor System	Weekly	Temperature at the center of the superheated vapor zone must be 10% above the solvent boiling point. Determine dwell time.

5. Table 3 Record Keeping Requirements:

Machine Type/Control Equipment	Lifetime Records	5 Year Records
Batch vapor, in-line vapor and in-line cold cleaners complying with the equipment standards or idling emission limits	<p>Owners manual, or if not available, written operation and maintenance procedures</p> <p>Records of date of installation of machine and control equipment</p> <p>Records of tests to determine dwell time for each part or basket</p> <p>Records of halogenated HAP solvent used</p>	<p>Information of actions taken to monitor each control device for which monitoring is required to indicate compliance with equipment standards or idling emission limits, including initial performance test and periodic monitoring</p> <p>Estimated annual solvent consumption rate for each machine</p>

6. Table 4 Reporting Requirements :

Type of Machine	Report	Existing Source	New Source
Batch vapor, in-line vapor and in-line cold cleaners complying with the equipment standards or idling emission limits	<p>Initial compliance report</p> <p>Solvent emission report</p> <p>Exceedance report</p>	<p>May 1, 1998</p> <p>Annually</p> <p>Semiannually if no exceedances occur, quarterly if exceedances occur</p>	<p>150 days after start-up</p> <p>Annually</p> <p>Semiannually if no exceedances occur, quarterly if exceedances occur</p>

(c) There are no other NESHAP 40CFR Part 63 applicable to this facility.

State Rule Applicability

326 IAC 2-1-3.4 (New Source Toxics Control):

These new facilities are subject to 326 IAC 2-1-3.4 (MACT) because these facilities emit either a single HAP greater than 10 tons/yr or a combination of HAPs greater than 25 tons/yr.

The allowable emissions were determined based on a MACT analysis. The MACT for the new facilities listed in this permit is a thermal oxidizer which has a capture efficiency of 92% and a destruction efficiency of 98%, in combination with the application method of dip coating. The HAPs after control emissions were determined by OAM, page 12 of 12 of Appendix A, and such after control emissions will be the HAP allowable emissions.

326 IAC 2-1-3.4 does not apply to the existing facilities because they were constructed before July 27, 1997.

326 IAC 2-2 (Prevention of Significant Deterioration):

The existing equipment is subject to 326 IAC 2-2 because the potential VOC emissions are greater than 250 tons per year. The source has agreed to limit the existing facilities to 249 ton/yr.

The VOC input of the existing equipment shall be limited to 249 tons per year, rolled on a monthly basis. This production limitation is equivalent to VOC emissions of 249 tons per year, rolled on a monthly basis. Therefore, the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, will not apply.

326 IAC 2-6 (Emission Reporting):

This source is subject to 326 IAC 2-6 (Emission Reporting), because the source has a potential to emit VOC into the ambient air, at levels equal to or greater than 100 tons/yr. 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 5-1-2 (Opacity Limitations):

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.

326 IAC 8-2-9 (Miscellaneous Coating Operation):

The coating and painting facilities are subject to 326 IAC 8-2-9 because the source's Standard Industrial Classification number is 3479 and the VOC PTE is greater than 15 lb/day.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal curbs shall be limited to the following because there are no paint ovens involved and the parts are not considered "high performance":

Coatings	Limit (pounds of VOC/gallon of coating less water delivered to the applicator)
Extreme Performance Coatings	3.5

- (a) Since the new coatings, the COE #3 and #4 coatings, the dip conveyor #1 coatings, and the electrostatic disc coatings used are greater than the 3.5 lb VOC/gal of coating less water limit, the source will comply by using a thermal oxidizer.

- (b) The thermal oxidizer shall operate at all times when the source is in operation. When operating, the thermal oxidizer shall maintain a minimum operating temperature of 1,400° F, maintain a minimum destruction efficiency of 98% and a minimum capture efficiency of 92 %.
- (d) A performance test shall be required to demonstrate that the source is complying with 326 IAC 8-2-9. If the oxidizer is determined to demonstrate compliance, the required temperature and control efficiency shall be determined. If the oxidizer is determined to not demonstrate compliance, the efficiency needed to comply with 326 IAC 8-2-9 shall be determined by the performance test. The source shall be required to re-submit a new control device with the required control efficiency as determined by the performance test. The thermal oxidizer shall have an overall efficiency of 90.16%. The new facilities, with such control, shall be in compliance with 326 IAC 8-2-9.
- (d) The existing coatings shall comply with the 3.5 lb of VOC/ gal coating less water limit by the following methods:
1. Booth #1, #2, #3 and #4, HVLP spray booths built after January 1, 1980 and emits greater than 25 ton/yr, are limited to 24 tons per year per facility, therefore 326 IAC 8-2-9 does not apply.

That the input VOC including clean up solvent, minus the VOC solvent shipped out, delivered to the applicators of each paint booth shall be limited to 24 tons per year, rolled on a monthly basis. Therefore, requirements of 326 IAC 8-2-9 will not apply.
 2. Dip and Spin #1, coating line built after January 1, 1980 and emits greater than 25 ton/yr, is limited to 24 tons per year each, therefore 326 IAC 8-2-9 does not apply.

The input VOC including clean up solvent, minus the VOC solvent shipped out, delivered to the applicators of the chain on edge shall be limited to 24 tons per year, rolled on a monthly basis. Therefore, the requirements of 326 IAC 8-2-9 will not apply.
 3. Chain on Edge #1 and #2, built after January 1, 1980 and emits greater than 25 ton/yr, is limited to 24 tons per year each, therefore 326 IAC 8-2-9 does not apply.

The input VOC including clean up solvent, minus the VOC solvent shipped out, delivered to the applicators of the chain on edge shall be limited to 24 tons per year, rolled on a monthly basis. Therefore, the requirements of 326 IAC 8-2-9 will not apply.
 4. Chain on Edge #3 and #4, built after January 1, 1980 and emits greater than 25 ton/yr, will be controlled by the new thermal oxidizer to comply with 326 IAC 8-2-9.
 5. The electrostatic disc coating process, built after January 1, 1980 and emits greater than 25 ton/yr, will be controlled by the new thermal oxidizer to comply with 326 IAC 8-2-9.

6. Dip conveyor #1, built after January 1, 1980 and emits greater than 25 ton/yr, will be controlled by the new thermal oxidizer to comply with 326 IAC 8-2-9.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from 5.23 million BTU/hour boiler shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26}; \quad \text{where} \quad \begin{array}{l} Pt = \text{Pounds of particulate matter emitted per} \\ \text{million Btu (lb/mmBtu) heat input.} \\ Q = \text{Total source maximum operating capacity rating in} \\ \text{million Btu per hour (mmBtu/hr) heat input.} \end{array}$$

For Q less than 10 mmBtu/hr, Pt shall not exceed 0.6 lb/mmBtu. This is equivalent to 3.14 lb/hr of PM.

326 IAC 6-3 (Process Operations):

Pursuant to 326 IAC 6-3 (Process Operations):

- (a) The dry filters for particulate matter overspray control shall be in operation at all times when the paint booths are in operation.
- (b) The paint booths, hand paint booth, aluminum oxide blasters and steel grit blasters shall comply with 326 IAC 6-3-2(c) using the following equation:
 $E = 4.10P^{0.67}$ where: E = rate of emission in pounds per hour,
P = process weight in tons per hour, if
P is equal to or less than 60,000 lbs/hr (30 tons/hr).

The three (3) aluminum oxide blasters and the three (3) steel grit blasters comply with 326 IAC 6-3 because the above mentioned steel blasters and Alox #1 aluminum blaster are controlled by baghouses and the potential emissions from the two (2) 40 lb/hr aluminum blasters are less than the allowable emissions.

- (c) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, daily observations shall be made of the overspray while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps shall be considered a violation of this construction permit.
- (d) Weekly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an over spray emission, evidence of overspray emission, or other abnormal emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps shall be considered a violation of this construction permit.

- (e) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (f) An inspection shall be performed each calendar quarter of all the baghouses. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.
- (g) In the event that a bag's failure has been observed:
 - (i) The affected compartments will be shut down immediately until the failed units have been replaced.
 - (ii) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.
- (h) That visible emission notations of all exhaust to the atmosphere from the baghouses shall be performed once per working shift. A trained employee will record whether emissions are normal or abnormal.
 - 1. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, 80% of the time, the process is in operation, not counting start up or shut down time.
 - 2. In the case of batch or discontinuous operation, readings shall be taken during that part of the operation specified in the facility's specific condition prescribing visible emissions.
 - 3. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal and abnormal visible emissions for that specific process.
 - 4. The Preventive Maintenance Plan for this facility shall contain troubleshooting contingency and corrective actions for when an abnormal emission is observed.

326 IAC 1-6-3 (Preventive Maintenance Plan):

- (a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) within ninety (90) days after issuance of this permit, including the following information on each:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission units;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM and OAM upon request and shall be subject to review and approval by IDEM and OAM.

326 IAC 326 IAC 8-3-3 (Open Top Vapor Degreaser Operations)

Pursuant to 326 IAC 8-3-3 (Open Top Vapor Degreaser Operations), the owner or operator of the open top degreaser shall:

- (a) equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;
- (b) keep the cover closed at all times except when processing work loads through the degreaser;
- (c) minimize solvent carry out by:
 - (1) racking parts to allow complete drainage;
 - (2) moving parts in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);
 - (3) degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (4) tipping out any pools of solvent on the cleaned parts before removal; and
 - (5) allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry;
- (d) not degrease porous or absorbent materials, such as cloth leather, wood, or rope;
- (e) not occupy more than half of the degreaser's open top area with the workload;
- (f) not load the degreaser such that the vapor level drops more than fifty percent (50%) of the vapor depth when the workload is removed;
- (g) never spray above the vapor level;
- (h) repair solvent leaks immediately, or shut down the degreaser;
- (i) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (j) not use workplace fans near the degreaser opening;

- (k) not allow visually detectable water in the solvent exiting the water separator; and
- (l) provide a permanent, conspicuous label summarizing the operating requirements.

326 IAC 8-3-6 (Open Top Vapor Degreaser Operation and Control)

- (a) Pursuant to 326 IAC 8-3-6(a) (Open Top Vapor Degreaser Operation and Control), the owner or operator of an open top vapor degreaser shall ensure that the following control equipment requirements are met:

- (1) Equip the degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.
- (2) Equip the degreaser with the following switches:
 - (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
 - (B) A spray safety switch which shuts off spray pump if the vapor level drops more than four (4) inches.
- (3) Equip the degreaser with a permanent, conspicuous label which lists the opening requirements outlined in subsection (b).
- (4) Equip the degreaser with one (1) of the following control devices:
 - (A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).
 - (B) A refrigerated chiller.
 - (C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.
 - (D) A carbon adsorption system with ventilation which, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.
 - (E) Other systems of demonstrated equivalent or better control as those outlined in clauses (A) through (D). Such systems shall be submitted to the U.S. EPA as a SIP revision.

- (b) Pursuant to 326 IAC 8-3-6(b) (Open Top Vapor Degreaser Operation and Control), the owner or operator of an open top vapor degreaser shall ensure that the following operating requirements are met:

- (1) Keep the cover closed at all times except when processing workloads through the degreaser.
- (2) Minimize solvent carry out emissions by:
 - (A) Racking articles to allow complete drainage;
 - (B) Moving articles in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);
 - (C) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (D) Tipping out any pools of solvent on the cleaned articles before removal; and
 - (E) Allowing articles to dry within the degreaser for at least fifteen (15) seconds or until visually dry.
- (3) Prohibit the entrance into the degreaser of porous or absorbent materials such as, but not limited to, cloth, leather, wood, or rope.
- (4) Prohibit occupation of more than one-half ($\frac{1}{2}$) of the degreaser's open top area with the workload.
- (5) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.
- (6) Prohibit solvent spraying above the vapor level.
- (7) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.
- (8) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (9) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.
- (10) Prohibit the use of workplace fans near the degreaser opening.
- (11) Prohibit visually detectable water in the solvent exiting the water separator.

No other 326 IAC 8 rules apply to the source.

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) This proposed new source will emit levels of air toxics greater than those that constitute major source applicability according to Section 112 of the Clean Air Act. The concentrations of these air toxics were modeled and found to be (in worst case possible) as follows:

HAP	MEK	MIK	Formald ehyde	Toluene	Xylene	Ethyl Benzene	TCE	Carbon Tetrach loride
Concent rations (ug/m3)	63.3	52.3	0.13	1166.3	391.2	24.9	128.1	0.125
PEL (ug/m3)	590000	410000	930.0	750000	435000	435000	535000	65000
% PEL	0.011	0.013	0.013	0.16	0.09	0.006	0.024	0.0002

The concentrations of these air toxics were compared to the Permissible Exposure Limits (PEL) developed by the Occupational Safety and Health Administration (OSHA). The Office of Air Management (OAM) does not have at this time any specific statutory or regulatory authority over these substances.

- (b) See attached spreadsheets for detailed air toxic calculations.
- (c) This source shall comply with 326 IAC 2-1-3.3 (Maximum Achievable Control Technology) allowable emissions. The MACT for these facilities shall be the thermal oxidizer with a capture efficiency of 92% and a destruction efficiency of 98%, in combination with the application method of dip coating.

Conclusion

The construction of this metal coating operation will be subject to the conditions of the attached proposed **Construction Permit No. CP-069-9246-00018**.

**EMISSION CALCULATIONS:
APPENDIX A**

EMISSION CALCULATIONS:

Example VOC potential emissions for Dip Coating and Dip/Spin Operations:

Dip Conveyor #3 -

Potential VOC emissions (tons/yr) = sum (Density (lb/gal) * Weight % Organic * Gallons of Material * Maximum Throughput (units/hour)) = 292.43 tons/yr.

Density, Weight % Organic, Gallons of Material and Maximum Throughput were submitted by the applicant.

Weight % Organic = Wt % Organic of 205A + Wt % Organic of MEK
= (.7503 (% VOC of 205A) * 54.51 (wt % of 205 A)) + 1 (% VOC of MEK) * 45.49 (wt % of MEK)
= 86.39 % Organic.

Weight % Non-Vol (Solids) = Using linear interpolation :
24.97 (% non-vol of 205A) * .5451 (wt % of 205A) = 13.61
(13.61 / x (vol % non-vol)) = (24.97 (wt % non-vol) / 13.59 (vol % non-vol)); therefore
x = 7.41 % volume of non-vol.

The weighted average calculations shown above, were utilized on all facility calculations.

Example HAPs potential emissions for Dip Coating and Dip/Spin Operations:

Dip Conveyor #3 -

Potential single HAP emissions (tons/yr) = Density (lb/gal) * Gallons of Material * Maximum Throughput (units/hour) * % HAP.

Weight % HAP = Wt % MEK of 205A + MEK mix
= (1.89 (% MEK of 205A) * 54.51 (wt % of 205 A)) + 45.49 (wt % of MEK)
= 46.56 % Total MEK.

Potential Emissions before controls:

1. Dip Conveyor #2

Potential VOC emissions (page 2 of 12) = 226.47 tons/yr.
Potential combination HAPs emissions (page 7 of 12) = 221.84 tons/yr.
Potential individual HAP emissions (page 7 of 12):

MIK = 9.34 tons/yr.; MEK = 9.74 tons/yr; Formaldehyde = 0.03 tons/yr; Toluene = 74.36 tons/yr;
Xylene = 68.29 tons/yr; Ethyl Benzene = 16.01 tons/yr; Carbon tetrachloride = 0.04 tons/year.

2. Dip Conveyor #3

Potential VOC emissions (page 3 of 12) = 292.43 tons/yr.
Potential combinations HAPs emissions (page 8 of 12) = 285.36 tons/yr.
Potential individual HAP emissions (page 8 of 12):

Xylene = 75.09 tons/yr; Toluene = 147.84 tons/yr; Formaldehyde = 0.02 tons/yr; Carbon tetrachloride = 0.03 tons/yr; TCE = 45.50 tons/yr; MIK = 7.2 tons/yr; MEK = 8.92 tons/yr; Ethyl Benzene = 0.76 tons/yr.

3. Dip Conveyor #4

Potential VOC emissions (page 4 of 12) = 269.58 tons/yr.

Potential combinations HAPs emissions (page 9 of 12) = 248.57 tons/yr.

Potential individual HAP emissions (page 9 of 12):

Xylene = 69.32 tons/yr; Toluene = 136.48 tons/yr; Formaldehyde = 0.02 tons/yr; Carbon tetrachloride = 0.03 tons/yr; TCE = 27.51 tons/yr; MIK = 6.48 tons/yr; MEK = 8.03 tons/yr; Ethyl Benzene = 0.70 tons/yr.

4. Dip and Spin #2

Potential VOC emissions (page 5 of 12) = 280.49 tons/yr.

Potential combinations HAPs emissions (page 10 of 12) = 258.7 tons/yr.

Potential individual HAP emissions (page 10 of 12):

Xylene = 71.84 tons/yr; Toluene = 141.44 tons/yr; Formaldehyde = 0.02 tons/yr; Carbon tetrachloride = 0.03 tons/yr; TCE = 28.51 tons/yr; MIK = 7.09 tons/yr; MEK = 9.05 tons/yr; Ethyl Benzene = 0.72 tons/yr.

5. Dip and Spin #3

Potential VOC emissions (page 6 of 12) = 292.49 tons/yr.

Potential combinations HAPs emissions (page 11 of 12) = 269.73 tons/yr.

Potential individual HAP emissions (page 11 of 12):

Xylene = 75.10 tons/yr; Toluene = 147.87 tons/yr; Formaldehyde = 0.02 tons/yr; Carbon tetrachloride = 0.03 tons/yr; TCE = 29.81 tons/yr; MIK = 7.09 tons/yr; MEK = 9.05 tons/yr; Ethyl Benzene = 0.76 tons/yr.

Potential Emissions after controls: (page 12 of 12)

The catalytic oxidizer has a capture efficiency of 92% and a destruction efficiency of 98%.

Example VOC emission calculations for after controls:

Dip Conveyor #2 = $(0.92 * 226.47) = 208.35$ tons/yr captured.

$226.47 - 208.35 = 18.12$ emitted from not being captured.

$(208.35 * 0.98) = 204.18$ tons/yr destroyed.

$208.35 - 204.18 = 4.17$ tons/yr emitted; therefore,

$4.17 + 18.12 = \mathbf{22.28}$ tons/yr emitted.

Example HAP emission calculations for after controls:

Dip Conveyor #2 = $(0.92 * 9.34) = 8.59$ tons/yr captured.

$9.34 - 8.59 = 0.747$ emitted from not being captured.

$(8.59 * 0.98) = 8.42$ tons/yr destroyed.

$8.59 - 8.42 = 0.172$ tons/yr emitted; therefore,

$0.747 + 0.172 = \mathbf{0.919}$ tons/yr emitted.

**EMISSION CALCULATIONS:
APPENDIX B**

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: Ken Koat, Inc.
 Source Location: 1605 Riverfork Drive East, Huntington, IN. 46750
 County: Huntington
 Construction Permit No.: CP-069-9246-00018
 SIC Code: 3479
 Permit Reviewer: Nysa L. James

On July 7, 1998, the Office of Air Management (OAM) had a notice published in the Huntington Herald Press, 7 North Jefferson, Huntington, Indiana, stating that Ken Koat, Inc. had applied for a construction permit to construct and operate metal coating operation with 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.

On August 14, 1998, Ken Koat, Inc. submitted comments on the proposed construction permit. The summary of the comments and corresponding responses is as follows (changes are bolded for emphasis):

- Comment 1: The maximum heat input capacity has been changed from 0.80 mmBtu/hr to 6 mmBtu/hr and the minimum oxidizing temperature has been changed from 800°F to 1400°F.
- Response 1: Since there is not a significant increase in the potential to emit (PTE) and there are no 326 IAC rules that apply to this facility, Condition A.2(f) and Condition D.1(f) is amended to the following (changes are bolded and stricken out for emphasis):
- One (1) natural gas thermal oxidizer designated as #CE3, with a maximum heat input capacity of ~~0.80~~ **6.0** mmBtu/hr and a minimum oxidizing zone temperature of ~~800~~ **1400** degrees Fahrenheit.
- Comment 2: In regards to the Preventative Maintenance Plan, Condition B.7, indicate whether subsections B and C apply to the emission control devices only.
- Response 2: According to 326 IAC 1-6-1 (Applicability of the rule), the requirements of this rule apply to the facilities listed in the construction permit, which includes the facilities' control devices.
- Comment 3: The source requests that the stack test be performed only to verify the control efficiency and that the source is in compliance.
- Response 3: The performance test required for the oxidizer shall include specifying the temperature and the overall efficiency of the system. At the time of such test, compliance will be verified.
- Comment 4: The natural gas drying oven utilized for dip conveyor #2 is designated as #1 and the natural gas drying oven utilized for dip conveyor #3 is designated as #2.

Response 4: Condition A.2(a) & (b) and D.1(a) & (b) is amended to the following (changes are bolded and stricken out for emphasis):

- (a) One (1) dip conveyor designated as #2, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 11.73 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 5.32 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as ~~#21~~, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.

- (b) One (1) dip conveyor designated as #3, with the following equipment:
 - 1. One (1) coating tank with a maximum topcoat application rate of 19.06 lb/hr, and exhausts to a stack designated as #C3.
 - 2. One (1) primer tank with a maximum primer application rate of 4.29 lb/hr, and exhausts to a stack designated as #C3.
 - 3. One (1) natural gas drying oven designated as ~~#42~~, with a maximum heat input rate of 0.70 mmBtu/hr, and exhausts to a stack designated as #C3.

Comment 5: It is requested that since the source is required to perform stack test within 60 days of full operation that the requirement to conduct a second stack test during the period between 30 to 36 months of operation be eliminated.

Response 5: Condition D.1.4(b) is amended to the following (changes are bolded and stricken out for emphasis):

- (b) During the period ~~between 30 and 36 months after issuance of this permit~~ **within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up**, a performance test shall be required to demonstrate that the source is complying with 326 IAC 8-2-9.
 - (1) If the oxidizer is determined to demonstrate compliance, the required temperature and control efficiency shall be specified.
 - (2) If the oxidizer is determined to not demonstrate compliance, the efficiency needed to comply with 326 IAC 8-2-9 shall be determined by the performance test.
 - (3) The source shall be required to comply with the required control efficiency as determined by the performance test.

Comment 6: The capture efficiency of the oxidizer is not dependent on the operating temperature of the oxidizer, therefore the requirement to maintain the operating temperature at 1400 degrees Fahrenheit in order to maintain a capture efficiency of 92% should be deleted. It is requested that the permit be modified to indicate that the source will be in compliance as long as the overall efficiency of the oxidizer is 90.16%.

Response 6: The capture efficiency and the destruction efficiency determine the overall efficiency. In order to show compliance with 326 IAC 8-2-9, a certain temperature must be maintained. This temperature will ensure a minimum destruction efficiency. This destruction efficiency plus the capture efficiency, specified in Conditions D.1.1 and D.2.1, will ensure compliance with the above mentioned rule.

Comment 7: Since Ken Koat will comply with the requirements of 326 IAC 8-2-9 by utilizing the oxidizer, it appears that the requirement to determine the monthly volume weight average VOC content of the coatings as applied is excessive. It is requested that this requirement be deleted from the permit. The overall efficiency should be recorded each month if a stack test proves the efficiency. Also, It appears that D.1.7(a)(6&8) and Condition D.2.8(a)(6&8) are repetitive.

Response 7: The monthly volume weighted average records of each facility subject to 326 IAC 8-2-9, are necessary to show that the control device is reducing those averages below the limit required by the rule. Condition D.1.7(a) is amended to the following (changes are bolded and stricken out for emphasis):

(a) To document compliance with Conditions D.1.1 and D.1.2 the Permittee's shall maintain records in accordance with (1) through ~~(7)~~ below. Records maintained for (1) through ~~(7)~~ shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits and/or the VOC and HAPs emission limits established in Conditions D.1.1 and D.1.2.

(1) The amount of VOC and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The monthly volume-weighted average VOC content of the coatings as applied;

(4) The cleanup solvent usage for each month;

(5) The total VOC usage for each month;

(6) Monthly emissions in pounds of VOC and HAPs

(7) The total HAP usage for each month;

~~(8) The weight of VOC and HAPs emitted for each compliance period; and~~

~~(9) The overall efficiency of the capture system and control device as a percentage for each month.~~

Comment 8: Please indicate how often the operating temperature of the oxidizer should be recorded.

Response 8: Condition D.1.7(b) states that the temperature shall be recorded monthly. This condition is not sufficient to demonstrate compliance with Condition D.1.6. Condition D.1.7(b) is amended to the following (changes are bolded and stricken out for emphasis):

- (a) To document compliance with Condition D.1.6, records of the minimum operating temperature shall be maintained ~~monthly~~ **daily**.

Comment 9: The open top degreaser will not be ventilated through a stack. Emissions are released inside the source.

Response 9: Condition A.2(j) and D.2(j) are amended to the following (changes are bolded and stricken out for emphasis):

One (1) open top degreaser, with a maximum trichloroethylene consumption rate of 12 gallons per day and exhausts ~~to a stack designated as S-25.~~ **Inside the building.**

Comment 10: Ken Koat has decided to comply with the control requirements of D.2.3(3), now renumbered as D.2.5(3), by meeting a 3 month rolling average emission limitation of 150 kilograms per month per square meter.

Response 10: Condition D.2.3(3), now renumbered as D.2.5(3), is amended to the following (changes are bolded and stricken out for emphasis):

Cleaning Machine Type/size (m ² solvent/air interface area)	Control Combinations Overall Emission Limit (3 month rolling average)
Batch Vapor Cleaning Machines (> 1.2 m ²) (larger than 13 sq. ft.)	Freeboard Refrigeration Device; Freeboard Ratio of 1.0; and Superheated Vapor 150 kilograms/month/sq. foot (30.6 lb/month/sq. ft)

Condition D.2.7 is deleted from the construction permit.

Comment 11: Please explain the information that needs to be provided for record keeping.

Response 11: The information requested on the report form is revised and is as follows:

1. The first column is the usage month of the year;
2. The second column is the usage for that month (tons/month);
3. The third column is the usage for the previous month(s);
4. The fourth column is for the total usage for the twelve month period.

The usage can be determined by the following equation:
 VOC usage = density (lb/gal) * gal/unit * unit/hr * % VOC.

Upon further review, OAM has made the following changes to clarify conditions and to add conditions that were previously left out of the draft construction permit (changes are bolded and stricken out for emphasis):

1. Condition A.2(a) (under existing equipment) and Condition D.2(a) are amended to the following (changes are bolded and stricken out for emphasis):

Four (4) HVLP spray booths for metal inserts, designated as #1, #2, #3 and #4, with a maximum adhesive application rate for booths #1, #2, #3 and #4 of 5.94 lb/hr, 11.91 lb/hr, 4.92 lb/hr and 4.38 lb/hr. **Booths #1 through #4 are controlled by dry filters.** Booth #1 exhausts to a stack designated as S-10 and is limited to 24 ton/yr of VOC. Booth #2 exhausts to a stack designated as S-11 and Booth #3 exhausts to a stack designated as S-1 and both are limited to 24 ton/yr. Booth #4 exhausts to a stack designated as S-2 and is limited to 24 ton/yr.

2. Condition A.2(f) (under existing equipment) and Condition D.2(f) are amended to the following (changes are bolded and stricken out for emphasis):

One (1) ~~electrostatic disc coating process, consisting of two (2) booths with a maximum application rate of 11.42 lb/hr each and exhausts to stacks designated as S-14 and S-15 and will be controlled by the new thermal oxidizer.~~ **ransburg coating process, controlled by the new thermal oxidizer, a maximum metal insert rate of 1,000 lb/hr and consists of the following:**

1. **One (1) electrostatic paint booth, designated as #1, with a maximum application rate of 11.42 lb/hr and exhausts to a stack designated as #15.**
2. **One (1) natural gas-fired oven, designated as #1 and exhausts to a stack designated as #16.**
3. **One (1) electrostatic paint booth, designated as #2, with a maximum application rate of 11.42 lb/hr and exhausts to a stack designated as #15.**

3. Condition C.1(a), PSD Major Source Status, is amended to the following (changes are bolded and stricken out for emphasis):

(a) ~~The entire source is a major source~~ **shall be considered major under the Prevention of Significant Deterioration (PSD) rules, 326 IAC 2-2 and 40 CFR 52.21, after the issuance of this construction permit.**

4. Conditions C.3(Asbestos Abatement Projects), C.7(Asbestos Abatement Projects) and C.13(Stratospheric Ozone) have been deleted from the C-Section.

5. Condition C.4, now renumbered as C.3, Performance Testing, is amended to the following (changes are bolded and stricken out for emphasis):

C.43 Performance Testing [326 IAC 3-2-1 6]

That pursuant to 326 IAC 2-1-3 (Construction and Operating Permit Requirements) compliance stack tests shall be performed for VOC and HAPs control efficiency of the recuperative ~~catalytic~~ **thermal** oxidizer; and a minimum operating temperature, ~~800~~ **1400** degrees Fahrenheit, of the recuperative ~~catalytic~~ **thermal** oxidizer to maintain at least a ~~92.1~~ **92.1**% capture efficiency and a 98% destruction rate 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 6~~ **6** (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.
6. Condition C.5, now renumbered as C.4, Compliance Monitoring, is enforced under 326 IAC 2-1-3. The heading is amended to include this rule cite.
7. Condition C.10, now renumbered as C.8, Monitoring Data Availability, is enforced under 326 IAC 2-1-3. The heading is amended to include this rule cite.
8. Condition D.1.1, VOC Limitations, is amended to the following (changes are bolded and stricken out for emphasis):

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), ~~the volatile organic compound (VOC) content of coatings applied to the metal inserts shall be limited to no~~ **owner or operator of a facility engaged in the surface coating of miscellaneous metal parts or products may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of the following:**

Coatings	Limit (pounds of VOC /gallon of coating less water delivered to the applicator dip tank)
Extreme Performance Coat	3.5

- ~~Compliance with 326 IAC 8-2-9 shall be the thermal oxidizer specified in Condition D.1.6.~~
- (b) **When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC emitted to the atmosphere per gallon of coating less water delivered to the applicator, the thermal oxidizer shall maintain a minimum 94.1% capture efficiency and a minimum 98% destruction efficiency of the volatile organic compound (VOC) captured. These efficiencies and the use of the thermal oxidizer are required by 326 IAC 8-1-2(a)(2). Based upon 326 IAC 8-1-2(c) and the overall control efficiency of 92.2%, the VOC content of the coating per gallon solids delivered to the dip tank shall be limited to 67.8. This overall efficiency of 92.2% shall be maintained in order to demonstrate compliance with 326 IAC 8-2-9 and 326 IAC 8-1-2(a)(2).**
 - (b c) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

9. Condition D.1.2, New Source Toxics Control, is amended to the following (changes are bolded and stricken out for emphasis):
- (a) The allowable HAP emissions shall be based on the Maximum Achievable Control Technology (MACT) analysis determined by the Office of Air Management. The MACT, for ~~such the new coating~~ facilities, listed in ~~this construction permit~~ **above in section D.1**, shall be the thermal oxidizer, described in Condition ~~D.1.61~~, in combination with the application method of dip coating. The overall efficiency of this control device shall be ~~90.162.2%~~.
10. Condition D.1.4(a), Testing requirements, is amended to the following (changes are bolded and stricken out for emphasis):
- Testing of this facility is specifically required by this permit. Compliance with the control efficiency and minimum operating temperature specified in Condition ~~D.1.61~~ shall be determined by a performance test conducted in accordance with Section C - Performance Testing.
11. Condition D.1.6, Thermal Oxidizer Operation, is amended to the following (changes are bolded and stricken out for emphasis):

D 1.6 Recuperative Thermal Oxidizer Operations

- (a) **When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC per gallon of coating less water, the thermal oxidizer shall maintain a minimum operating temperature of 1400° F, or a minimum operating temperature as determined by the most recent compliance test, to maintain a minimum 94.1% capture efficiency and a 98% destruction efficiency of the volatile organic compound (VOC) captured.** The recuperative thermal oxidizer shall operate at all times, to demonstrate compliance with Conditions D.1.1 and D.1.2, when dip conveyors #2, #3, and #4 and dip and spins #2 and #3 are operated. ~~When operating, the thermal oxidizer shall maintain a minimum operating temperature of 1400° F, to maintain a minimum 92% capture efficiency and a 98% destruction efficiency of the volatile organic compound (VOC) captured.~~
- (b) Any change or modification which may increase the VOC actual emissions to 250 tons per year or more shall require prior approval.
12. Condition D.2.1, Volatile Organic Compounds, is amended to the following (changes are bolded and stricken out for emphasis):
- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), ~~the volatile organic compound (VOC) content of coatings applied to the metal inserts shall be limited to no~~ **owner or operator of a facility engaged in the surface coating of miscellaneous metal parts or products may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of the following:**

Coatings	Limit (pounds of VOC /gallon of coating less water delivered to the applicator dip tank)
Extreme Performance Coat	3.5

- ~~Compliance with 326 IAC 8-2-9 shall be the thermal oxidizer specified in Condition D.1.6.~~
- (b) **When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC emitted to the atmosphere per gallon of coating less water delivered to the applicator, the thermal oxidizer shall maintain a minimum 94.1% capture efficiency and a minimum 98% destruction efficiency of the volatile organic compound (VOC) captured. These efficiencies and the use of the thermal oxidizer are required by 326 IAC 8-1-2(a)(2). Based upon 326 IAC 8-1-2(c) and the overall control efficiency of 92.2%, the VOC content of the coating per gallon solids delivered to the dip tank shall be limited to 67.8. This overall efficiency of 92.2% shall be maintained in order to demonstrate compliance with 326 IAC 8-2-9 and 326 IAC 8-1-2(a)(2).**
- (bc) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), solvent sprayed from the application equipment during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.
- (ed) The input of VOC including clean up solvent, minus the VOC solvent shipped out, delivered to the applicators of the ~~dip and spin #1, chain on edge #1 and #2~~, paint booths #1, #2, #3 and #4 shall be limited to 24 tons per year per facility, rolled on a monthly basis. Therefore, the requirements of 326 IAC 8-2-9 will not apply.
- (e) **The input of VOC of dip and spin #1 and chain on edges #1 and #2 shall be limited to 24 tons per year per facility, rolled on a monthly basis. Therefore, the requirements of 326 IAC 8-2-9 will not apply.**

11. 326 IAC 6-3, Particulate Matter Process, is added to the construction permit as Condition D.2.2 and is the following:

D.2.2 PM Process Operations [326 IAC 6-3]:

Pursuant to 326 IAC 6-3 (Process Operations), the following applies:

- (a) the allowable PM emission rate from the three (3) steel grit blasters shall not exceed 2.91 pounds per hour per blaster when operating at a total process weight rate of 1200 pounds per hour per blaster.
- (b) the allowable PM emission rate from aluminum oxide blaster #1 shall not exceed 2.91 pounds per hour when operating at a total process weight rate of 1200 pounds per hour.
- (c) the allowable PM emission rate from the aluminum blaster #2 and #3 shall not exceed 0.55 pounds per hour per blaster when operating at a total process weight rate of 40 pounds per hour per blaster.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

hour; and

where E = rate of emission in pounds per

P = process weight
rate in tons per hour.

12. 326 IAC 6-2-4, Particulate Matter Emission Limitations, is added to the construction permit as Condition D.2.3 and is the following:

D.2.3 Particulate Emission Limitations [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate matter (PM) emissions from 5.23 million BTU/hour boiler shall be limited by the following equation:

$$P_t = 1.09/Q^{0.26};$$

where

P_t = Pounds of particulate matter emitted
per million Btu (lb/mmBtu) heat input.

Q = Total source maximum operating
capacity rating in million Btu per
hour (mmBtu/hr) heat input.

For Q less than 10 mmBtu/hr, P_t shall not exceed 0.6 lb/mmBtu. This is equivalent to 3.14 lb/hr of PM.

13. The conditions following Condition D.2.1, shall be renumbered to reflect the insertion of 326 IAC 6-3 and 326 IAC 6-2-4 rules.
14. 326 IAC 8-3-3, Open Top Degreaser Operations, is added to the construction permit as Condition D.2.6 and is the following:

D.2.6 Open Top Vapor Degreaser Operations [326 IAC 8-3-3]

Pursuant to 326 IAC 8-3-3 (Open Top Vapor Degreaser Operations), the owner or operator of the open top degreaser shall:

- (a) equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;
- (b) keep the cover closed at all times except when processing work loads through the degreaser;
- (c) minimize solvent carry out by:
 - (1) racking parts to allow complete drainage;
 - (2) moving parts in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);
 - (3) degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;
 - (4) tipping out any pools of solvent on the cleaned parts before removal; and

- (5) allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry;
- (d) not degrease porous or absorbent materials, such as cloth leather, wood, or rope;
- (e) not occupy more than half of the degreaser's open top area with the workload;
- (f) not load the degreaser such that the vapor level drops more than fifty percent (50%) of the vapor depth when the workload is removed;
- (g) never spray above the vapor level;
- (h) repair solvent leaks immediately, or shut down the degreaser;
- (i) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere;
- (j) not use workplace fans near the degreaser opening;
- (k) not allow visually detectable water in the solvent exiting the water separator; and
- (l) provide a permanent, conspicuous label summarizing the operating requirements.

15. 326 IAC 8-3-6, Open Top Vapor Degreaser Operations, is added to the construction permit as Condition D.2.7 and is the following:

D.2.7 Open Top Vapor Degreaser Operations [326 IAC 8-3-6]

- (a) Pursuant to 326 IAC 8-3-6(a) (Open Top Vapor Degreaser Operation and Control), the owner or operator of an open top vapor degreaser shall ensure that the following control equipment requirements are met:
 - (1) Equip the degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.
 - (2) Equip the degreaser with the following switches:
 - (A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.
 - (B) A spray safety switch which shuts off spray pump if the vapor level drops more than four (4) inches.

- (3) Equip the degreaser with a permanent, conspicuous label which lists the opening requirements outlined in subsection (b).**
- (4) Equip the degreaser with one (1) of the following control devices:**
 - (A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).**
 - (B) A refrigerated chiller.**
 - (C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.**
 - (D) A carbon adsorption system with ventilation which, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air to vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.**
 - (E) Other systems of demonstrated equivalent or better control as those outlined in clauses (A) through (D). Such systems shall be submitted to the U.S. EPA as a SIP revision.**
- (b) Pursuant to 326 IAC 8-3-6(b) (Open Top Vapor Degreaser Operation and Control), the owner or operator of an open top vapor degreaser shall ensure that the following operating requirements are met:**
 - (1) Keep the cover closed at all times except when processing workloads through the degreaser.**
 - (2) Minimize solvent carry out emissions by:**
 - (A) Racking articles to allow complete drainage;**
 - (B) Moving articles in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);**
 - (C) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;**
 - (D) Tipping out any pools of solvent on the cleaned articles before removal; and**
 - (E) Allowing articles to dry within the degreaser for at least fifteen (15) seconds or until visually dry.**

- (3) **Prohibit the entrance into the degreaser of porous or absorbent materials such as, but not limited to, cloth, leather, wood, or rope.**
 - (4) **Prohibit occupation of more than one-half (½) of the degreaser's open top area with the workload.**
 - (5) **Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.**
 - (6) **Prohibit solvent spraying above the vapor level.**
 - (7) **Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.**
 - (8) **Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.**
 - (9) **Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.**
 - (10) **Prohibit the use of workplace fans near the degreaser opening.**
 - (11) **Prohibit visually detectable water in the solvent exiting the water separator.**
16. The conditions following Condition D.2.5, shall be renumbered to reflect the insertion of 326 IAC 8-3-3 and 326 IAC 8-3-6 rules.
17. Condition D.2.4, now renumbered as D.2.8 (Testing Requirements), is amended to the following (changes are bolded and stricken out for emphasis):

D.2.48 Testing Requirements

- (a) ~~Testing of this facility is specifically required by this permit. Compliance with the control efficiency and minimum operating temperature specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing. The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the VOC and PM limits specified in Conditions D.2.1 and D.2.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.~~

~~(b) During the period between 30 and 36 months after issuance of this permit, a performance test shall be required to demonstrate that the source is complying with 326 IAC 8-2-9.~~

~~(1) If the oxidizer is determined to demonstrate compliance, the required temperature and control efficiency shall be specified.~~

~~(2) If the oxidizer is determined to not demonstrate compliance, the efficiency needed to comply with 326 IAC 8-2-9 shall be determined by the performance test.~~

~~(3) The source shall be required to comply with the required control efficiency as determined by the performance test.~~

18. Under the Compliance Determination section, the following is added as Condition D.2.10

D.2.10 Particulate Matter (PM)

(a) The dry filters for PM control shall be in operation at all times when the paint booths are in operation.

(b) The baghouses for PM control shall be in operation at all times when the aluminum oxide blaster #1 and steel grit blasters #1-#3 are in operation.

19. Condition D.2.6, now renumbered as D.2.11, Thermal Oxidizer Operation, is amended to the following (changes are bolded and stricken out for emphasis):

D.2.11 Recuperative Thermal Oxidizer Operations

(a) When operating the thermal oxidizer to achieve the limit established under 326 IAC 8-2-9, 3.5 pounds of VOC per gallon of coating less water, the thermal oxidizer shall maintain a minimum operating temperature of 1400° F, or a minimum operating temperature as determined by the most recent compliance test, to maintain a minimum 94.1% capture efficiency and a 98% destruction efficiency of the volatile organic compound (VOC) captured. The recuperative thermal oxidizer shall operate at all times, to demonstrate compliance with Conditions D.2.1 and D.2.24, when dip conveyors #2, #3, and #4 and dip and spins #2 and #3 are operated. ~~When operating, the thermal oxidizer shall maintain a minimum operating temperature of 1400° F, to maintain a minimum 92% capture efficiency and a 98% destruction efficiency of the volatile organic compound (VOC) captured.~~

(b) Any change or modification which may increase the VOC actual emissions to 250 tons per year or more shall require prior approval.

20. The following monitoring requirements, under 326 IAC 2-1-3, is added to monitor dry filters, baghouse and visible emissions:

D.2.12 Monitoring [326 IAC 2-1-3]

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, daily observations shall be made of the overspray while one or more of the spray equipment is in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (b) Weekly inspections shall be performed of the paint booths emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an overspray emission, evidence of overspray emission, or other abnormal emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

D.2.13 Baghouse Inspections

An inspection shall be performed each calendar quarter of the all the baghouses. Defective bags shall be replaced. A record shall be kept of the results of the inspection and the number of bags replaced.

D.2.14 Failure Detection

In the event that a bag's failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been replaced.
- (b) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

D.2.15 Visible Emissions Notations

- (a) Weekly visible emission notations of the metal coating line stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

- (d) **A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.**
- (e) **The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.**

21. Condition D.2.8, now renumbered as D.2.16, is amended to the following (changes are bolded and stricken out for emphasis):

D.2.16 Record Keeping Requirements

(a) To document compliance with Conditions D.2.1 and ~~D.2.2-4~~ the Permittee's shall maintain records in accordance with (1) through ~~(7)~~ below. Records maintained for (1) through ~~(7)~~ shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC and HAP usage limits and/or the VOC and HAPs emission limits established in Conditions ~~D.4.1-2.1~~ and ~~D.4.2-2.4~~.

(1) The amount of VOC and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(2) A log of the dates of use;

(3) The monthly volume-weighted average VOC content of the coatings as applied;

(4) The cleanup solvent usage for each month;

(5) The total VOC usage for each month;

(6) Monthly emissions in pounds of VOC and HAPs

(7) The total HAP usage for each month;

~~(8) The weight of VOC and HAPs emitted for each compliance period; and~~

~~(9) The overall efficiency of the capture system and control device as a percentage for each month.~~

~~(c) To document compliance with Condition D.1.6, records of the minimum operating temperature shall be maintained monthly.~~

~~(e)(b)~~To document compliance with Condition D.2.35, a record of the following shall be maintained:

Machine Type/Control Equipment	Lifetime Records	5 Year Records
Batch vapor, in-line vapor and in-line cold cleaners complying with the equipment standards or idling emission limits	<p>Owners manual, or if not available, written operation and maintenance procedures</p> <p>Records of date of installation of machine and control equipment</p> <p>Records of tests to determine dwell time for each part or basket</p> <p>Records of Halogenated HAP solvent used</p>	<p>Information of actions taken to monitor each control device for which monitoring is required to indicate compliance with equipment standards or idling emission limits, including initial performance test and periodic monitoring</p> <p>Estimated annual solvent consumption rate for each machine</p>

(d) To document compliance with Condition D.2.2 and D.2.12, the Permitted shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.

(e) To document compliance with D.2.15, the Permitted shall maintain records of daily visible emission notations of the aluminum oxide blaster, steel grit blasters and paint booths stacks exhaust.

(f) To document compliance with D.2.13, the Permitted shall maintain records of the baghouse inspections and bags replaced.

~~(e)~~(f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

22. Condition D.2.9, now renumbered as D.2.17, is amended to the following (changes are bolded and stricken out for emphasis):

~~D.2.9~~ **D.2.17** Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.2.1(~~ed~~) **& (e)** and D.2.~~2~~ **4** shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

(b) The following shall be submitted to the address listed in Section C - General Reporting Requirements:

Type of Machine	Report	Existing Source	New Source
Batch vapor, in-line vapor and in-line cold cleaners complying with the equipment standards or idling emission limits	Initial compliance report Solvent emission report Exceedance report	May 1, 1998 Annually Semiannually if no exceedances occur, quarterly if exceedances occur	150 days after start-up Annually Semiannually if no exceedances occur, quarterly if exceedances occur

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
After Controls
Company Name: Ken-Koat, Inc.
Address City IN Zip: 1605 River Fork Drive East, Huntington, IN. 46750
CP: 069-9246
Plt ID: 069-00018
Reviewer: NLJ
Date: 12/18/97

	Before Controls	After Controls	Before Controls	After Controls	Before Controls	After Controls	Before Controls	After Controls	Before Controls	After Controls										
	VOC emissions	VOC emissions	MIK	MIK	MEK	MEK	Formaldehyde	Formaldehyde	Toluene	Toluene	Xylene	Xylene	Trichloroethylene	Trichloroethylene	Ethyl Benzene	Ethyl Benzene	Carbon Tetrachloride	Carbon Tetrachloride	Carbon	Tetrachloride
Dip Conveyor #2	226.47	22.28	9.34	0.919	9.74	0.958	0.03	0.003	74.38	7.32	68.29	6.72	46.01	4.53	16.01	1.575	0.04	0.004		
Dip Conveyor #3	292.43	28.78	7.2	0.708	8.92	0.878	0.02	0.002	194.16	19.11	38.02	3.74	9.09	0.89	0.42	0.041	0.01	0.001		
Dip Conveyor #4	269.58	26.53	6.48	0.638	8.03	0.790	0.02	0.002	179.24	17.64	54.76	5.39	18.11	1.78	0.39	0.038	0.01	0.001		
Dip Conveyor #2	280.47	27.60	7.09	0.698	9.05	0.891	0.02	0.002	185.76	18.28	56.76	5.59	8.7	0.86	0.41	0.040	0.01	0.001		
Dip Conveyor #3	292.49	28.78	7.09	0.698	9.05	0.891	0.02	0.002	194.2	19.11	59.34	5.84	9.09	0.89	0.42	0.041	0.01	0.001		
Total HAPs emissions (tons/yr)			37.20	3.66	44.79	4.41	0.11	0.01	827.74	81.45	277.17	27.27	91.00	8.95	17.65	1.74	0.08	0.01		
Total VOC emissions (tons/yr)	1361.44	133.97																		
Combination HAPs from each Facility:	Before Controls	After Controls																		
Dip Conveyor #2	223.84	22.03																		
Dip Conveyor #3	257.84	25.37																		
Dip Conveyor #4	267.04	26.28																		
Dip Conveyor #2	267.8	26.35																		
Dip Conveyor #3	279.22	27.48																		
Total HAPs (tons/yr)	1295.74	127.50																		

After Control VOC Emissions = (Before control VOC emissions - (Before Control VOC emissions * 92% capture)) + ((Before Control VOC emissions * 92% capture) - ((Before control VOC emissions * 92% capture) * 98% destruction))
 After Control HAP Emissions = (Before control HAP emissions - (Before Control HAP emissions * 92% capture)) + ((Before Control HAP emissions * 92% capture) - ((Before control HAP emissions * 92% capture) * 98% destruction))

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Dip Conveyor #3**

Company Name: Ken-Koat, Inc.
Address City IN Zip: 1605 River Fork Drive East, Huntington, IN. 46750
CP: 069-9246
Pit ID: 069-00018
Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	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
205A (primer) + MEK	7.29	86.39%	0.0%	86.4%	0.0%	7.41%	0.00020	3000.000	6.30	6.30	3.78	90.69	16.55	0.00	84.99	100%
220 (topcoat) + Toluene	8.29	86.07%	0.0%	86.1%	0.0%	9.08%	0.00077	3000.000	7.14	7.14	16.41	393.78	71.86	0.00	78.58	100%
252H (topcoat) + Toluene	7.77	86.20%	0.0%	86.2%	0.0%	8.38%	0.00077	3000.000	6.70	6.70	15.40	369.63	67.46	0.00	79.93	100%
253H(topcoat) + Toluene	7.79	87.55%	0.0%	87.6%	0.0%	6.57%	0.00077	3000.000	6.82	6.82	15.68	376.39	68.69	0.00	103.81	100%
EP6788-50 + Toluene	7.78	86.61%	0.0%	86.6%	0.0%	7.92%	0.00077	3000.000	6.74	6.74	15.49	371.87	67.87	0.00	85.08	100%

State Potential Emissions

Add worst case coating to all solvents

66.77

1602.36

292.43

0.00

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (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)
Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Dip Conveyor #4**

Company Name: Ken-Koat, Inc.
Address City IN Zip: 1605 River Fork Drive East, Huntington, IN. 46750
CP: 069-9246
Pit ID: 069-00018
Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	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
205A (primer) + MEK	7.29	86.39%	0.0%	86.4%	0.0%	7.41%	0.00018	3000.000	6.30	6.30	3.40	81.62	14.90	0.00	84.99	100%
220 (topcoat) + Toluene	8.29	86.07%	0.0%	86.1%	0.0%	9.08%	0.00071	3000.000	7.14	7.14	15.15	363.52	66.34	0.00	78.58	100%
252H (topcoat) + Toluene	7.77	86.20%	0.0%	86.2%	0.0%	8.38%	0.00071	3000.000	6.70	6.70	14.22	341.23	62.27	0.00	79.93	100%
253H(topcoat) + Toluene	7.79	87.55%	0.0%	87.6%	0.0%	6.57%	0.00071	3000.000	6.82	6.82	14.48	347.47	63.41	0.00	103.81	100%
EP6788-50 + Toluene	7.78	86.61%	0.0%	86.6%	0.0%	7.92%	0.00071	3000.000	6.74	6.74	14.30	343.30	62.65	0.00	85.08	100%

State Potential Emissions

Add worst case coating to all solvents

61.55

1477.13

269.58

0.00

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (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)
Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Dip and Spin #2**

Company Name: Ken-Koat, Inc.
Address City IN Zip: 1605 River Fork Drive East, Huntington, IN. 46750
CP: 069-9246
Pit ID: 069-00018
Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	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
205A (primer) + MEK	7.28	86.39%	0.0%	86.4%	0.0%	7.41%	0.00006	10000.000	6.29	6.29	3.77	90.56	16.53	0.00	84.87	100%
220 (topcoat) + Toluene	8.29	86.07%	0.0%	86.1%	0.0%	9.08%	0.00022	10000.000	7.14	7.14	15.70	376.74	68.75	0.00	78.58	100%
252H (topcoat) + Toluene	7.77	86.20%	0.0%	86.2%	0.0%	8.38%	0.00022	10000.000	6.70	6.70	14.74	353.64	64.54	0.00	79.93	100%
253H (topcoat) + Toluene	7.79	87.55%	0.0%	87.6%	0.0%	6.57%	0.00022	10000.000	6.82	6.82	15.00	360.10	65.72	0.00	103.81	100%
EP6788-50 + Toluene	7.78	86.61%	0.0%	86.6%	0.0%	7.92%	0.00022	10000.000	6.74	6.74	14.82	355.78	64.93	0.00	85.08	100%

State Potential Emissions

Add worst case coating to all solvents

64.03

1536.83

280.47

0.00

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (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)
Total = Worst Coating + Sum of all solvents used

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations
Dip and Spin #3**

Company Name: Ken-Koat, Inc.
Address City IN Zip: 1605 River Fork Drive East, Huntington, IN. 46750
CP: 069-9246
Pit ID: 069-00018
Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	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
205A (primer) + MEK	7.29	86.39%	0.0%	86.4%	0.0%	7.41%	0.00006	10000.000	6.30	6.30	3.78	90.69	16.55	0.00	84.99	100%
220 (topcoat) + Toluene	8.29	86.07%	0.0%	86.1%	0.0%	9.08%	0.00023	10000.000	7.14	7.14	16.41	393.86	71.88	0.00	78.58	100%
252H (topcoat) + Toluene	7.77	86.20%	0.0%	86.2%	0.0%	8.38%	0.00023	10000.000	6.70	6.70	15.40	369.72	67.47	0.00	79.93	100%
253H (topcoat) + Toluene	7.79	87.55%	0.0%	87.6%	0.0%	6.57%	0.00023	10000.000	6.82	6.82	15.69	376.47	68.71	0.00	103.81	100%
EP6788-50 + Toluene	7.78	86.61%	0.0%	86.6%	0.0%	7.92%	0.00023	10000.000	6.74	6.74	15.50	371.95	67.88	0.00	85.08	100%

State Potential Emissions

Add worst case coating to all solvents

66.78

1602.69

292.49

0.00

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (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)

HAP Emission Calculations

Dip Conveyor #2

Company Name: Ken-Koat, Inc.

Plant Location: 1605 River Fork Drive East, Huntington, IN. 46750

County: Tippecanoe

Permit Reviewer: NLJ

Date: 12/12/97

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Methyl Isobutyl Ketone	Weight % Methyl Ethyl Ketone	Weight % Formaldehyde	Weight % Toluene	Weight % Xylene	Weight % Trichloroethylene	Weight % Ethyl Benzene	Weight % Carbon Tetrachloride	Methyl Isobutyl Ketone Emissions (ton/yr)	Methyl Ethyl Ketone Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Trichloroethylene Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	Carbon Tetrachloride Emissions (ton/yr)	
205A (primer) + MEK	7.3	0.000180	4000.00	40.55%	42.32%	0.11%	0.00%	0.00%	0.00%	0.00%	0.05%	9.34	9.74	0.03	0.00	0.00	0.00	0.00	0.00	0.01
220 (topcoat) + Toluene	8.54	0.000330	4000.00	0.00%	0.00%	0.00%	30.13%	31.73%	13.14%	7.44%	0.00%	0.00	0.00	0.00	14.88	15.67	6.49	3.67	0.00	0.00
233 (topcoat) + Toluene	8.63	0.000330	4000.00	0.00%	0.00%	0.00%	29.88%	23.97%	23.50%	5.62%	0.06%	0.00	0.00	0.00	14.91	11.96	11.73	2.80	0.03	0.00
234B (topcoat) + Toluene	8.35	0.000330	4000.00	0.00%	0.00%	0.00%	30.77%	27.38%	17.53%	6.42%	0.00%	0.00	0.00	0.00	14.85	13.22	8.46	3.10	0.00	0.00
236A (topcoat) + Toluene	8.08	0.000330	4000.00	0.00%	0.00%	0.00%	31.69%	34.13%	14.50%	8.00%	0.00%	0.00	0.00	0.00	14.80	15.94	6.77	3.74	0.00	0.00
250 (topcoat) + Toluene	8.81	0.000330	4000.00	0.00%	0.00%	0.00%	29.32%	22.58%	24.65%	5.30%	0.00%	0.00	0.00	0.00	14.93	11.50	12.56	2.70	0.00	0.00

Total State Potential Emissions 9.34 9.74 0.03 74.38 68.29 46.01 16.01 0.04

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

HAP Emission Calculations

Dip Conveyor #3
Company Name: Ken-Koat, Inc.
Plant Location: 1605 River Fork Drive East, Huntington, IN. 46750
County: Tippecanoe
Permit Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Carbon tetrachloride	Weight % Trichloroethylene	Weight % Methyl Isobutyl Ketone	Weight % Methyl Ethyl Ketone	Weight % Ethyl Benzene	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Carbon tetrachloride Emissions (ton/yr)	Trichloroethylene Emissions (ton/yr)	Methyl Isobutyl Ketone Emissions (ton/yr)	Methyl Ethyl Ketone Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)
205A (primer) + MEK	7.29	0.00020	3000	0.00%	0.00%	0.10%	0.04%	0.00%	37.60%	46.56%	0.00%	0.00	0.00	0.02	0.01	0.00	7.20	8.92	0.00
220 (topcoat) + Toluene	8.29	0.000767	3000	25.81%	44.56%	0.00%	0.00%	10.42%	0.00%	0.00%	5.90%	0.25	37.21	0.00	0.00	8.70	0.00	0.00	0.15
252H (topcoat) + Toluene	7.77	0.000767	3000	6.25%	78.46%	0.00%	0.00%	0.00%	0.00%	0.00%	1.46%	4.89	61.40	0.00	0.00	0.00	0.00	0.00	0.01
253H(topcoat) + Toluene	7.79	0.000767	3000	10.32%	74.79%	0.00%	0.00%	0.00%	0.00%	0.00%	2.42%	8.10	58.68	0.00	0.00	0.00	0.00	0.00	0.03
EP6788-50 + Toluene	7.78	0.000767	3000	31.63%	47.06%	0.00%	0.00%	0.50%	0.00%	0.00%	7.42%	24.78	36.88	0.00	0.00	0.39	0.00	0.00	0.24

Total State Potential Emissions 38.02 194.16 0.02 0.01 9.09 7.20 8.92 0.42

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

HAP Emission Calculations

Dip Conveyor #4
Company Name: Ken-Koat, Inc.
Plant Location: 1605 River Fork Drive East, Huntington, IN. 46750
County: Tippecanoe
Permit Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Carbon tetrachloride	Weight % Trichloroethylene	Weight % Methyl Isobutyl Ketone	Weight % Methyl Ethyl Ketone	Weight % Ethyl Benzene	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Carbon tetrachloride Emissions (ton/yr)	Trichloroethylene Emissions (ton/yr)	Methyl Isobutyl Ketone Emissions (ton/yr)	Methyl Ethyl Ketone Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)
205A (primer) + MEK	7.29	0.00018	3000	0.00%	0.00%	0.10%	0.04%	0.00%	37.60%	46.56%	0.00%	0.00	0.00	0.02	0.01	0.00	6.48	8.03	0.00
220 (topcoat) + Toluene	8.29	0.000708	3000	25.81%	44.56%	0.00%	0.00%	10.42%	0.00%	0.00%	5.90%	19.89	34.35	0.00	0.00	8.03	0.00	0.00	0.14
252H (topcoat) + Toluene	7.77	0.000708	3000	6.25%	78.46%	0.00%	0.00%	0.00%	0.00%	0.00%	1.46%	4.52	56.68	0.00	0.00	0.00	0.00	0.00	0.01
253H(topcoat) + Toluene	7.79	0.000708	3000	10.32%	74.79%	0.00%	0.00%	13.41%	0.00%	0.00%	2.42%	7.47	54.17	0.00	0.00	9.71	0.00	0.00	0.02
EP6788-50 + Toluene	7.78	0.000708	3000	31.63%	47.06%	0.00%	0.00%	0.50%	0.00%	0.00%	7.42%	22.88	34.04	0.00	0.00	0.36	0.00	0.00	0.22

Total State Potential Emissions 54.76 179.24 0.02 0.01 18.11 6.48 8.03 0.39

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

HAP Emission Calculations

Dip and Spin #2
Company Name: Ken-Koat, Inc.
Plant Location: 1605 River Fork Drive East, Huntington, IN. 46750
County: Tippecanoe
Permit Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Carbon tetrachloride	Weight % Trichloroethylene	Weight % Methyl Isobutyl Ketone	Weight % Methyl Ethyl Ketone	Weight % Ethyl Benzene	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Carbon tetrachloride Emissions (ton/yr)	Trichloroethylene Emissions (ton/yr)	Methyl Isobutyl Ketone Emissions (ton/yr)	Methyl Ethyl Ketone Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)
205A (primer) + MEK	7.28	0.00006	10000	0.00%	0.00%	0.10%	0.04%	0.00%	37.05%	47.28%	0.00%	0.00	0.00	0.02	0.01	0.00	7.09	9.05	0.00
220 (topcoat) + Toluene	8.29	0.000220	10000	25.81%	44.56%	0.00%	0.00%	10.42%	0.00%	0.00%	5.90%	20.62	35.60	0.00	0.00	8.32	0.00	0.00	0.15
252H (topcoat) + Toluene	7.77	0.000220	10000	6.25%	78.46%	0.00%	0.00%	0.00%	0.00%	0.00%	1.46%	4.68	58.74	0.00	0.00	0.00	0.00	0.00	0.01
253H(topcoat) + Toluene	7.79	0.000220	10000	10.32%	74.79%	0.00%	0.00%	0.00%	0.00%	0.00%	2.42%	7.75	56.14	0.00	0.00	0.00	0.00	0.00	0.02
EP6788-50 + Toluene	7.78	0.000220	10000	31.63%	47.06%	0.00%	0.00%	0.50%	0.00%	0.00%	7.42%	23.71	35.28	0.00	0.00	0.37	0.00	0.00	0.23

Total State Potential Emissions 56.76 185.76 0.02 0.01 8.70 7.09 9.05 0.41

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

HAP Emission Calculations

Dip and Spin #3
Company Name: Ken-Koat, Inc.
Plant Location: 1605 River Fork Drive East, Huntington, IN. 46750
County: Tippecanoe
Permit Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Toluene	Weight % Formaldehyde	Weight % Carbon tetrachloride	Weight % Trichloroethylene	Weight % Methyl Isobutyl Ketone	Weight % Methyl Ethyl Ketone	Weight % Ethyl Benzene	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Carbon tetrachloride Emissions (ton/yr)	Trichloroethylene Emissions (ton/yr)	Methyl Isobutyl Ketone Emissions (ton/yr)	Methyl Ethyl Ketone Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)
205A (primer) + MEK	7.28	0.00006	10000	0.00%	0.00%	0.10%	0.04%	0.00%	37.05%	47.28%	0.00%	0.00	0.00	0.02	0.01	0.00	7.09	9.05	0.00
220 (topcoat) + Toluene	8.29	0.000230	10000	25.81%	44.56%	0.00%	0.00%	10.42%	0.00%	0.00%	5.90%	21.55	37.21	0.00	0.00	8.70	0.00	0.00	0.15
252H (topcoat) + Toluene	7.77	0.000230	10000	6.25%	78.46%	0.00%	0.00%	0.00%	0.00%	0.00%	1.46%	4.89	61.41	0.00	0.00	0.00	0.00	0.00	0.01
253H(topcoat) + Toluene	7.79	0.000230	10000	10.32%	74.79%	0.00%	0.00%	0.00%	0.00%	0.00%	2.42%	8.10	58.69	0.00	0.00	0.00	0.00	0.00	0.03
EP6788-50 + Toluene	7.78	0.000230	10000	31.63%	47.06%	0.00%	0.00%	0.50%	0.00%	0.00%	7.42%	24.79	36.88	0.00	0.00	0.39	0.00	0.00	0.24

Total State Potential Emissions 59.34 194.20 0.02 0.01 9.09 7.09 9.05 0.42

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emission Calculations
 Natural Gas Combustion Only
 MM Btu/hr 0.3 - < 10
 Oven #2**

Company Name: Ken-Koat, Inc.
Address City IN Zip: 1605 River Fork Drive East, Huntington, IN. 46750
CP: 069-9246
Plt ID: 069-00018
Reviewer: NLJ
Date: 12/12/97

Heat Input Capacity
 MMBtu/hr

Potential Throughput
 MMCF/yr

0.7

6.1

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	11.9	11.9	0.6	100.0	5.3	21.0
Potential Emission in tons/yr	0.04	0.04	0.0	0.3	0.0	0.1

Methodology

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

VOC and Particulate
From Surface Coating Operations
Dip Conveyor #2
Company Name: Ken-Koat, Inc.
Address City IN Zip: 1605 River Fork Drive East, Huntington, IN. 46750
CP: 069-9246
Pit ID: 069-00018
Reviewer: NLJ
Date: 12/12/97

Material	Density (Lb/Gal)	Weight % Volatile (H2O& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	Ib VOC /gal solids	Transfer Efficiency
205A (primer) + MEK	7.30	85.31%	0.0%	85.3%	0.0%	11.44%	0.00018	4000.000	6.23	6.23	4.48	107.61	19.64	0.00	54.44	100%
220 (topcoat) + Toluene	8.54	82.44%	0.0%	82.4%	0.0%	6.10%	0.00033	4000.000	7.04	7.04	9.38	225.07	41.07	0.00	115.42	100%
233 (topcoat) + Toluene	8.63	83.17%	0.0%	83.2%	0.0%	14.31%	0.00033	4000.000	7.18	7.18	9.56	229.45	41.88	0.00	50.16	100%
234B (topcoat) + Toluene	8.35	82.23%	0.0%	82.2%	0.0%	12.43%	0.00033	4000.000	6.87	6.87	9.15	219.50	40.06	0.00	55.24	100%
236A (topcoat) + Toluene	8.08	88.41%	0.0%	88.4%	0.0%	8.60%	0.00033	4000.000	7.14	7.14	9.52	228.36	41.68	0.00	83.06	100%
250 (topcoat) + Toluene	8.81	82.00%	0.0%	82.0%	0.0%	14.75%	0.00033	4000.000	7.22	7.22	9.62	230.94	42.15	0.00	48.98	100%

State Potential Emissions

Add worst case coating to all solvents

51.71

1240.94

226.47

0.00

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (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)
Total = Worst Coating + Sum of all solvents used