

**NEW SOURCE CONSTRUCTION PERMIT  
and MINOR SOURCE OPERATING PERMIT  
OFFICE OF AIR MANAGEMENT**

**Rumpke of Indiana, LLC - Worthington Sanitary Landfill  
County Road 500  
Worthington, Indiana 46176**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1 if new source, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 055-11614-00036	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

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The Permittee owns and operates a stationary municipal solid waste sanitary landfill.

Authorized Individual: William J. Rumpke  
Source Address: County Road 500, Worthington, Indiana 46176  
Mailing Address: 10795 Hughes Road, Cincinnati, Ohio 45251-4598  
Phone Number: 513-851-0122, ext. 3162  
SIC Code: 4953  
County Location: Greene  
County Status: Attainment for all criteria pollutants  
Source Status: Minor Source Operating Permit  
Minor Source, under PSD Rules

### A.2 Emissions units and Pollution Control Equipment Summary

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This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) one (1) municipal solid waste sanitary landfill generating landfill gas, with a maximum design capacity of 2,358,000 megagrams (Mg), with passive venting of the landfill gas;
- (b) solid waste dumping operations;
- (c) unpaved landfill roadways;
- (d) one (1) 440,000 gallon leachate surface impoundment for leachate storage, with potential VOC emissions of less than 5 tons per year;
- (e) one (1) diesel on-road 15,000 gallon storage tank;
- (f) one (1) 10,000 gallon diesel off-road storage tank, dispensing less than 3,500 gallons of diesel per day;
- (g) one (1) 275 gallon garage furnace fuel oil storage tank, dispensing less than 3,500 gallons of fuel per day;
- (h) one (1) 550 gallon hydraulic oil storage tank;
- (i) one (1) 550 gallon motor oil storage tank;
- (j) one (1) 1,000 gallon waste motor oil storage tank;
- (k) one (1) 500 gallon waste motor oil furnace supply tank;
- (l) one (1) 275 gallon transmission oil storage tank;
- (m) three (3) propane storage tanks with maximum storage capacities of 300, 400, and 1,000 gallons, respectively;
- (n) one (1) garage propane furnace, rated at 0.15 million British thermal units (MMBtu) per hour;
- (o) one (1) office propane furnace, rated at 0.09 MMBtu per hour;
- (p) one (1) garage fuel oil-fired furnace, rated at 0.134 MMBtu per hour;
- (q) one (1) garage waste oil-fired furnace, rated at 0.196 MMBtu per hour;
- (r) one (1) diesel-fired pressure washer, rated at 385 Btu per minute;
- (s) one (1) gasoline-fired water pump, rated at 5 HP;
- (t) one (1) diesel-fired water pump, rated at 50 HP;
- (u) one (1) diesel-fired light plant, rated at 30 HP;
- (v) maintenance cold cleaner degreasers, with total annual solvent usage of less than 145 gallons;

- (w) maintenance drilling; and
- (x) maintenance light welding.

**SECTION B                      GENERAL CONDITIONS**

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

**B.1      Permit No Defense [IC 13]**

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This permit to operate 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      Definitions**

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

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

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

**B.4      Modification to Permit [326 IAC 2]**

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All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of operating permits pursuant to 326 IAC 2 (Permit Review Rules).

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

- (a) The total source potential to emit of all non-fugitive criteria pollutants is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit of non-fugitive pollutants to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

### C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (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 failure to implement the Preventive Maintenance Plan 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, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

### C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

#### C.4 Inspection and Entry [326 IAC 2-7-6(2)]

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Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

#### C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

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Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

#### C.6 Permit Revocation [326 IAC 2-1.1-9]

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Pursuant to 326 IAC 2-1.1-9 (Revocation), 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 this article.

**C.7 Opacity [326 IAC 5-1]**

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Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

**C.8 Fugitive Dust Emissions [326 IAC 6-4]**

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The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

**Testing Requirements**

**C.9 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]**

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- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in 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

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the “authorized individual” as defined by 326 IAC 2-1.1-1.

### **Compliance Monitoring Requirements**

#### **C.10 Compliance Monitoring [326 IAC 2-1.1-11]**

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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. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

#### **C.11 Monitoring Methods [326 IAC 3]**

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Any monitoring or testing required by Section D 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.

### **Record Keeping and Reporting Requirements**

#### **C.12 Malfunctions Report [326 IAC 1-6-2]**

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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]

#### **C.13 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]**

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- (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.14 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (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 for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (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 failure to implement the Preventive Maintenance Plan 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 when operation begins.

C.15 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (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 semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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) A malfunction as described in 326 IAC 1-6-2; 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 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.

C.16 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:  
  
Compliance Data Section, Office of Air Management  
Indiana Department of Environmental Management  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, IN 46206-6015
- (d) The notification 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.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

- (a) one (1) municipal solid waste sanitary landfill generating landfill gas, with a maximum design capacity of 2,358,000 megagrams (Mg), with passive venting of the landfill gas;
- (b) solid waste dumping operations; and
- (c) unpaved landfill roadways.

### Emission Limitations and Standards

#### D.1.1 Municipal Solid Waste Landfill NSPS [326 IAC 12] [40 CFR 60.752, Subpart WWW]

- (a) If there is an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion, then the landfill will become subject to Subpart WWW. Pursuant to 40 CFR 60.752(a), if the design capacity of the landfill is still less than 2.5 million megagrams (Mg) by mass, the Permittee will be required to submit an initial design capacity report within ninety (90) days after the date of the modification. Although not subject to this rule at the time, the Permittee submitted an initial design capacity report to IDEM, OAM on June 13, 1996.
- (b) If the design capacity of this landfill is increased to or above 2.5 million Mg, the following shall apply:
  - (1) Pursuant to 40 CFR 60.752(a)(1), an amended design capacity report shall be submitted to the Office of Air Management (OAM), pursuant to 40 CFR 60.757(a)(3), providing notification of any increase in the design capacity of the landfill, within ninety (90) days of an increase in the maximum design capacity of the landfill to or above 2.5 million Mg.
  - (2) Pursuant to 40 CFR 60.752(a)(2), the landfill shall comply with the provision of 40 CFR 60.752(b).
  - (3) The source shall be subject to 326 IAC 2-7 (Part 70 Permit Program) and shall apply for a Part 70 operating permit within twelve (12) months after this source becomes subject to Title V.

#### D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(c)]

The particulate matter (PM) emissions from the solid waste dumping operations shall not exceed 52.24 pounds per hour, when operating at a maximum process weight rate of 220,000 pounds per hour.

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40$$

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

### Compliance Determination Requirements

D.1.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

## SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

- (e) one (1) diesel on-road 15,000 gallon storage tank; and
- (v) maintenance cold cleaner degreasers, with total annual solvent usage of less than 145 gallons.

### Emission Limitations and Standards

#### D.2.1 Volatile Organic Compounds (VOCs) [326 IAC 12] [40 CFR 60.110b, Subpart Kb]

Pursuant to 40 CFR Part 60.110b, Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels), the one (1) 15,000 gallon diesel on-road storage tank, with a storage capacity less than 75 cubic meters, is subject to 40 CFR Part 60.116b, paragraphs (a) and (b), which require record keeping.

#### D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator of the maintenance cold cleaner degreasers shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) 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.

### Compliance Determination Requirement

#### D.2.3 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

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 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.

### Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

#### D.2.4 Record Keeping Requirements

- (a) To document compliance with Condition D.2.1, the Permittee shall maintain permanent records at the source in accordance with (1) and (2) below:

- (1) the dimension of the storage vessel; and
  - (2) an analysis showing the capacity of the storage vessel.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR MANAGEMENT  
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

<b>Company Name:</b>	<b>Rumpke of Indiana, LLC - Worthington Sanitary Landfill</b>
<b>Address:</b>	<b>County Road 500</b>
<b>City:</b>	<b>Worthington, Indiana 46176</b>
<b>Phone #:</b>	<b>513-851-0122, ext. 3162</b>
<b>MSOP #:</b>	<b>055-11614-00036</b>

I hereby certify that the Worthington Sanitary Landfill is  still in operation.  
 no longer in operation.

I hereby certify that the Worthington Sanitary Landfill is  in compliance with the requirements of MSOP **055-11614-00036**.  
 not in compliance with the requirements of MSOP **055-11614-00036**.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

<b>Noncompliance:</b>

**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 TONS/YEAR PARTICULATE MATTER ? \_\_\_\_\_, 25 TONS/YEAR SULFUR DIOXIDE ? \_\_\_\_\_, 25 TONS/YEAR NITROGEN OXIDES? \_\_\_\_\_, 25 TONS/YEAR VOC ? \_\_\_\_\_, 25 TONS/YEAR HYDROGEN SULFIDE ? \_\_\_\_\_, 25 TONS/YEAR TOTAL REDUCED SULFUR ? \_\_\_\_\_, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ? \_\_\_\_\_, 25 TONS/YEAR FLUORIDES ? \_\_\_\_\_, 100TONS/YEAR CARBON MONOXIDE ? \_\_\_\_\_, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ? \_\_\_\_\_, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ? \_\_\_\_\_, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ? \_\_\_\_\_, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ? \_\_\_\_\_. 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: \_\_\_\_\_ Rumpke of Indiana, LLC - Worthington Sanitary Landfill \_\_\_\_\_ PHONE NO. (513) 851-0122, ext. 3162  
LOCATION: (CITY AND COUNTY) \_\_\_\_\_ Worthington, Greene County \_\_\_\_\_  
PERMIT NO. \_\_\_\_\_ MSOP 055-11614 \_\_\_\_\_ AFS PLANT ID: \_\_\_\_\_ 055-00036 \_\_\_\_\_ AFS POINT ID: \_\_\_\_\_ INSP: \_\_\_\_\_ Marc Goldman  
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: \_\_\_\_\_

DATE/TIME MALFUNCTION STARTED: \_\_\_\_\_ / \_\_\_\_\_ / 20 \_\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_\_ / \_\_\_\_\_ / 20 \_\_\_\_\_ AM/PM

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

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2

**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. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

**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.

**\*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  
and Anderson Office of Air Management**

Addendum to the  
Technical Support Document for New Source Construction and  
Minor Source Operating Permit

Source Name: Rumpke of Indiana, LLC - Worthington Sanitary Landfill  
Source Location: County Road 500, Worthington, Indiana 46176  
County: Greene  
Operation Permit No.: 055-11614-00036  
SIC Code: 4953  
Permit Reviewer: Trish Earls/EVP

On May 11, 2000, the Office of Air Management (OAM) had a notice published in the Linton Daily Citizen, Linton, Indiana, stating that Rumpke of Indiana, LLC - Worthington Sanitary Landfill had applied for a permit to construct and operate a municipal solid waste sanitary landfill. 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 June 8, 2000, John Hattersley, of Rumpke of Indiana, LLC submitted comments on the proposed operating permit. The summary of the comments and corresponding responses is as follows:

**Comment #1**

Table of Contents, page 2  
Section A.3 - Part 70 Permit Applicability is listed in the Table of Contents but does not appear in the body of the permit.

**Response #1**

This was a typographical error in the Table of Contents. The reference to section A.3 has been removed from the Table of Contents.

**Comment #2**

Section C.6 - Permit Revocation (page 8)  
The regulatory citation should read 326 IAC 2-1.1-9; 326 IAC 2-1-9 has been repealed.

**Response #2**

Condition C.6 has been revised to read as follows (additions in bold, deletions in strikethrough):

C.6 Permit Revocation [~~326 IAC 2-1-9~~ **2-1.1-9**]  
Pursuant to 326 IAC ~~2-1-9(a)~~ **2-1.1-9** (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 this article.

### **Comment #3**

#### Section C.13 - Annual Emission Statement (page 10)

The methodology for calculating potential emissions for solid waste dumping and facility roadways by using maximum hourly rates and multiplying by 8760 hours per year, as shown in Appendix A to the Technical Support Document (TSD), results in the Worthington Sanitary Landfill exceeding its waste capacity of 2,559,206 tons (2,358,000 Mg). The Worthington Sanitary Landfill cannot accept any more waste than its capacity without receiving prior approval from IDEM Office of Land Quality. The remaining capacity is 508,103 tons, which is based upon waste in place as of January 1, 2000. The maximum potential annual waste throughput per Appendix A of the TSD is 963,600 tons. The solid waste dumping and facility roadway particulate matter (PM) emissions are a direct function of the solid waste received at the facility. The potential emissions should be based upon the remaining capacity of the landfill and not as shown in the TSD. Spreadsheets that calculate potential annual PM and PM-10 emission rates assuming the remaining capacity is filled in one year are attached to this letter. These spreadsheets show that the potential PM-10 emissions from solid waste dumping and roadways are 0.04 tons per year and 53.91 tons per year, respectively. The total facility potential PM-10 emissions are 55.17 tons per year, which is less than the annual emission reporting threshold of 100 tons per year. Thus, the annual emission reporting requirement is not applicable to the Worthington Sanitary Landfill and Rumpke proposes that this requirement be deleted from the draft permit. This comment will affect the Table of Contents (page 2), the Potential to Emit Table (page 2 of the TSD), the Limited Potential to Emit Table (page 3 of the TSD), the Source Status Table (page 4 of the TSD), State Rule Applicability: 326 IAC 2-6 - Emissions Reporting (page 5 of the TSD), and the Potential Emission Calculations (pages 1, 2, and 3 of Appendix A to the TSD).

### **Response #3**

Since the landfill cannot exceed its remaining capacity without prior approval from the Office of Land Quality, potential particulate matter emissions from solid waste dumping and transfer of the solid waste on unpaved plant roadways should be based on its remaining capacity. The PM and PM-10 emissions from solid waste dumping and unpaved roadways have been re-calculated based on the remaining landfill capacity of 508,103 tons (see Appendix A, pages 2 and 3 of 8). Based on these calculations, the source-wide potential PM-10 emissions are less than 100 tons per year (see Appendix A, page 1 of 8). Therefore, the source is not required to submit an annual emission statement pursuant to 326 IAC 2-6. The portion of the Potential To Emit section of the TSD, showing potential emissions of the criteria pollutants, now reads as follows:

Pollutant	Potential To Emit (tons/year)
Fugitive PM	<del>573.84</del> <b>256.89</b>
Non-fugitive PM	1.29
Fugitive PM-10	<del>120.86</del> <b>53.97</b>
Non-fugitive PM-10	1.22
SO <sub>2</sub>	1.53
VOC	10.70
CO	11.98
NO <sub>x</sub>	11.28

The Limited Potential To Emit table on page 3 of the TSD now reads as follows:

### Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Sanitary Landfill	0.0	0.0	0.0	9.34	0.0	0.0	7.39
Solid Waste Dumping (Fugitive)	<del>0.21</del> <b>0.11</b>	<del>0.10</del> <b>0.05</b>	0.0	0.0	0.0	0.0	0.0
Unpaved Roadways (Fugitive)	<del>286.80</del> <b>128.39</b>	<del>60.38</del> <b>26.96</b>	0.0	0.0	0.0	0.0	0.0
Combustion	1.29	1.22	1.53	1.36	11.98	11.28	negl.
<b>Total Emissions*</b>	<b>1.29</b>	<b>1.22</b>	<b>1.53</b>	<b>10.70</b>	<b>11.98</b>	<b>11.28</b>	<b>7.39</b>

\* Total PM and PM-10 emissions are non-fugitive PM emissions only.

The Source Status section on page 4 of the TSD now reads as follows:

### Source Status

New Source PSD 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)
Fugitive PM	<del>287.04</del> <b>128.50</b>
Non-fugitive PM	1.29
Fugitive PM10	<del>60.48</del> <b>27.01</b>
Non-fugitive PM10	1.22
SO <sub>2</sub>	1.53
VOC	10.70
CO	11.98
NO <sub>x</sub>	11.28
Single HAP	2.46
Combination HAPs	7.39

- (a) This new source is **not** a major stationary source because no attainment non-fugitive pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

The paragraph discussing the applicability of 326 IAC 2-6 in the State Rule Applicability - Entire Source section of the TSD is revised to read as follows:

#### 326 IAC 2-6 (Emission Reporting)

This source is **not** subject to 326 IAC 2-6 (Emission Reporting), because it ~~has~~ the potential to emit ~~more than one hundred (100) tons per year of PM-10~~ **of CO, VOC, NOx, PM-10, and SO<sub>2</sub>, are each less than one hundred (100) tons per year** (including fugitive emissions). Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The ~~submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).~~

Condition C.13 of the MSOP has been deleted since the source is not required to submit an annual emission statement. All subsequent conditions in section C of the MSOP have been re-numbered accordingly and the Table of Contents has been revised to reflect this change.

#### Comment #4

##### Section C.15(c)(4) - General Record keeping Requirements (page 12)

Rumpke proposes that the last two sentences regarding a Compliance Response Plan be removed. The wording implies that a Compliance Response Plan is required, whereas there is no specific requirement in the draft permit for preparation of a Compliance Response Plan or a Compliance Monitoring Plan.

#### Response #4

IDEM has agreed to delete the last two sentences of condition C.15 (c)(4) (now re-numbered C.14(c)(4)) since there are no compliance monitoring requirements in this permit. The revised condition C.14(c)(4) now reads as follows (deletions in ~~strikeout~~):

- (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan 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. ~~Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.~~

#### Comment #5

##### Section C.16(a) - General Reporting Requirements (page 13)

Rumpke proposes that the requirement for a Semi-annual Compliance Monitoring Report be removed since in the draft permit there are no specific requirements for a Compliance Response Plan or a Compliance Monitoring Plan, no specific compliance monitoring requirements in Parts C or D, no specific semi-annual compliance reporting requirements in Part D, and no Semi-annual Compliance Monitoring Report form is attached to the draft permit.

## **Response #5**

Since there are no compliance monitoring requirements in section D of the MSOP, submittal of the Semi-annual Compliance Monitoring Report is not required. Therefore, part (a) of condition C.16 (now re-numbered C.15) has been deleted. The revised condition now reads as follows (additions in bold, deletions in strikeout):

### **C.165 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]**

- ~~(a)~~ ~~To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~
- ~~(b)~~**(a)** The report required in ~~(a)~~ of this condition and ~~r~~**R**eports 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
- ~~(c)~~**(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.
- ~~(d)~~**(c)** Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- ~~(e)~~**(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) A malfunction as described in 326 IAC 1-6-2; 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 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.
- ~~(f)~~**(e)** Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

- ~~(g)~~(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.

### **Comment #6**

Section D.1.1(b) - Municipal Solid Waste Landfill NSPS (page 15)

The reference to transition from a federally enforceable state operating permit (FESOP) to a Title V facility under (c) should be deleted since the facility is not operating under a FESOP, but rather a MSOP. Therefore, Rumpke proposes that the last sentence under (c) be deleted. Also, the items in this section should be listed as (1), (2), and (3), instead of (a), (b), and (c).

### **Response #6**

Parts (a), (b), and (c) under part (b) of condition D.1.1 were incorrectly labeled in the draft permit. They should be labeled as items (1), (2), and (3). The last sentence of condition D.1.1(b) part (c) (now re-labeled as part (3)) has been deleted since this source is not operating under a FESOP. The revised condition D.1.1 now reads as follows (additions in bold, deletions in ~~strikeout~~):

#### D.1.1 Municipal Solid Waste Landfill NSPS [326 IAC 12] [40 CFR 60.752, Subpart WWW]

- (a) If there is an increase in the permitted volume design capacity of the landfill by either horizontal or vertical expansion, then the landfill will become subject to Subpart WWW. Pursuant to 40 CFR 60.752(a), if the design capacity of the landfill is still less than 2.5 million megagrams (Mg) by mass, the Permittee will be required to submit an initial design capacity report within ninety (90) days after the date of the modification. Although not subject to this rule at the time, the Permittee submitted an initial design capacity report to IDEM, OAM on June 13, 1996.
- (b) If the design capacity of this landfill is increased to or above 2.5 million Mg, the following shall apply:
- ~~(a)~~(1) Pursuant to 40 CFR 60.752(a)(1), an amended design capacity report shall be submitted to the Office of Air Management (OAM), pursuant to 40 CFR 60.757(a)(3), providing notification of any increase in the design capacity of the landfill, within ninety (90) days of an increase in the maximum design capacity of the landfill to or above 2.5 million Mg.
- ~~(b)~~(2) Pursuant to 40 CFR 60.752(a)(2), the landfill shall comply with the provision of 40 CFR 60.752(b).
- ~~(c)~~(3) The source shall be subject to 326 IAC 2-7 (Part 70 Permit Program) and shall apply for a Part 70 operating permit within twelve (12) months after this source becomes subject to Title V. ~~The source may apply for a Part 70 operating permit and revocation of its FESOP under the provisions of 326 IAC 2-8-19 (Transition from a FESOP to a Part 70 Permit).~~

### **Comment #7**

Malfunction Report (page 20)

The date prefix under the "Date/Time Control Equipment Back-In Service" box should be changed from "19" to "20."

### **Response #7**

The date prefix in the "Date/Time Control Equipment Back-In Service" box on the Malfunction Report has been changed from "19" to "20".

## Indiana Department of Environmental Management Office of Air Management

### Technical Support Document (TSD) for a New Source Construction and Minor Source Operating Permit

#### Source Background and Description

**Source Name:** Rumpke of Indiana, LLC - Worthington Sanitary Landfill  
**Source Location:** County Road 500, Worthington, Indiana 46176  
**County:** Greene  
**SIC Code:** 4953  
**Operation Permit No.:** 055-11614-00036  
**Permit Reviewer:** Trish Earls/EVP

The Office of Air Management (OAM) has reviewed an application from Rumpke of Indiana, LLC relating to the construction and operation of a municipal solid waste sanitary landfill.

#### Permitted Emission Units and Pollution Control Equipment

There are no permitted facilities operating at this source during this review process. The following emission units are exempt from permitting requirements pursuant to 326 IAC 2-1.1-3 (Exemptions):

- (a) one (1) 440,000 gallon leachate surface impoundment for leachate storage, with potential VOC emissions of less than 5 tons per year;
- (b) one (1) diesel on-road 15,000 gallon storage tank;
- (c) one (1) 10,000 gallon diesel off-road storage tank, dispensing less than 3,500 gallons of diesel per day;
- (d) one (1) 275 gallon garage furnace fuel oil storage tank, dispensing less than 3,500 gallons of fuel per day;
- (e) one (1) 550 gallon hydraulic oil storage tank;
- (f) one (1) 550 gallon motor oil storage tank;
- (g) one (1) 1,000 gallon waste motor oil storage tank;
- (h) one (1) 500 gallon waste motor oil furnace supply tank;
- (i) one (1) 275 gallon transmission oil storage tank;
- (j) three (3) propane storage tanks with maximum storage capacities of 300, 400, and 1,000 gallons, respectively;
- (k) one (1) garage propane furnace, rated at 0.15 million British thermal units (MMBtu) per hour;
- (l) one (1) office propane furnace, rated at 0.09 MMBtu per hour;
- (m) one (1) garage fuel oil-fired furnace, rated at 0.134 MMBtu per hour;
- (n) one (1) garage waste oil-fired furnace, rated at 0.196 MMBtu per hour;
- (o) one (1) diesel-fired pressure washer, rated at 385 Btu per minute;
- (p) one (1) gasoline-fired water pump, rated at 5 HP;
- (q) one (1) diesel-fired water pump, rated at 50 HP;
- (r) one (1) diesel-fired light plant, rated at 30 HP;
- (s) maintenance cold cleaner degreasers, with total annual solvent usage of less than 145 gallons;
- (t) maintenance drilling; and

- (u) maintenance light welding.

### Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

- (a) one (1) municipal solid waste sanitary landfill generating landfill gas, with a maximum design capacity of 2,358,000 megagrams (Mg), with passive venting of the landfill gas;
- (b) solid waste dumping operations; and
- (c) unpaved landfill roadways.

### Enforcement Issue

The solid waste landfill, associated solid waste dumping operations, and associated unpaved roadways have potential emissions greater than 25 tons per year of PM and PM-10. Therefore, this existing source was required to submit an MSOP application no later than December 27, 1999. A complete application for the purposes of this review was received on November 30, 1999. Therefore the existing source is in compliance with this rule.

There are no enforcement actions pending.

### Recommendation

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

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

A complete application for the purposes of this review was received on November 30, 1999.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (8 pages).

### Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
Fugitive PM	573.81
Non-fugitive PM	1.29
Fugitive PM-10	120.86
Non-fugitive PM-10	1.22
SO <sub>2</sub>	1.53
VOC	10.70
CO	11.98
NO <sub>x</sub>	11.28

HAP's	Potential To Emit (tons/year)
Acrylonitrile	less than 10
Dichloromethane	less than 10
Perchloroethylene	less than 10
Toluene	less than 10
Xylene	less than 10
TOTAL	less than 25

Note: Due to the large number of HAPs emitted by this source, only the five HAPs with the highest potential emissions were shown here. For more detailed HAP emission calculations see page 5 of Appendix A.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM and PM-10 are equal to or greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-5.1-3, Section (a)(1), and 326 IAC 2-6.1-2, a construction and operating permit is required.
- (b) **Fugitive Emissions**  
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**Actual Emissions**

No previous emission data has been received from the source.

**Limited Potential to Emit**

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Limited Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Sanitary Landfill	0.0	0.0	0.0	9.34	0.0	0.0	7.39
Solid Waste Dumping (Fugitive)	0.21	0.10	0.0	0.0	0.0	0.0	0.0
Unpaved Roadways (Fugitive)	286.80	60.38	0.0	0.0	0.0	0.0	0.0
Combustion	1.29	1.22	1.53	1.36	11.98	11.28	negl.
<b>Total Emissions*</b>	<b>1.29</b>	<b>1.22</b>	<b>1.53</b>	<b>10.70</b>	<b>11.98</b>	<b>11.28</b>	<b>7.39</b>

\* Total PM and PM-10 emissions are non-fugitive PM emissions only.

**County Attainment Status**

The source is located in Greene County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Greene County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Greene County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
 Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**Source Status**

New Source PSD 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)
Fugitive PM	287.01
Non-fugitive PM	1.29
Fugitive PM10	60.48
Non-fugitive PM10	1.22
SO <sub>2</sub>	1.53
VOC	10.70
CO	11.98
NO <sub>x</sub>	11.28
Single HAP	2.46
Combination HAPs	7.39

- (a) This new source is **not** a major stationary source because no attainment non-fugitive pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. 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 new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each non-fugitive criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and

- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

### **Federal Rule Applicability**

- (a) The municipal solid waste sanitary landfill is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.750 through 60.759, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills) because the landfill was constructed prior to May 30, 1991, and was not modified since then.
- (b) The municipal solid waste sanitary landfill is subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.30c through 60.36c, Subpart Cc, Emissions Guidelines and Compliance Times for Municipal Solid Waste Landfills) because it was constructed prior to May 30, 1991. However, since the landfill has a design capacity less than 2.5 million megagrams it is not subject to the requirement to obtain an operating permit for the landfill under part 70, unless the landfill is otherwise subject to part 70. Also, pursuant to 40 CFR 60.33c, this landfill is not subject to the emission guidelines of this subpart because it has a design capacity less than 2.5 million megagrams and has a nonmethane organic compound emission rate of less than 50 megagrams per year.
- (c) The one (1) 15,000 gallon diesel on-road storage tank is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.11b, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels" since the tank, which was constructed in 1988, was constructed after July 23, 1984, and has a storage capacity of greater than 40 cubic meters. However, since the tank has a storage capacity less than 75 cubic meters, it is subject to only 40 CFR Part 60.116b, paragraphs (a) and (b) which require record keeping.
- (d) The one (1) 10,000 gallon diesel off-road storage tank is not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.11b, Subpart Kb) "Standards of Performance for Volatile Organic Liquid Storage Vessels" because the tank has a storage capacity of less than 40 cubic meters.
- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

### **State Rule Applicability - Entire Source**

#### **326 IAC 2-6 (Emission Reporting)**

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM-10 (including fugitive emissions). Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8)(Emission Statement Operating Year).

#### **326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen

(15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**326 IAC 6-4 (Fugitive Dust Emissions)**

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

**State Rule Applicability - Individual Facilities**

**326 IAC 6-3-2 (Process Operations)**

The particulate matter (PM) emissions from the solid waste dumping operation shall not exceed 52.24 pounds per hour, based on a maximum solid waste throughput of 110 tons per hour. This emission limit is based on the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Potential PM emissions from this operation are less than the 326 IAC 6-3-2 allowable emission rate. Therefore, this operation is in compliance with this rule.

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

This rule applies to facilities constructed after January 1, 1980, with potential VOC emissions greater than or equal to 25 tons per year. The sanitary landfill is not subject to this rule because it has potential VOC emissions less than 25 tons per year.

**326 IAC 8-3-2 (Cold Cleaner Operations)**

The maintenance cold cleaner degreasers are subject to the requirements of this rule because the degreasers were constructed after January 1, 1980 and are cold cleaner degreasers with remote solvent reservoirs. Pursuant to 326 IAC 8-3-2, the owner or operator of the maintenance cold cleaner degreasers shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) 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.

**Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous

air pollutants (HAPs) 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 source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.
- (b) See attached calculations for detailed air toxic calculations. (Appendix A, page 5 of 8)

### **Conclusion**

The construction and operation of this municipal solid waste sanitary landfill shall be subject to the conditions of the attached proposed **New Source Construction and Minor Source Operating Permit 055-11614-00036**.

## Appendix A: Emission Calculations Summary

**Company Name:** Rumpke of Indiana, LLC  
**Address City IN Zip:** County Road 500, Worthington, Indiana 46176  
**Operating Permit No.:** 055-11614  
**Pit ID:** 055-00036  
**Reviewer:** Trish Earls  
**Date:** November 30, 1999

<b>Potential Emissions (tons/year)</b>				
Pollutant	Emissions Generating Activity			<b>TOTAL</b>
	Material Handling and Unpaved Roadways	Sanitary Landfill	Combustion	
PM*	256.89	0.00	1.29	258.18
PM10	53.97	0.00	1.22	55.19
SO2	0.00	0.00	1.53	1.53
NOx	0.00	0.00	11.28	11.28
VOC	0.00	9.34	1.36	10.70
CO	0.00	0.00	11.98	11.98
total HAPs**	0.00	7.39	negl.	7.39
worst case single HAP***	0.00	2.46	negl.	2.46
Total emissions based on rated capacity at 8,760 hours/year.				
<b>Controlled Emissions (tons/year)</b>				
Pollutant	Emissions Generating Activity			<b>TOTAL</b>
	Material Handling and Unpaved Roadways	Sanitary Landfill	Combustion	
PM*	128.50	0.00	1.29	129.79
PM10	27.01	0.00	1.22	28.23
SO2	0.00	0.00	1.53	1.53
NOx	0.00	0.00	11.28	11.28
VOC	0.00	9.34	1.36	10.70
CO	0.00	0.00	11.98	11.98
total HAPs**	0.00	7.39	negl.	7.39
worst case single HAP***	0.00	2.46	negl.	2.46
Unpaved roadway emissions are controlled by watering with a 50% control efficiency.				

**Appendix A: Emission Calculations  
Particulate Matter Emissions**

**Company Name:** Rumpke of Indiana, LLC  
**Address City IN Zip:** County Road 500, Worthington, Indiana 46176  
**Operating Permit No.:** 055-11614  
**Plt ID:** 055-00036  
**Reviewer:** Trish Earls  
**Date:** November 30, 1999

Note: The following emission calculations represent the maximum potential uncontrolled PM and PM10 emissions based on a maximum refuse acceptance rate of 65 tons per hour.

**Solid Waste Dumping Operations**

The following calculations determine the amount of emissions created by solid waste dumping, based on 8,760 hours of use and AP-42, Section 13.2.4, Equation 1. The emission factor for calculating PM emissions is calculated as follows:

PM-10 Emissions:

$$E = k \cdot (0.0032)^{((U/5)^{1.3}) / ((M/2)^{1.4})}$$

$$= 2.08E-04 \text{ lb PM-10/ton}$$

$$= 4.40E-04 \text{ lb PM/ton}$$

where k = 0.35 (particle size multiplier for <10um)  
 0.74 (particle size multiplier for <30um)

U = 12 mph mean wind speed  
 M = 15.0 average material moisture content (%)

**Max. Refuse Acceptance:**  $\frac{508,103 \text{ ton/yr}}{2,000 \text{ lb/ton}} \cdot E_f \text{ (lb/ton of material)} = \text{(ton/yr)}$

**Total PM 10 Emissions: 0.05 tons/yr**  
**Total PM Emissions: 0.11 tons/yr**

**Unpaved Roadways**

I. Public Hauler

$$1,784 \text{ trip/yr} \times 0.5 \text{ mile/trip} \times 2 \text{ (round trip)} = 1784 \text{ miles per year}$$

$$E_f = k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M/0.2)^c] \cdot [(365-p)/365] \cdot (S/15)$$

$$= 0.60 \text{ lb PM-10/mile}$$

$$= 2.21 \text{ lb PM/mile}$$

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
 s = 6.4 mean % silt content of unpaved roads  
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
 W = 2 tons average vehicle weight  
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
 S = 10.0 mph speed limit  
 p = 120.0 number of days with at least 0.01 in. of precipitation per year

**PM-10:**  $\frac{0.60 \text{ lb/mi} \times 1784 \text{ mi/yr}}{2000 \text{ lb/ton}} = \mathbf{0.53 \text{ tons/yr}}$

**PM:**  $\frac{2.21 \text{ lb/mi} \times 1784 \text{ mi/yr}}{2000 \text{ lb/ton}} = \mathbf{1.97 \text{ tons/yr}}$

II. Landfill Owned/Industrial Haulers

$$50,348 \text{ trip/yr} \times 0.5 \text{ mile/trip} \times 2 \text{ (round trip)} = 50,348 \text{ miles per year}$$

$$E_f = k \cdot [(s/12)^{0.8}] \cdot [(W/3)^b] / [(M/0.2)^c] \cdot [(365-p)/365] \cdot (S/15)$$

$$= 1.67 \text{ lb PM-10/mile}$$

$$= 7.97 \text{ lb PM/mile}$$

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
 s = 6.4 mean % silt content of unpaved roads  
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
 W = 26 tons average vehicle weight  
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
 S = 10.0 mph speed limit  
 p = 120.0 number of days with at least 0.01 in. of precipitation per year

**PM-10:**  $\frac{1.67 \text{ lb/mi} \times 50348 \text{ mi/yr}}{2000 \text{ lb/ton}} = \mathbf{42.02 \text{ tons/yr}}$

**PM:**  $\frac{7.97 \text{ lb/mi} \times 50348 \text{ mi/yr}}{2000 \text{ lb/ton}} = \mathbf{200.57 \text{ tons/yr}}$

**Appendix A: Emission Calculations  
Particulate Matter Emissions (cont'd)**

**Unpaved Roadways (cont'd)**

III. Municipal Haulers

$$5,694 \text{ trip/yr} \times 0.5 \text{ mile/trip} \times 2 \text{ (round trip)} = 5694 \text{ miles per year}$$

$$E_f = k \left[ \frac{s}{12} \right]^{0.8} \left[ \frac{W}{3} \right]^b \left[ \frac{M}{0.2} \right]^c \left[ \frac{365-p}{365} \right] \left( \frac{S}{15} \right)$$

$$= 1.67 \text{ lb PM-10/mile}$$

$$= 7.97 \text{ lb PM/mile}$$

- where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
 s = 6.4 mean % silt content of unpaved roads  
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
 W = 26 tons average vehicle weight  
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
 S = 10.0 mph speed limit  
 p = 120.0 number of days with at least 0.01 in. of precipitation per year

$$\text{PM-10: } \frac{1.67 \text{ lb/mi} \times 5694 \text{ mi/yr}}{2000 \text{ lb/ton}} = 4.75 \text{ tons/yr}$$

$$\text{PM: } \frac{7.97 \text{ lb/mi} \times 5694 \text{ mi/yr}}{2000 \text{ lb/ton}} = 22.68 \text{ tons/yr}$$

IV. Commercial Haulers

$$7,134 \text{ trip/yr} \times 0.5 \text{ mile/trip} \times 2 \text{ (round trip)} = 7,134 \text{ miles per year}$$

$$E_f = k \left[ \frac{s}{12} \right]^{0.8} \left[ \frac{W}{3} \right]^b \left[ \frac{M}{0.2} \right]^c \left[ \frac{365-p}{365} \right] \left( \frac{S}{15} \right)$$

$$= 1.67 \text{ lb PM-10/mile}$$

$$= 7.97 \text{ lb PM/mile}$$

- where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
 s = 6.4 mean % silt content of unpaved roads  
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
 W = 26 tons average vehicle weight  
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
 S = 10.0 mph speed limit  
 p = 120.0 number of days with at least 0.01 in. of precipitation per year

$$\text{PM-10: } \frac{1.67 \text{ lb/mi} \times 7134 \text{ mi/yr}}{2000 \text{ lb/ton}} = 5.95 \text{ tons/yr}$$

$$\text{PM: } \frac{7.97 \text{ lb/mi} \times 7134 \text{ mi/yr}}{2000 \text{ lb/ton}} = 28.42 \text{ tons/yr}$$

V. Leachate Haulers

$$2 \text{ trip/day} \times 0.54 \text{ mile/trip} \times 2 \text{ (round trip)} \times 365 \text{ days/yr} = 788.4 \text{ miles per year}$$

$$E_f = k \left[ \frac{s}{12} \right]^{0.8} \left[ \frac{W}{3} \right]^b \left[ \frac{M}{0.2} \right]^c \left[ \frac{365-p}{365} \right] \left( \frac{S}{15} \right)$$

$$= 1.67 \text{ lb PM-10/mile}$$

$$= 7.97 \text{ lb PM/mile}$$

- where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
 s = 6.4 mean % silt content of unpaved roads  
 b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
 c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
 W = 26 tons average vehicle weight  
 M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
 S = 10.0 mph speed limit  
 p = 120.0 number of days with at least 0.01 in. of precipitation per year

$$\text{PM-10: } \frac{1.67 \text{ lb/mi} \times 788.4 \text{ mi/yr}}{2000 \text{ lb/ton}} = 0.66 \text{ tons/yr}$$

$$\text{PM: } \frac{7.97 \text{ lb/mi} \times 788.4 \text{ mi/yr}}{2000 \text{ lb/ton}} = 3.14 \text{ tons/yr}$$

**Total Potential Emissions from Unpaved Roadways: PM-10: 53.92 tons/yr**

**PM: 256.78 tons/yr**

**Total Controlled Emissions from Unpaved Roadways: PM-10: 26.96 tons/yr**

**PM: 128.39 tons/yr**

Note: Controlled Unpaved Roadway emissions include a 50% PM control efficiency from watering of roadways.

Unpaved Roadways (cont'd)

III. Municipal Haulers

5,694 trip/yr x  
0.5 mile/trip x  
2 (round trip ) = 5694 miles per year

$$E_f = k \cdot \left[ \frac{s}{12} \right]^{0.8} \cdot \left[ \frac{W}{3} \right]^b \cdot \left[ \frac{M}{0.2} \right]^c \cdot \left[ \frac{(365-p)}{365} \right] \cdot \left[ \frac{S}{15} \right]$$

= 1.67 lb PM-10/mile  
= 7.97 lb PM/mile

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
s = 6.4 mean % silt content of unpaved roads  
b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
W = 26 tons average vehicle weight  
M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
S = 10.0 mph speed limit  
p = 120.0 number of days with at least 0.01 in. of precipitation per year

PM-10:  $\frac{1.67 \text{ lb/mi} \times 5694 \text{ mi/yr}}{2000 \text{ lb/ton}} = 4.75 \text{ tons/yr}$

PM:  $\frac{7.97 \text{ lb/mi} \times 5694 \text{ mi/yr}}{2000 \text{ lb/ton}} = 22.68 \text{ tons/yr}$

IV. Commercial Haulers

7,134 trip/yr x  
0.5 mile/trip x  
2 (round trip ) = 7,134 miles per year

$$E_f = k \cdot \left[ \frac{s}{12} \right]^{0.8} \cdot \left[ \frac{W}{3} \right]^b \cdot \left[ \frac{M}{0.2} \right]^c \cdot \left[ \frac{(365-p)}{365} \right] \cdot \left[ \frac{S}{15} \right]$$

= 1.67 lb PM-10/mile  
= 7.97 lb PM/mile

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
s = 6.4 mean % silt content of unpaved roads  
b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
W = 26 tons average vehicle weight  
M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
S = 10.0 mph speed limit  
p = 120.0 number of days with at least 0.01 in. of precipitation per year

PM-10:  $\frac{1.67 \text{ lb/mi} \times 7134 \text{ mi/yr}}{2000 \text{ lb/ton}} = 5.95 \text{ tons/yr}$

PM:  $\frac{7.97 \text{ lb/mi} \times 7134 \text{ mi/yr}}{2000 \text{ lb/ton}} = 28.42 \text{ tons/yr}$

V. Leachate Haulers

2 trip/day x  
0.54 mile/trip x  
2 (round trip ) x  
365 days/yr = 788.4 miles per year

$$E_f = k \cdot \left[ \frac{s}{12} \right]^{0.8} \cdot \left[ \frac{W}{3} \right]^b \cdot \left[ \frac{M}{0.2} \right]^c \cdot \left[ \frac{(365-p)}{365} \right] \cdot \left[ \frac{S}{15} \right]$$

= 1.67 lb PM-10/mile  
= 7.97 lb PM/mile

where k = 2.6 (particle size multiplier for PM-10) (k=10 for PM-30 or TSP)  
s = 6.4 mean % silt content of unpaved roads  
b = 0.4 Constant for PM-10 (b = 0.5 for PM-30 or TSP)  
c = 0.3 Constant for PM-10 (c = 0.4 for PM-30 or TSP)  
W = 26 tons average vehicle weight  
M = 0.2 surface material moisture content, % (default is 0.2 for dry conditions)  
S = 10.0 mph speed limit  
p = 120.0 number of days with at least 0.01 in. of precipitation per year

PM-10:  $\frac{1.67 \text{ lb/mi} \times 788.4 \text{ mi/yr}}{2000 \text{ lb/ton}} = 0.66 \text{ tons/yr}$

PM:  $\frac{7.97 \text{ lb/mi} \times 788.4 \text{ mi/yr}}{2000 \text{ lb/ton}} = 3.14 \text{ tons/yr}$

Total Potential Emissions from Unpaved Roadways: PM-10: 53.92 tons/yr

PM: 256.78 tons/yr

Total Controlled Emissions from Unpaved Roadways: PM-10: 26.96 tons/yr

PM: 128.39 tons/yr

Note: Controlled Unpaved Roadway emissions include a 50% PM control efficiency from watering of roadways.

## Appendix A: Emission Calculations VOC Emissions

**Company Name:** Rumpke of Indiana, LLC  
**Address City IN Zip:** County Road 500, Worthington, Indiana 46176  
**Operating Permit No.:** 055-11614  
**Plt ID:** 055-00036  
**Reviewer:** Trish Earls  
**Date:** November 30, 1999

### Sanitary Landfill

Landfill Capacity: 2,358,000 Mg (from Design Capacity Report)  
 1996 Refuse Acceptance Rate: 137,787 tons/yr (Provided by Rumpke)  
 1997 Refuse Acceptance Rate: 112,626 tons/yr (Provided by Rumpke)  
 1998 Refuse Acceptance Rate: 135,457 tons/yr (Provided by Rumpke)  
 Refuse In Place: 1,670,061 Mg (Based on refuse in place as of 1996 from design capacity report, and actual waste acceptance rates from 1996, 1997, and 1998.)

Lo: 100.0 m<sup>3</sup>/Mg  
 k: 0.04 /yr  
 NMOC: 595.0 ppmv  
 Methane: 50% by volume

Pollutant	Potential Emissions*	
	(Mg/yr)	(Tons/yr)
Methane	4941.00	5444.98
NMOC	31.60	34.82
OC (Methane + NMOC)	4972.60	5479.80
<b>Non-VOC Pollutants</b>		
1,1,1-Trichloroethane	0.04	0.04
Acetone	0.25	0.28
Dichloromethane	0.75	0.83
Ethane	20.47	22.56
Methane	4941.00	5444.98
Perchloroethylene	0.38	0.42
Dichlorodifluoromethane	1.17	1.29
Chlorodifluoromethane	0.06	0.07
<b>Total Non-VOC</b>	<b>4964.12</b>	<b>5470.46</b>
<b>Total VOC</b>	<b>8.48</b>	<b>9.34</b>

#### Methodology:

\* Maximum values based on USEPA Landfill Gas Emissions Model (version 2.01), AP-42 defaults for Lo, k, NMOC concentration for landfill sites with no co-disposal of industrial waste, and individual compound concentrations.

## Appendix A: Emission Calculations HAP Emissions

**Company Name:** Rumpke of Indiana, LLC  
**Address City IN Zip:** County Road 500, Worthington, Indiana 46176  
**Operating Permit No.:** 055-11614  
**Pit ID:** 055-00036  
**Reviewer:** Trish Earls  
**Date:** November 30, 1999

### Sanitary Landfill

Landfill Capacity: 2,358,000 Mg (from Design Capacity Report)  
 1996 Refuse Acceptance Rate: 137,787 tons/yr (Provided by Rumpke)  
 1997 Refuse Acceptance Rate: 112,626 tons/yr (Provided by Rumpke)  
 1998 Refuse Acceptance Rate: 135,457 tons/yr (Provided by Rumpke)  
 Refuse In Place: 1,670,061 Mg (Based on refuse in place as of 1996 from design capacity report, and actual waste acceptance rates from 1996, 1997, and 1998.)

Lo: 100.0 m<sup>3</sup>/Mg  
 k: 0.04 /yr  
 NMOC: 595.0 ppmv  
 Methane: 50% by volume

Pollutant	Potential Emissions*	
	(Mg/yr)	(Tons/yr)
1,1,1-Trichloroethane	0.04	0.04
1,1,2,2-Tetrachloroethane	0.11	0.12
1,1,2-Trichloroethane	0.01	0.01
1,1-Dichloroethane	0.14	0.15
1,1-Dichloroethene	0.01	0.01
1,2-Dichloroethane	0.02	0.02
1,2-Dichloropropane	0.01	0.01
Acrylonitrile	0.38	0.42
Benzene	0.09	0.10
Carbon Disulfide	0.03	0.03
Carbon Tetrachloride	3.8E-03	4.2E-03
Carbonyl Sulfide	0.02	0.02
Chlorobenzene	0.02	0.02
Chloroethane	0.05	0.06
Chloroform	1.4E-03	1.5E-03
Chloromethane	0.04	0.04
Dichlorobenzene	0.02	0.02
Dichloromethane	0.75	0.83
Ethylbenzene	0.30	0.33
Ethylene Dibromide	1.2E-04	1.3E-04
Hexane	0.35	0.39
Mercury	0.01	0.01
Methyl Ethyl Ketone	0.32	0.35
Methyl Isobutyl Ketone	0.07	0.08
Perchloroethylene	0.38	0.42
Toluene	2.23	2.46
Trichloroethene	0.23	0.25
Vinyl Chloride	0.28	0.31
Xylene	0.79	0.87
<b>Total HAP</b>	<b>6.70</b>	<b>7.39</b>

#### Methodology:

\* Maximum values based on USEPA Landfill Gas Emissions Model (version 2.01), AP-42 defaults for Lo, k, NMOC concentration for landfill sites with no co-disposal of industrial waste, and individual compound concentrations.

**Appendix A: Emissions Calculations**  
**Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)**  
**#1 and #2 Fuel Oil**

**Company Name:** Rumpke of Indiana, LLC  
**Address City IN Zip:** County Road 500, Worthington, Indiana 46176  
**Operating Permit No.:** 055-11614  
**Plt ID:** 055-00036  
**Reviewer:** Trish Earls  
**Date:** November 30, 1999

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur <input type="text" value="0.5"/>
<input type="text" value="0.134"/>	8.38457143	

Heat Input Capacity includes: one (1) garage fuel oil furnace.

Emission Factor in lb/kgal	Pollutant					
	PM*	PM-10**	SO2	NOx	VOC	CO
	2.0	3.3	71 (142.0S)	20.0	0.34	5.0
Potential Emission in tons/yr	0.01	0.01	0.30	0.08	0.00	0.02

\*\* PM-10 emission factor is for filterable and condensible PM.

**Methodology**

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

\*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

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

**Appendix A: Emissions Calculations  
Waste Oil Combustion  
Space Heater-Atomizing Burner**

**Company Name:** Rumpke of Indiana, LLC  
**Address City IN Zip:** County Road 500, Worthington, Indiana 46176  
**Operating Permit No.:** 055-11614  
**Plt ID:** 055-00036  
**Reviewer:** Trish Earls  
**Date:** November 30, 1999

Heat Input Capacity  
MMBtu/hr  
  
0.196

Potential Throughput  
kgals/year  
  
12.3522302

A = Weight % Ash =	1.2
L = Weight % Lead =	0.21
S = Weight % Sulfur =	0.75

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	SO2	NOx	TOC	CO	Pb
	79.20 (66A)	68.40 (57A)	80.25 (107S)	16.00	1.00	2.10	10.50 (50L)
Potential Emission in tons/yr	0.49	0.42	0.50	0.10	0.01	0.01	0.06

\*No information was given in AP-42 regarding whether the PM/PM10 emission factors included filterable and condensable PM.

**Methodology**

Emission Factor Units are lb/1000 gal

A = weight% ash in fuel, L = weight% lead in fuel, S = weight % sulfur in fuel

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MM Btu

Emission Factors from AP-42, Chapter 1.11 SCC 1-05-001-13 and 1-05-002-13 (Supplement B 10/96)

Emission (tons/yr) = Throughput kgals per year x Emission Factor (lb/kgal)/2,000 lb/ton

**Appendix A: Emission Calculations  
Internal Combustion Engines**

**Company Name:** Rumpke of Indiana, LLC  
**Address City IN Zip:** County Road 500, Worthington, Indiana 46176  
**Operating Permit No.:** 055-11614  
**Pit ID:** 055-00036  
**Reviewer:** Trish Earls  
**Date:** November 30, 1999

**A. Emissions calculated based on output rating (hp)**

Heat Input Capacity                      Potential Throughput  
Horsepower (hp)                              hp-hr/yr

80.0    700800.0

Heat Input Capacity includes: one (1) 50 HP diesel-fired water pump and one (1) 30 HP diesel-fired light plant.

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.0022	0.0022	0.0021	0.0310	0.0025	0.0067	
Potential Emission in tons/yr	0.77	0.77	0.72	10.86	0.88	2.34

**Methodology**

Potential Throughput (hp-hr/yr) = hp \* 8760 hr/yr

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Emission (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

\*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**B. Emissions calculated based on output rating (hp) for units firing gasoline**

Heat Input Capacity                      Potential Throughput  
Horsepower (hp)                              hp-hr/yr

5.0    43800.0

Heat Input Capacity includes: one (1) 5 HP gasoline-fired water pump.

Emission Factor in lb/hp-hr	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.0007	0.0007	0.0006	0.0110	0.0216	0.4390	
Potential Emissions in tons/yr	0.02	0.02	0.01	0.24	0.47	9.61

**Methodology**

Potential Throughput (hp-hr/yr) = hp \* 8760 hr/yr

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2

Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

\*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.