



State of Ohio Environmental Protection Agency

**RE: PERMIT TO INSTALL
MEDINA COUNTY**

CERTIFIED MAIL

Street Address:

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:
Lazarus Gov.
Center

Application No: 16-1921

DATE: May 12, 1999

Owens Corning - Medina Roofing & Asphalt Plant
Brian Thomas
890 West Smith Road
Medina, OH 44256

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

cc: USEPA
AKRON REGIONAL AIR QUALITY MGMT



**Permit To Install
Terms and
Conditions**

**Issue Date: May 12, 1999
Effective Date: May 12, 1999**

PERMIT TO INSTALL 16-1921

Application Number: 16-1921
APS Premise Number: 1652050040
Permit Fee: **\$1,000.00**
Name of Facility: Owens Corning - Medina Roofing & Asphalt Plant
Person to Contact: Brian Thomas
Address: 890 West Smith Road
Medina, OH 44256

Location of proposed air contaminant source(s) [emissions unit(s)]:
**890 West Smith Road
Medina, OHIO**

Description of proposed emissions unit(s):
ASPHALT LOADING RACK #4 WITH A THERMAL INCINERATOR.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. These quarterly written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the

submission of monitoring reports every six months and OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of all deviations except malfunctions, which shall be reported in accordance with OAC rule 3745-15-06. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.) See B.14 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. These semi-annual written reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(i) and (ii) pertaining to the reporting of any deviations related to the monitoring, recordkeeping, and reporting requirements. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports submitted pursuant to OAC rule 3745-15-06 shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c)(iii) pertaining to the prompt reporting of deviations caused by malfunctions or upsets.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

Owens Corning - Medina Roofing & Asphalt Plant

PTI Application: **16-1921**

May 12, 1999

Facility ID: **1652050040**

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the

permit and applicable requirements.

- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

- d. Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the appropriate Ohio EPA District Office or local air agency in the following manner and with the following content:
 - i. Compliance certifications shall be submitted on an annual basis unless the applicable requirement specifies more frequent submissions.
 - ii. Compliance certifications shall include the following:
 - (a) An identification of each term or condition of this permit that is the basis of the certification.
 - (b) The permittee's current compliance status.
 - (c) Whether compliance was continuous or intermittent.
 - (d) The method(s) used for determining the compliance status of the source currently and over the required reporting period.
 - (e) Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.
 - iii. Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

10. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

11. Title V Permit To Operate Application

Pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit.

B. State Only Enforceable Permit To Install General Terms and Conditions**1. Compliance Requirements**

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities prove to be inadequate or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

14. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

Owens Corning - Medina Roofing & Asphalt PlantFacility ID: **1652050040**PTI Application: **16-1921****May 12, 1999****C. Permit To Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
Particulates	17.0
OC	60.0
CO	5.17
H ₂ S	0.79
SO _x	4.69

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None.

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None.

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
asphalt loading rack #4 with a thermal incinerator	OAC rule 3745-17-07(A)	See A.I.2.a below.
	OAC rule 3745-17-07(B)	See A.I.2.b below.
	OAC rule 3745-17-08	The permittee shall employ overhead filling of tank-trucks to minimize or eliminate fugitive emissions.
	OAC rule 3745-17-11	53.1 lbs/hr of particulates (based on 240,000 lbs/hr maximum process weight)(stack emissions)
	OAC rule 3745-21-07(E)	exempt See A.II.1 below.

2. Additional Terms and Conditions

- 2.a Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
- 2.b Visible particulate emissions for fugitive dust shall not exceed 20% opacity as a 3-minute average, except as provided by rule.

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Owen
PTI A1
May 12, 1999

Emissions Unit ID: **J005**

II. Operational Restrictions

1. The permittee shall only load asphalt which is not a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

2. The average combustion temperature within the thermal incinerator, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 1450 degrees Fahrenheit.

III. Monitoring and/or Record keeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day:

- a. all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was less than 1450 degrees Fahrenheit; and,
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain documentation showing whether or not each material is a photochemically reactive material.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.
2. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.
3. The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing if a "photochemically reactive material" [as defined in OAC rule 3745-21-01(C)(5)] is employed in the emissions unit. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 45 days after such an occurrence.

V. Testing Requirements

Owens Corning - Medina Roofing & Asphalt Plant

PTI Application: **16-1021**

May 1

Facility ID: **1652050040**

Emissions Unit ID: **J005**

1. Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

a. **Emission Limitation:**

20% opacity as a 6-minute average, for stack emissions

Applicable Compliance Method:

OAC rule 3745-17-03(B)(1)

b. **Emission Limitation:**

20% opacity as a 3-minute average, for fugitive emissions

Applicable Compliance Method:

OAC rule 3745-17-03(B)(3)

c. **Emission Limitation:**

53.1 lbs/hr of particulates

Applicable Compliance Method:

Compliance with the allowable particulate emission rate shall be determined in accordance with the following calculation methodology:

Based on previous testing performed at similar Owens Corning facilities, particulate emissions have been determined to comprise 22% of the loading loss emissions.

Based on AP-42, Section 5.2-4 (1/95), equation 1 for loading loss of petroleum liquid, and converted to units of lbs/ton:

$$\text{Loading loss (lbs/ton)} = 24.92 * \text{SPM} / (\text{TW})$$

Where:

S = saturation factor from AP-42, Table 5.2-1 (1/95); 1.45.

P = true vapor pressure of liquid (psia); 1.351 psia

M = Temperature of liquid loaded (deg R); 920 deg R

W = density of product (lb/gal); 7.28 lb/gal

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Owen
PTI A1
May 12, 1999

Emissions Unit ID: **J005**

$$\text{Loading Loss} = 0.6123 \text{ lb/ton VOC} * (22\%) = 0.1347 \text{ lb/ton particulate}$$

Assuming that the loading rack has an 80% capture efficiency and 95% destruction efficiency:

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Owen
PTI A1
May 12, 1999

Emissions Unit ID: **J005**

Particulate emissions (lbs/hr) = EF * Process weight * (0.80) * (1-0.95)

Where:

EF = 0.1347 lb particulates per ton loaded

Process Weight = 120 tons/hour

Thus particulate emissions result in 0.647 lbs/hr.

VI. Miscellaneous Requirements

None.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
asphalt loading rack #4 with a thermal incinerator	OAC rule 3745-31-05	3.88 lbs/hr particulates (combined stack and fugitive emissions) 17.0 tpy particulates See B.I.2.a below. 13.7 lbs/hr organic compounds (OC) (combined stack and fugitive emissions.) 60.0 tpy OC See B.I.2.a below. 1.18 lbs/hr carbon monoxide (CO) (combined stack and fugitive emissions) 5.17 tpy CO See B.I.2.a below. 0.18 lbs/hr hydrogen sulfide (H ₂ S) (combined stack and fugitive emissions) 0.79 tpy H ₂ S See B.I.2.a below. 1.07 lbs/hr SO _x emissions (combined stack and fugitive

emissions)

4.69 tpy SOx

See B.I.2.a below.

5% opacity as a 6-minute average
(stack emissions)

5% opacity as a 3-minute average
(fugitive emissions)

2. Additional Terms and Conditions

2.a The above limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limit.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

1.Compliance with the emission limitation(s) in Section B.I. of these terms and conditions shall be determined in accordance with the following method(s):

a.Emission Limitation:

5% opacity as a 6-minute average, for stack emissions

Applicable Compliance Method:

OAC rule 3745-17-03(B)(1)

b.Emission Limitation:

5% opacity as a 3-minute average, for fugitive emissions

Applicable Compliance Method:

OAC rule 3745-17-03(B)(3)

c. **Emission Limitation:**

3.88 lbs/hr particulates (combined stack and fugitive emissions)

17.0 tpy particulates

Applicable Compliance Method:

Compliance with the allowable particulate emission rate shall be determined in accordance with the following calculation methodology:

Assume: 80% capture efficiency
95% control efficiency for thermal oxidizer
Process Weight rate = 120 tons/hr (240,000 lbs/hr)

Equation 1 from AP-42, Section 5.2-4 (1/95) for loading loss, and modified to result in lbs/ton:

$$\text{Loading loss (lbs/ton)} = 24.92 * \text{SPM} / (\text{TW})$$

Where: $S =$
saturation factor from AP-42 (1/95), Table 5.2-1 for
splash loading: 1.45

P = true vapor pressure of liquid (psia): 1.351 psia

M
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T = temperature of liquid loaded (degrees R): 920 R

W = product density (lb/gal): 7.28 lb/gal

Total Loading loss = 0.6123 lbs/ton

Based on stack tests results of similar sources,
particulate is considered 22% of total loading loss
emissions.

Particulate loading loss = (.22)*(0.6123) = 0.1347

lb/ton

PM (lbs/hr) = PM Stack Emissions + PM fugitive emissions

$$\begin{aligned}\text{PM stack emissions (lbs/hr)} &= \text{EF} * \text{Process Rate} * 0.80 * (1 - 0.95) \\ &= 0.1347 \text{ lb/ton} * 120 \text{ tons/hr} * 0.80 * (1-0.95) \\ &= 0.647 \text{ lb/hr}\end{aligned}$$

$$\begin{aligned}\text{PM fugitive emissions (lbs/hr)} &= \text{EF} * \text{Process Rate} * (1 - 0.80) \\ &= 0.1347 \text{ lb/ton} * 120 \text{ tons/hr} * (0.20) \\ &= 3.23 \text{ lb/hr}\end{aligned}$$

$$\begin{aligned}\text{PM (lbs/hr)} &= 0.647 \text{ lb/hr} + 3.23 \text{ lb/hr} = 3.88 \text{ lb/hr} \\ &= 17.0 \text{ tpy}\end{aligned}$$

d. **Emission Limitation:**

13.7 lbs/hr organic compounds (OC)
(combined stack and fugitive emissions.)
60.0 tpy OC

Applicable Compliance Method:

Compliance with the allowable organic emission rate shall be determined in accordance with the following calculation methodology:

Assume: 80%
capture efficiency

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Process Weight rate = 120 tons/hr (240,000 lbs/hr)

Equation 1 from AP-42, Section 5.2-4 (1/95) for loading loss, and modified to result in lbs/ton:

$$\text{Loading loss (lbs/ton)} = 24.92 * \text{SPM} / (\text{TW})$$

Where: $S =$
saturation factor from AP-42 (1/95), Table 5.2-1 for
splash loading: 1.45

P = true vapor pressure of liquid (psia): 1.351 psia

M = molecular weight of vapors (lb/mole): 84 lb/mole

T = temperature of liquid loaded (degrees R): 920 R

W = product density (lb/gal): 7.28 lb/gal

$$\text{Total Loading loss} = 0.6123 \text{ lbs/ton}$$

Based on stack tests results of similar sources, particulate is considered 78% of total loading loss emissions.

$$\text{Organic loading loss} = (.78) * (0.6123) = 0.4776 \text{ lb/ton}$$

$$\text{OC (lbs/hr)} = \text{OC stack emissions} + \text{OC fugitive emissions}$$

$$\begin{aligned} \text{OC stack emissions (lbs/hr)} &= \text{EF} * \text{Process Rate} * 0.80 * (1 - 0.95) \\ &= 0.4776 \text{ lbs/ton} * 120 \text{ tons/hr} * 0.80 * (1 - 0.95) \\ &= 2.29 \text{ lbs/hr} \end{aligned}$$

$$\begin{aligned} \text{OC fugitive emissions (lbs/hr)} &= \text{EF} * \text{Process Rate} * (1 - 0.80) \\ &= 0.4776 \text{ lbs/ton} * 120 \text{ tons/hr} * (0.20) \\ &= 11.46 \text{ lbs/hr} \end{aligned}$$

$$\text{OC (lbs/hr)} = 2.29 \text{ lb/hr} + 11.46 \text{ lb/hr}$$

= 13.7 lb/hr OC

= 60.0 tpy OC

e. **Emission Limitation:**

1.18 lbs/hr carbon monoxide (CO)
(combined stack and fugitive emissions)

5.17 tpy CO

Applicable Compliance Method:

Compliance with the allowable carbon monoxide emission rate shall be determined in accordance with the following calculation methodology:

$$\text{CO (lbs/hr)} = \text{CO stack emissions} + \text{CO fugitive emissions}$$

$$\begin{aligned} \text{CO stack emissions} &= (1.14 \text{ mg/m}^3/\text{ppm}) * (X \text{ ppm}) * (0.028\text{m}^3/\text{cf}) * (1 \\ \text{lb} / 454 \text{ gm}) * (1\text{gm}/1000\text{mg}) * (Y \text{ cfm}) * (\text{Process Rate}) * \\ &(250 \text{ gal/ton} / 300 \text{ gal/min}) * (0.80) * (1-0.95) \end{aligned}$$

Where: 1.14 = conversion factor from AP-42 (1/95), Appendix A
 X ppm = correlation value, based on study done by
 Owens Corning, 8752 ppm
 Y cfm = estimated vent flow, 80 cfm
 Process Rate = 120 tons/hr

$$\text{CO stack emissions (lbs/hr)} = 0.1969 \text{ lb/hr}$$

$$\begin{aligned} \text{CO fugitive emissions (lbs/hr)} &= (1.14 \text{ mg/m}^3/\text{ppm}) * (X \text{ ppm}) * \\ &(0.028\text{m}^3/\text{cf}) * (1 \text{ lb} / 454 \text{ gm}) * (1\text{gm}/1000\text{mg}) * (Y \text{ cfm}) * \\ &(\text{Process Rate}) * (250 \text{ gal/ton} / 300 \text{ gal/min}) * (1 - 0.80) \end{aligned}$$

$$= 0.9845 \text{ lb/hr}$$

$$\begin{aligned} \text{CO emissions (lbs/hr)} &= 1.18 \text{ lb/hr CO} \\ &= 5.17 \text{ tpy CO} \end{aligned}$$

f. **Emission Limitation:**

0.18 lbs/hr hydrogen sulfide (H₂S)
 (combined stack and fugitive emissions)
 0.79 tpy H₂S

Applicable Compliance Method:

Compliance with the allowable hydrogen sulfide emission rate shall be determined in accordance with the following calculation methodology:

H2S (lbs/hr) = H2S stack emissions + H2S fugitive emissions

$$\begin{aligned} \text{H2S stack emissions} &= (1.39 \text{ mg/m}^3/\text{ppm}) * (X \text{ ppm}) * \\ &(0.028\text{m}^3/\text{cf}) * (1 \text{ lb} / 454 \text{ gm}) * (1\text{gm}/1000\text{mg}) * (Y \text{ cfm}) * \\ &(\text{Process Rate}) * (250 \text{ gal/ton} / 300 \text{ gal/min}) * (0.80) * (1-0.95) \end{aligned}$$

Where: 1.39 = conversion factor from AP-42 (1/95), Appendix A
 X ppm = correlation value, based on study done by Owens Corning,
 1097 ppm
 Y cfm = estimated vent flow, 80 cfm
 Process Rate = 120 tons/hr

H2S stack emissions (lbs/hr) = 0.03 lb/hr

$$\begin{aligned} \text{H2S fugitive emissions (lbs/hr)} &= (1.39 \text{ mg/m}^3/\text{ppm}) * (X \text{ ppm}) * \\ &(0.028\text{m}^3/\text{cf}) * (1 \text{ lb} / 454 \text{ gm}) * (1\text{gm}/1000\text{mg}) * (Y \text{ cfm}) * \\ &(\text{Process Rate}) * (250 \text{ gal/ton} / 300 \text{ gal/min}) * (1 - 0.80) \\ &= 0.15 \text{ lb/hr} \end{aligned}$$

H2S emissions (lbs/hr) = 0.18 lb/hr H2S
 = 0.79 tpy H2S

g. **Emission Limitation:**

1.07 lbs/hr SOx emissions
 (combined stack and fugitive emissions)
 4.69 tpy SOx

Applicable Compliance Method:

Compliance with the allowable SOx emission rate shall be determined in accordance with the following calculation methodology:

SOx emissions based on H2S emissions.

H2S emissions (lbs/hr) = 0.18 lb/hr

Sox (lb/hr) = 5.95 * H2S emissions [based on stack test results of similar sources]

$$\begin{aligned}\text{SO}_x &= 1.07 \text{ lb/hr} \\ &= 4.69 \text{ tpy}\end{aligned}$$

VI. Miscellaneous Requirements

1. Pursuant to Engineering Guide #69, modeling to demonstrate compliance with the Ohio EPA's Air Toxic Policy was not necessary since the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.