Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

8/16/2012

Pamela Blakley *Via E-Mail Notification*
United States Environmental Protection Agency
Mail Code: AR-18J
77 West Jackson Blvd.

Chicago, IL 60604-3507

RE: PROPOSED AIR POLLUTION TITLE V PERMIT
Facility Name: GE Lighting Inc - Bucyrus Lamp Plant
Facility ID: 0317010010
Permit Type: Minor Permit Modification
Permit Number: P0110402

Dear Ms. Blakley:

A proposed OAC Chapter 3745-77 Title V permit for the referenced facility has been issued for review by U.S. EPA. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page http://www.epa.ohio.gov/dapc in Microsoft Word and Adobe Acrobat format. If U.S. EPA does not object to this proposed permit, the permit will be processed for issuance as a final action not less than 45 days from the date of this letter. Please contact me at (614) 644-3631 by the end of the 45 day review period if you wish to object to the proposed permit.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Ohio EPA DAPC, Northwest District Office

50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

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Ohio | Environmental Protection Agency

PROPOSED

Division of Air Pollution Control
Title V Permit
for
GE Lighting Inc - Bucyrus Lamp Plant

Facility ID:	0317010010
Permit Number:	P0110402
Permit Type:	Minor Permit Modification
Issued:	8/16/2012
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control
Title V Permit
for
GE Lighting Inc - Bucyrus Lamp Plant

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Authorization

Facility ID: 0317010010
Facility Description: Fluorescent Lamp Manufacturing
Application Number(s): M0001434
Permit Number: P0110402
Permit Description: This is a minor permit modification to add the new MRT bulb recycling system unit to the TV permit. PTI P0107745 was issued for this project on 04/19/2011.
Permit Type: Minor Permit Modification
Issue Date: 8/16/2012
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Superseded Permit Number: P0109196

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

GE Lighting Inc - Bucyrus Lamp Plant
GE Company - Bucyrus Lamp Plant
1250 South Walnut Street
Bucyrus, OH 44820

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

The above named entity is hereby granted a Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Ohio EPA DAPC, Northwest District Office. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months (540 days) and no later than 6 months (180 days) prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:

(1) Standard Term and Condition A. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions

(2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions

(3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting

(4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(Authority for term: ORC 3704.036(A))

2. Monitoring and Related Record Keeping and Reporting Requirements

a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

(1) The date, place (as defined in the permit), and time of sampling or measurements.

(2) The date(s) analyses were performed.

(3) The company or entity that performed the analyses.

(4) The analytical techniques or methods used.

(5) The results of such analyses.

(6) The operating conditions existing at the time of sampling or measurement.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

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 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c) The permittee shall submit required reports in the following manner:

(1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive

measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the

insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

(4) 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 (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

(5) Reports of any required monitoring and/or record keeping information shall be submitted to Ohio EPA DAPC, Northwest District Office.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance 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). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

4. Risk Management Plans

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

5. Title IV Provisions

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.

(Authority for term: OAC rule 3745-77-07(A)(5))

6. 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.

(Authority for term: OAC rule 3745-77-07(A)(6))

7. 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, in accordance with Standard Term and Condition A.11 below. 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.

f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:

(1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

(2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

(3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminent sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))

8. 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.

(Authority for term: OAC rule 3745-77-07(A)(8))

9. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

10. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

11. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. 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.

(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

a) Any document (including reports) required to be submitted and required by a federally applicable requirement in this Title V 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:

(1) 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.

(2) 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.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) 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:

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) 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 Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

(1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted (i.e., postmarked) on or before April 30th of each year during the permit term.

(2) 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.

(3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

14. Permit Shield

a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

15. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

16. 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.

(Authority for term: OAC rule 3745-77-07(G))

17. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(Authority for term: OAC rule 3745-77-07(I))

18. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

(This term is provided for informational purposes only.)

19. Insignificant Activities or Emissions Levels

Each IEU that has one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

21. 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.

(Authority for term: OAC rule 3745-77-07(A)(1))

22. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the responsible official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the responsible official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

No emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit to install pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.

c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

(Authority for term: OAC rule 3745-77-01(H)(11))

24. Reporting Requirements Related to Monitoring and Record Keeping RequirementsUnder State Law Only

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or record keeping 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 (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) 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. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. 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 (i.e., postmarked) quarterly, 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.)

25. Records Retention RequirementsUnder State Law Only

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.

26. 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.

(Authority for term: OAC rule 3745-77-07(C))

27. 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).

28. 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.

(Authority for term: OAC rule 3745-77-01(C))

29. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation 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 (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or

b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; or

c) where the company's responsible official has certified that an emissions unit has been permanently shut down.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) None.

2. The following insignificant emissions units are located at this facility:

   (1) B001 - York-Shipley N.G. Boilers # 1,2,3,4,5

   (2) B002 - York Shipley N.G. Boilers # 6,7,8,9

   (3) B003 - Cleaver Brooks N.G. Boiler # 1

   (4) P010 - Coating Mix Room (PTI 03-5715)

   (5) P011 - Base Cement Mixing (PTI 03-5764)

   (6) P023 - Base Fill Machines

   (7) P026 - Mercury Cleaning Hoods

   (8) P027 - Solvent Shop Degreaser # 1

   (9) P028 - Solvent Shop Degreaser # 2

   (10) P029 - Solvent Shop Degreaser # 3

   (11) P030 - Solvent Shop Degreaser # 4

   (12) P031 - Parking Lot Fugitive Dust

   (13) P032 - Automatic Twin Packing Machine

   (14) Z010 - Solvent Degreaser # 5

   (15) Z011 - Emergency Diesel Generator

   Each insignificant emissions unit at this facility must comply with all applicable State and federal regulations, and well as any emission limitations and/or control requirements contained within the identified permit to install for the emissions unit. Insignificant emissions units listed above that are not subject to specific permit to install requirements are subject to one or more of the applicable requirements contained in the federally-approved versions of OAC Chapters 3745-17, 3745-18, and/or 3745-21.

   (Authority for term: OAC rule 3745-77-07(A)(13))

C. Emissions Unit Terms and Conditions

1. F001, BR-2

Operations, Property and/or Equipment Description:

BR-2

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-08(B)	None [See b)(2)a]
b.	OAC rule 3745-17-07(B)	None [See b)(2)b]

(2) Additional Terms and Conditions

a. The emissions unit is not located within an "Appendix A" area as identified in OAC rule 3745-17-08. Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

b. This emissions unit is exempt from the visible emissions limitation specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e).

c. Terms b)(2)a. and b)(2)b. above are intended for clarification of current regulatory applicability and requirements at the time of permit issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07(I).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) None.

f) Testing Requirements

(1) None.

g) Miscellaneous Requirements

(1) None.

2. K002, BC-3

Operations, Property and/or Equipment Description:

'Ecolux' base coating machine - flow coat application

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(2)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 03-10446 issued November 12, 1997)	4.0 lbs volatile organic compounds (VOC) per hour (including cleanup materials) See b)(2)a and b.
b.	OAC rule 3745-21-09(U)(1)(c)	3.5 lbs VOC per gallon of coating, excluding water and exempt solvents

(2) Additional Terms and Conditions

a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(U)(1)(c).
b. The VOC limitation of 4.0 lbs/hr is established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with this limit.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month for the line:

a. The name and identification number of each coating, as applied.

b. The VOC content of each coating, in lbs/gallon (excluding water and exempt solvents), as applied.

(This information does not have to be kept on a line-by-line basis, unless one or more of the lines is a new emissions unit and subject to specific "gallons/year" and "tons/year"

limitations, or just a "tons/year" limitation in a Permit to Install. In such cases, for each such new emissions unit only, the above-mentioned information must be maintained separately for that line. Also, if the permittee mixes complying coatings at a line, it is not necessary to record the VOC content of the resulting mixture.)

[OAC rules 3745-21-09(B)(3), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's “Review of New Sources of Air Toxic Emissions” policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

Pollutant: ethyl alcohol
TLV (ug/m3): 1,880,000
Maximum Hourly Emission Rate (lbs/hr): 1.67
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3221
MAGLC (ug/m3): 44,760

[OAC 3745-77-07(C)(1) and OAC 3745-31-05(A)(3)]

(3) Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the “Air Toxic Policy” is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the “Air Toxic Policy” will still be satisfied. If, upon evaluation, the permittee determines that the “Air Toxic Policy” will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the “Air Toxic Policy” include the following:

a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound* with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant* with a listed TLV that was proposed in the application and modeled; and

c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

* Only compounds / pollutants as identified in OAC rule 3745-114-01 at the time of the change will be subject to re-evaluation.

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

[OAC 3745-77-07(C)(1) and OAC 3745-31-05(A)(3)]

(4) The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the “Air Toxic Policy:”

a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. Documentation of its evaluation and determination that the changed emissions unit still satisfies the “Air Toxic Policy”; and

c. Where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the “Air Toxic Policy” for the change.

[OAC 3745-77-07(C)(1) and OAC 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall notify the Director (the Ohio EPA, Northwest District Office) in writing of any monthly record showing the use of noncomplying coatings (i.e., for VOC content). The notification shall include a copy of such record and shall be sent to the Director (the Ohio EPA, Northwest District Office) within 30 days following the end of the calendar month.

[OAC rules 3745-21-09(B)(3), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. VOC Content Limitation:
3.5 lbs VOC per gallon of coating, excluding water and exempt solvents

Applicable Compliance Method:
The permittee shall demonstrate compliance with the VOC content limitation above through the record keeping requirements established in Term d)(1) of this permit.

b. Emission Limitation:
4.0 lbs VOC per hour (including cleanup materials)

Applicable Compliance Method: The permittee may determine compliance with the hourly allowable VOC emission limitation above as follows:

i. Multiply the maximum VOC content of all the coatings employed (lbs/gallon) by the maximum coatings usage rate (gallons/hr);

ii. Multiply the maximum VOC content of all the cleanup materials employed (lbs/gallon) by the maximum cleanup materials usage rate (gallons/hr); and

iii. Add b.i + b.ii.

If required, the permittee shall demonstrate compliance with the hourly allowable VOC emission limitation in accordance with Methods 1 - 4, 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

(2) Formulation data or USEPA Method 24 shall be used to determine the VOC contents of all the coatings and cleanup materials.

[All of Section f): OAC rules 3745-21-04(B)(5), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.

3. P006, L-4

Operations, Property and/or Equipment Description:

L-4 high speed horizontal lamp assembly line (line J) - coating, end brushing, natural gas combustion, and mercury evacuation with fabric filter and carbon adsorber

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 03-16008)	Coating Emissions: 8.15 lbs organic compounds (OC)/hour*; 35.70 tons OC/year * see also b)(2)a Cleanup Emissions: 2.82 lbs OC/month; 0.02 ton OC/year Natural Gas Combustion Emissions: 3.37 lbs nitrogen oxides (NOx)/hour; 14.76 tons NOx/year 2.83 lbs carbon monoxide (CO)/hour; 12.40 tons CO/year Binder Combustion Emissions: 0.05 lb NOx/hour; 0.22 ton NOx/year End Brushing Emissions: 0.008 lb particulate emissions (PE)/hour; 0.04 ton PE/year Visible PE shall not exceed 5% opacity, as a six-minute average. Bulb Crushing Emissions: 0.02 lb PE/hour, 0.09 ton PE/year

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3) (PTI 03-16008)	Visible PE shall not exceed 0% opacity, as a six-minute average. SO2 Lubricant Emissions: 0.84 lb sulfur dioxide (SO2)/hr; 3.68 tons SO2/yr Mercury Evacuation System Emissions: 0.0004 lb of Mercury (Hg)/hour; 0.002 ton of Hg/year See b)(2)a through b)(2)c.
c.	OAC rule 3745-21-09(U)(1)(c)	3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents [for the coatings used for the metal parts (base cement coatings)]
d.	OAC rule 3745-17-11(B)(2)	See b)(2)d.
e.	OAC rule 3745-17-07(A)(1)	See b)(2)e.
f.	OAC rule 3745-18-06(E)	Exempt [See b)(2)f].
g.	OAC rule 3745-21-08(B)	See b)(2)g.

(2) Additional Terms and Conditions

a. This emissions unit is subject to the emission limitation of 8.15 lbs of OC/hour, from the coating operations, at all times, except when subject to OAC rule 3745-21-07(G)(2) as specified in b)(2)b.
The hourly OC emission limitation of 8.15 pounds 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 reporting requirements to ensure compliance with this limitation.

b. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(U)(1), 3745-18-06(E), and 3745-21-08(B).

c. Best available technology (BAT) control requirements have been determined to be the following:

i. Use of a baghouse (fabric filter) for particulate emissions from the end brushing operation; the fabric filter shall achieve an overall control efficiency of 99%, by weight.

ii. Use of a carbon adsorber for mercury emissions from the mercury evacuation system; the carbon adsorber shall achieve a maximum outlet emission rate of 0.0004 pound of mercury per hour.

iii. Use of a baghouse (fabric filter) for particulate emissions from the bulb crushing system; the fabric filter shall achieve an overall control efficiency of 99%.

d. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the facility is located in Crawford County, which is identified as a P-2 county.

e. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

f. The maximum process weight rate for this emissions unit is less than 1000 lbs/hr. Therefore, pursuant to OAC rule 3745-18-06 (C), this emissions unit is exempt from OAC rule 3745-18-06 (E).

g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in this permit to install.

h. On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

i. The hourly and annual emission limitations for NO_x, CO, PE, SO_2 and Hg were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with these limitations.

j. Sections b)(2)a through b)(2)h above are intended for clarification of current regulatory applicability and requirements at the time of permit issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07(I).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records of the following information for this emissions unit:

a. The company name and identification number of each coating/ink applied to non-metal substrates;

b. The company name and identification number of each cleanup material employed; and

c. Whether or not each coating/ink and cleanup material employed is a photochemically reactive material.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) On any day when any photochemically reactive material is employed in an operation involving non-metal substrates, the permittee shall collect and record the following information for this emissions unit for each such day:

a. The company name and identification of the following:
   i. Each coating and ink employed on non-metal substrates; and

   ii. Each photochemically reactive cleanup material employed;

b. The total number of lamps processed;

c. The OC emissions from all the coatings and inks employed on non-metal substrates, calculated in accordance with the following equation:

OC emissions (lbs/day) = (# of lamps processed/day) x (A + B + C + D + E + F + G + H + I

where:

A = emission factor for surfactant phosphor coating:
maximum lb of coating/1000 lamps (0.358) x maximum OC content weight fraction (0.83) = 0.297 lb of OC/1000 lamps

B = emission factor for mono-ethanol amine phosphor coating:
maximum lb of coating/1000 lamps (0.181) x maximum OC content weight fraction (1.0) = 0.181 lb of OC/1000 lamps

C = emission factor for monogram ink:
maximum lb of ink/1000 lamps (0.006) x maximum OC content weight fraction (0.30) = 0.0018 lb of OC/1000 lamps

D = emission factor for monogram ink diluent solvent:
maximum lb of ink/1000 lamps (0.0002) x maximum OC content weight fraction (1.0) = 0.0002 lb of OC/1000 lamps

E = emission factor for headmarking ink:
maximum lb of ink/1000 lamps (0.0063) x maximum OC content weight fraction (0.71) = 0.0045 lb of OC/1000 lamps

F = emission factor for headmarking ink diluent solvent:

maximum lb of solvent/1000 lamps (0.0037) x maximum OC content weight fraction (1.0) = 0.0037 lb of OC/1000 lamps

G = emission factor for E-Mix:
maximum lb of E-Mix/1000 lamps (0.1607) x maximum OC content weight fraction (0.29) = 0.047 lb of OC/1000 lamps

H = emission factor for E-Mix diluent solvent:
maximum lb of solvent/1000 lamps (0.0068) x maximum OC content weight fraction (1.00) = 0.0068 lb of OC/1000 lamps

I = emission factor for Dry-Film:
maximum lb of Dry-Film/1000 lamps (0.0339) x maximum weight fraction (.50) = 0.017 lb of OC/1000 lamps

d. The OC content of each photochemically reactive cleanup material employed, in pounds per gallon;

e. The number of gallons of each photochemically reactive cleanup material employed;

f. The OC emissions from each photochemically reactive cleanup material employed [d)(2)d x d)(2)e], in pounds;

g. The total OC emissions from all the photochemically reactive cleanup materials employed [summation of d)(2)f for all photochemically reactive cleanup materials], in pounds;

h. The total number of hours the emissions unit was in operation while coating non-metal substrates and employing photochemically reactive cleanup materials; .

i. The total OC emissions from all the coatings/inks and photochemically reactive cleanup materials employed {[d)(2)c + d)(2)g] / d)(2)h}, in pounds; and

j. The average hourly OC emission rate [d)(2)i / d)(2)h], in pounds per hour (average).

k. [Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" is based upon OAC rule 3745-21-01(C)(5).]

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) On the days when coating metal parts, the permittee shall collect and record the following information for this emissions unit for the coatings used for the metal parts:

a. The company name and identification of each coating (base cement) employed;

b. The VOC content of each coating (pounds/gallon, excluding water and exempt solvents) employed. [The VOC content excluding water and exempt solvents shall be calculated in accordance with the equation specified in paragraph (B)(8) of OAC rule 3745-21-10 for CVOC,2.]

[OAC rules 3745-21-09(B)(3), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) In conjunction with the coating information required in d)(2) above, the permittee shall collect and record the following information each month for all OC emissions emitted (including OC emissions from the use of photochemically reactive materials, non-photochemically reactive materials, and base cement) from lamp processing for this emissions unit:

a. The name and identification number of each coating, ink and base cement employed;

b. The total number of lamps processed;

c. The total number of bases cemented;

d. The total OC emissions from the coatings and inks employed, calculated in accordance with the following equation:

OC emissions (lbs/month) = (# of lamps processed/month) x (A + B + C + D + E + F + G + H + I)*

* For emission factors A, B, C, D, E, F, G, H, and I, see d(2).

e. The total OC emissions from all the base cement employed, calculated in accordance
with the following equation:

OC emissions (lbs/month) = (# of bases cemented/month) x (EF)

where

EF = emission factor for base cement:

EF (lb OC/1000 bases) = maximum lbs cement/1000 bases (5.055) x maximum OC content weight fraction (0.0774) x 0.98* = 0.383

* 2% of the OC is emitted elsewhere

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(5) The permittee shall collect and record the following information each month for all the cleanup materials employed in this emissions unit:

a. The name and identification of each cleanup material employed;

b. The OC content of each cleanup material employed, in pounds per gallon;

c. The number of gallons of each cleanup material employed;

d. The OC emissions from each cleanup material employed [d)(5)b x d)(5)c];

e. The total OC emissions from all the cleanup materials employed [summation of d)(5)d for all cleanup materials], in pounds.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(6) The permittee shall calculate and record each month the total OC emissions for this emissions unit, in tons, calculated as follows:

Total OC emissions (tons/month) = {the total OC emissions from lamp processing [from d(4)d] + the total OC emissions from base cementing [from d)(4)e] + the total OC emissions from cleanup materials usage [from d)(5)e]} /2000

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(7) The permittee shall collect and record each year the total OC emissions for this emissions unit, in tons, calculated by summing the monthly OC emissions [from d(6)] for the calendar year.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(8) The permittee shall monitor at least once every fifteen minutes the pressure drop across the carbon adsorber serving the vacuum pump, and across the baghouses (fabric filter) serving the end brushing operation and bulb crushing system, during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for each control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value is outside of the applicable range specified below (hereinafter the "Pressure Drop Range"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the carbon adsorber or either baghouse (whichever is producing a Daily Pressure Drop Value outside of its Pressure Drop Range), and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is outside of its Pressure Drop Range), the permittee shall record the number of days during which the Daily Pressure Drop Value remained outside of its Pressure Drop Range and a description of the maintenance or repairs, if any, made to the carbon adsorber or either baghouse. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Pressure Drop Ranges are:

a. For the carbon adsorber, 0.01 to 5.0 inches of water.
b. For the end brushing baghouse, 0.5 to 5.0 inches of water.

c. For the bulb crushing baghouse, 6.0 to 10.0 inches of water.

These pressure drop ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the range(s) based upon information that demonstrates compliance with the allowable mercury emission rate (for the carbon adsorber) or particulate emission rate (for either baghouse) for this emissions unit. If the permittee submits a written request to establish a new pressure drop range, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall notify the Northwest District Office in writing of any daily record showing the use of base cement exceeding 3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents. The notification shall include a copy of such record and shall be sent to the Northwest District Office within 30 days following the end of the calendar month.

[OAC rules 3745-21-09(B)(3), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall submit semiannual reports that identify the following information concerning the operation of the carbon adsorber during operation of this emissions unit:

a. The total duration (in days) that its daily pressure drop value was outside of its applicable Pressure Drop Range; and
b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) The permittee shall submit semiannual reports that identify the following information concerning the operation of each baghouse (fabric filter) during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its applicable Pressure Drop Range; and
b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following limitations:

a. The monthly OC emission limitation of 2.82 pounds (from cleanup materials).
The permittee shall submit these reports in accordance with the General Terms and Conditions of this permit.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(5) The permittee shall submit annual reports that summarize the actual annual OC emissions for this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(6) The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation: 8.15 lbs OC/hour
Applicable Compliance Method: The hourly allowable OC emission rate was established based on the summation of the OC emissions generated during lamp manufacturing and OC emissions generated during lamp base cementing. The following outlines potential emissions generated during each process:

i. Lamp manufacturing - the potential to emit for lamp manufacturing is 1.75 lbs of OC per hour based on the summation of emissions from the following components of the line and a maximum lamp manufacturing rate of 6000 lamps per hour:

Phosphor Coating - 1.27 pounds of OC per hour (based on a maximum surfactant usage rate of 0.358 lb/1000 lamps and a maximum OC content of 8.3% by weight, plus a maximum mono ethanol amine usage rate of 0.181 lb/1000 lamps and a maximum OC content of 100% by weight).

Monogram Ink - 0.01 pound of OC per hour (based on a maximum ink usage rate of 0.006 lb/1000 lamps and a maximum OC content of 30% by weight, plus a maximum diluent usage rate of 0.0002 lb/1000 lamps and a maximum OC content of 100% by weight).

Headmarking Ink - 0.05 pound of OC per hour (based on a maximum ink usage rate of 0.0063 lb/1000 lamps and a maximum OC content of 71% by weight, plus a maximum diluent solvent usage rate of 0.0037 lb/1000 lamps and maximum OC content of 100% by weight).

E-Mix - 0.32 pound of OC per hour (based on a maximum usage rate of 0.1607 lb/1000 lamps and a maximum OC content of 29% by weight, plus a maximum diluent solvent usage rate of 0.0068 lb/1000 lamps and a maximum OC content of 100% by weight).

Dry Film - 0.10 pound of OC per hour (based on a maximum usage rate of 0.0339 lb/1000 lamps and a maximum OC content of 50% by weight).

ii. Lamp base cementing - the potential to emit for lamp base cementing is 6.40 lbs of OC per hour based on a maximum lamp base cementing rate of 16,700 bases per hour and a maximum cement usage rate of 5.055 lbs/1000 bases, a maximum OC content of 7.74 % by weight and a maximum emission rate of 98% (98% for this emissions unit, i.e. 2% of the OC is emitted during base cement mixing).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 - 4, 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

b. Emission Limitation: 35.70 tons OC/year

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d).

c. Emission Limitation: 2.82 lbs OC/month, from cleanup materials

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d)(5).

d. Emission Limitation: 0.02 ton OC/year, from cleanup materials

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d)(5) and shall be the summation of the 12 OC emission rates for the calendar year.

e. Emission Limitation: 3.37 lbs NO_x/hour (natural gas combustion)

Applicable Compliance Method: The hourly allowable NO_x emission limitation was established by multiplying the maximum natural gas usage rate of 33,675 cu. ft /hr by the AP-42 emission factor of 100 lbs of NO_x/mm cu. ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 4 and 7 of 40 CFR, Part 60, Appendix A.

f. Emission Limitation: 2.83 lb CO/hour (natural gas combustion)

Applicable Compliance Method: The hourly allowable CO emission limitation was established by multiplying the maximum natural gas usage rate of 33,675 cu. ft /hr by the AP-42 emission factor of 84 lbs of CO/mm cu. ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

g. Emission Limitation: 0.008 lb PE/hour (end brushing)

Applicable Compliance Method: The hourly allowable PE limitation was established by multiplying the maximum phosphor coating application rate of 12.56 lbs/1000 lamps by the production rate of 6000 lamps per hour, a removal rate of 1% of the phosphor applied, and then multiplying by a control factor (1-0.99*).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 5 of 40 CFR, Part 60, Appendix A.

* the baghouse control efficiency is assumed to be 99%

h. Emission Limitation: (end brushing) Visible PE shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method: Compliance shall be determined in accordance with the test method and procedures in Method 9 of 40 CFR, Part 60, Appendix A.

i. Emission Limitation: 0.02 lb PE/hour (bulb crushing)

Applicable Compliance Method: The hourly limitation represents the potential to emit* of the emissions unit. Therefore, no monitoring and Record keeping, reporting, or compliance method calculations are required to demonstrate compliance with this limitation.

* The potential to emit is based on a maximum bulb crushing rate of 1.50 tons bulbs crushed/hour, an emission factor of 1.50 lbs PE/ton bulbs crushed, and a control efficiency of 99%.

If required, the permittee shall demonstrate compliance in accordance with the test methods and procedures in Methods 1-5 of 40 CFR Part 60, Appendix A.

j. Emission Limitation: (bulb crushing) Visible PE shall not exceed 0% opacity, as a six minute average.

Applicable Compliance Method: Compliance shall be determined in accordance with the test method and procedures in Method 9 of 40 CFR, Part 60, Appendix A.

k. Emission Limitation: 0.84 lb SO_2/hour (SO_2 lubricant)

Applicable Compliance Method: The hourly allowable SO_2 emission limitation was established by summing the maximum of 0.11 lb of SO2/hour injected in the Lehr and 0.73 lb of SO_2/hour injected in the flare machines.

If required, the permittee shall demonstrate compliance in accordance with Methods 1 - 4 and 6 of 40 CFR, Part 60, Appendix A.

l. Emission Limitation: 0.05 lb NO_x/hour (binder combustion)

Applicable Compliance Method: The hourly allowable NO_x emission limitation was established by multiplying the maximum phosphor coating application rate of 12.56 lbs/1000 lamps by the maximum lamp processing rate of 6000 lamps per hour and by 0.11 lb of binder/lb of coating, and then by 0.0055 lb of NO_x/lb of binder.

If required, the permittee shall demonstrate compliance in accordance with the test methods and procedures in Methods 1- 4 and 7 of 40 CFR, Part 60, Appendix A.

m. Emission Limitation: 0.0004 lb Hg/hour

Applicable Compliance Method: Compliance with this emission limitation was demonstrated with the results of emissions testing conducted on November 18, 2003.

If required, the permittee shall conduct any future compliance demonstration with the emission limitation in accordance with Methods 1 through 4, and 29 of 40 CFR, Part 60, Appendix A.

n. Emission Limitations:

14.76 tons NO_x/year (natural gas combustion)
12.40 tons CO/year (natural gas combustion)
0.04 ton PE/year (end brushing)
0.09 ton PE/year (bulb crushing)
3.68 tons SO_2/year (SO2 lubricant)
0.22 ton NO_x/year (binder combustion)
0.002 ton Hg/year

Applicable Compliance Method: Compliance with the annual emission limitation for each pollutant above shall be assumed as long as compliance with the hourly emission limitation for the specific pollutant is maintained (the annual emission limitation for each pollutant was determined by multiplying the hourly emission limitation for the specific pollutant by 8760, and then dividing by 2000).

(2) Formulation data or U.S. EPA Method 24 shall be used to determine the OC/VOC contents of all the coatings and cleanup materials.

[All of Section f): OAC 3745-21-04(B)(5), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.

4. P007, L-5

Operations, Property and/or Equipment Description:

L-5 High Speed Horizontal Lamp Assembly Line (Line K)- Coating, End Brushing, Natural Gas Combustion, and Mercury Evacuation with Cyclone and Carbon Adsorber (Modification to increase current permit emission limitations)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 03-13538)	Coating Emissions: 8.36 lbs organic compounds (OC)/hour*; 36.62 tons OC/year * see also b)(2)a Cleanup Emissions: 2.82 lbs OC/month; 0.02 ton OC/year Natural Gas Combustion Emissions: 3.33 lbs nitrogen oxides (NOx)/hour; 14.59 tons NOx/year 2.80 lbs carbon monoxide (CO)/hour; 12.26 tons CO/year Binder Combustion Emissions: 0.25 lb NOx/hour; 1.10 ton NOx/year End Brushing Emissions: 0.009 lb particulate emissions (PE)/hour; 0.04 ton PE/year Visible PE shall not exceed 5% opacity, as a six-minute average. SO2 Lubricant Emissions: 0.84 lb sulfur dioxide (SO2)/hr;

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		3.68 tons SO2/yr
b.	OAC rule 3745-31-05(A)(3) (PTI 03-13538)	Mercury Evacuation System Emissions: 0.0004 lb of Mercury (Hg)/hour; 0.002 ton of Hg/year See b)(2)a through b)(2)c.
c.	OAC rule 3745-21-09(U)(1)(c)	3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents [for the coatings used for the metal parts (base cement coatings)].
d.	OAC rule 3745-17-11(B)(2)	See b)(2)d.
e.	OAC rule 3745-17-07(A)(1)	See b)(2)e.
f.	OAC rule 3745-18-06(E)	Exempt [See b)(2)f].
g.	OAC rule 3745-21-08(B)	See b)(2)g.

(2) Additional Terms and Conditions

a. This emissions unit is subject to the emission limitation of 8.36 lbs of OC/hour, from the coating operations, at all times, except when subject to OAC rule 3745-21-07(G)(2) as specified in b)(2)b.

The hourly OC emission limitation of 8.36 pounds 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 reporting requirements to ensure compliance with this limitation.

b. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(U)(1), 3745-21-07(G)(2), 3745-18-06(E), and 3745-21-08(B).

c. Best available technology (BAT) control requirements have been determined to be the following:

i. Use of a baghouse (fabric filter) for particulate emissions from the end brushing operation; the fabric filter shall achieve an overall control efficiency of 99%, by weight.

ii. Use of a carbon adsorber for mercury emissions from the mercury evacuation system; the carbon adsorber shall achieve a maximum outlet emission rate of 0.0004 pound of mercury per hour.

d. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule

3745-17-11 does not apply because the facility is located in Crawford County, which is identified as a P-2 county.

e. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

f. The maximum process weight rate for this emissions unit is less than 1000 lbs/hr. Therefore, pursuant to OAC rule 3745-18-06 (C), this emissions unit is exempt from OAC rule 3745-18-06 (E).

g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in this permit to install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

h. The hourly and annual emission limitations for NO_x, CO, PE, SO_2 and Hg were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with these limitations.

i. Terms b)(2)a. through b)(2)h. above are intended for clarification of current regulatory applicability and requirements at the time of permit issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07(I).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records of the following information for this emissions unit:

a. The company name and identification number of each coating/ink applied to non-metal substrates;
b. The company name and identification number of each cleanup material employed; and

c. Whether or not each coating/ink and cleanup material employed is a photochemically reactive material.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) On any day when any photochemically reactive material is employed in an operation involving non-metal substrates, the permittee shall collect and record the following information for this emissions unit for each such day:

a. The company name and identification of the following:
   i. each coating and ink employed on non-metal substrates; and

   ii. each photochemically reactive cleanup material employed;

b. The total number of lamps processed;

c. The OC emissions from all the coatings and inks employed on non-metal substrates, calculated in accordance with the following equation:

OC emissions (lbs/day) = (# of lamps processed/day) x (A + B + C + D + E + F + G + H + I)

where:

A = emission factor for surfactant phosphor coating:
maximum lb of coating/1000 lamps (0.358) x maximum OC content weight fraction (0.83) = 0.297 lb of OC/1000 lamps

B = emission factor for mono-ethanol amine phosphor coating:
maximum lb of coating/1000 lamps (0.181) x maximum OC content weight fraction (1.0) = 0.181 lb of OC/1000 lamps

C = emission factor for monogram ink:
maximum lb of ink/1000 lamps (0.006) x maximum OC content weight fraction (0.30) = 0.0018 lb of OC/1000 lamps

D = emission factor for monogram ink diluent solvent:
maximum lb of ink/1000 lamps (0.0002) x maximum OC content weight fraction (1.0) = 0.0002 lb of OC/1000 lamps

E = emission factor for headmarking ink:
maximum lb of ink/1000 lamps (0.0063) x maximum OC content weight fraction (0.71) = 0.0045 lb of OC/1000 lamps

F = emission factor for headmarking ink diluent solvent:
maximum lb of solvent/1000 lamps (0.0037) x maximum OC content weight fraction (1.0) = 0.0037 lb of OC/1000 lamps

G = emission factor for E-Mix:
maximum lb of E-Mix/1000 lamps (0.1607) x maximum OC content weight fraction (0.29) = 0.047 lb of OC/1000 lamps

H = emission factor for E-Mix diluent solvent:
maximum lb of solvent/1000 lamps (0.0068) x maximum OC content weight fraction (1.00) = 0.0068 lb of OC/1000 lamps

I = emission factor for Dry-Film:
maximum lb of Dry-Film/1000 lamps (0.0339) x maximum weight fraction (.50) = 0.017 lb of OC/1000 lamps

d. The OC content of each photochemically reactive cleanup material employed, in pounds per gallon;

e. The number of gallons of each photochemically reactive cleanup material employed;

f. The OC emissions from each photochemically reactive cleanup material employed [d)(2)d x d)(2)e], in pounds;

g. The total OC emissions from all the photochemically reactive cleanup materials employed [summation of d)(2)f for all photochemically reactive cleanup materials], in pounds;

h. The total number of hours the emissions unit was in operation while coating non-metal substrates and employing photochemically reactive cleanup materials;

i. The total OC emissions from all the coatings/inks and photochemically reactive cleanup materials employed {[d)(2)c + d)(2)g] / d)(2)h}, in pounds; and

j. The average hourly OC emission rate [d)(2)i / d)(2)h], in pounds per hour (average).

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" is based upon OAC rule 3745-21-01(C)(5).]

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) On the days when coating metal parts, the permittee shall collect and record the following information for this emissions unit for the coatings used for the metal parts:

a. The company name and identification of each coating (base cement) employed; the VOC content of each coating (pounds/gallon, excluding water and exempt solvents) employed. [The VOC content excluding water and exempt solvents shall be calculated in accordance with the equation specified in paragraph (B)(8) of OAC rule 3745-21-10 for CVOC,2.]

[OAC rules 3745-21-09(B)(3), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) In conjunction with the coating information required in d)(2) above, the permittee shall collect and record the following information each month for all OC emissions emitted (including OC emissions from the use of photochemically reactive materials, non-photochemically reactive materials, and base cement) from lamp processing for this emissions unit:

a. The name and identification number of each coating, ink and base cement employed;

b. The total number of lamps processed;

c. The total number of bases cemented;

d. The total OC emissions from the coatings and inks employed, calculated in accordance with the following equation:

OC emissions (lbs/month) = (# of lamps processed/month) x (A + B + C + D + E + F + G + H + I)*

* For emission factors A, B, C, D, E, F, G, H, and I, see d(2).

e. The total OC emissions from all the base cement employed, calculated in accordance with the following equation:

OC emissions (lbs/month) = (# of bases cemented/month) x (EF)

where

EF = emission factor for base cement:

EF (lb OC/1000 bases) = maximum lbs cement/1000 bases (5.055) x maximum OC content weight fraction (0.0774) x 0.98* = 0.383

* 2% of the OC is emitted elsewhere

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(5) The permittee shall collect and record the following information each month for all the cleanup materials employed in this emissions unit:

a. The name and identification of each cleanup material employed;
b. The OC content of each cleanup material employed, in pounds per gallon;

c. The number of gallons of each cleanup material employed;

d. The OC emissions from each cleanup material employed [d)(5)b x d)(5)c];

e. The total OC emissions from all the cleanup materials employed [summation of d)(5)d for all cleanup materials], in pounds.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(6) The permittee shall calculate and record each month the total OC emissions for this emissions unit, in tons, calculated as follows:

Total OC emissions (tons/month) = {the total OC emissions from lamp processing [from d(4)d] + the total OC emissions from base cementing [from d)(4)e] + the total OC emissions from cleanup materials usage [from d)(5)e]} /2000

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(7) The permittee shall collect and record each year the total OC emissions for this emissions unit, in tons, calculated by summing the monthly OC emissions [from d(6)] for the calendar year.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(8) The permittee shall monitor at least once every fifteen minutes the pressure drop across the carbon adsorber serving the vacuum pump, and across the baghouse (fabric filter) serving the end brushing operation, during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for each control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value is outside of the applicable range specified below (hereinafter the "Pressure Drop Range"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the carbon adsorber or the baghouse (whichever is producing a Daily Pressure Drop Value outside of its Pressure Drop Range), and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is outside of its Pressure Drop Range), the permittee shall record the number of days during which the Daily Pressure Drop Value remained outside of its Pressure Drop Range and a description of the maintenance or repairs, if any, made to the carbon adsorber or the baghouse. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Pressure Drop Ranges are:

a. For the carbon adsorber, 0.01 to 5.0 inches of water.
b. For the baghouse, 0.5 to 5.0 inches of water.

These Pressure Drop Ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the range(s) based upon information that demonstrates compliance with the allowable mercury emission rate (for the carbon adsorber) or particulate emission rate (for the baghouse) for this emissions unit. If the permittee submits a written request to establish a new Pressure Drop Range, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall notify the Northwest District Office in writing of any daily record showing the use of base cement exceeding 3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents. The notification shall include a copy of such record and shall be sent to the Northwest District Office within 30 days following the end of the calendar month.

[OAC rules 3745-21-09(B)(3), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall submit semiannual reports that identify the following information concerning the operation of the carbon adsorber during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its applicable Pressure Drop Range; and
b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.
[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) The permittee shall submit semiannual reports that identify the following information concerning the operation of the baghouse (fabric filter) during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its applicable Pressure Drop Range; and
b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following limitation:

a. The monthly OC emission limitation of 2.82 pounds (from cleanup materials).
The permittee shall submit these reports in accordance with the General Terms and Conditions of this permit.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(5) The permittee shall submit annual reports that summarize the actual annual OC emissions for this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(6) The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation: 8.36 lbs OC/hour
Applicable Compliance Method: The hourly allowable OC emission rate was established based on the summation of the OC emissions generated during lamp manufacturing and OC emissions generated during lamp base cementing. The following outlines potential emissions generated during each process:

i. Lamp manufacturing - the potential to emit for lamp manufacturing is 2.19 lbs of OC per hour based on the summation of emissions from the following components of the line and a maximum lamp manufacturing rate of 7500 lamps per hour:

Phosphor Coating - 1.58 pounds of OC per hour (based on a maximum surfactant usage rate of 0.358 lb/1000 lamps and a maximum OC content of 8.3% by weight, plus a maximum mono ethanol amine usage rate of 0.181 lb/1000 lamps and a maximum OC content of 100% by weight).

Monogram Ink - 0.01 pound of OC per hour (based on a maximum ink usage rate of 0.006 lb/1000 lamps and a maximum OC content of 30% by weight, plus a maximum diluent usage rate of 0.0002 lb/1000 lamps and a maximum OC content of 100% by weight).

Headmarking Ink - 0.06 pound of OC per hour (based on a maximum ink usage rate of 0.0063 lb/1000 lamps and a maximum OC content of 71% by weight, plus a maximum diluent solvent usage rate of 0.0037 lb/1000 lamps and maximum OC content of 100% by weight).

E-Mix - 0.40 pound of OC per hour (based on a maximum usage rate of 0.1607 lb/1000 lamps and a maximum OC content of 29% by weight, plus a maximum diluent solvent usage rate of 0.0068 lb/1000 lamps and a maximum OC content of 100% by weight).

Dry Film - 0.13 pound of OC per hour (based on a maximum usage rate of 0.0339 lb/1000 lamps and a maximum OC content of 50% by weight).

ii. Lamp base cementing - the potential to emit for lamp base cementing is 6.18 lbs of OC per hour based on a maximum lamp base cementing rate of 16,130 bases per hour and a maximum cement usage rate of 5.055 lbs/1000 bases, a maximum OC content of 7.74 % by weight and a maximum emission rate of 98% (98% for this emissions unit, i.e. 2% of the OC is emitted during base cement mixing).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 - 4, 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

b. Emission Limitation: 36.62 tons OC/year

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d).

c. Emission Limitation: 2.82 lbs OC/month, from cleanup materials

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d)(5).

d. Emission Limitation: 0.02 ton OC/year, from cleanup materials

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d)(5) and shall be the summation of the 12 OC emission rates for the calendar year.

e. Emission Limitation: 3.33 lbs NOx/hour (natural gas combustion)

Applicable Compliance Method: The hourly allowable NOx emission limitation was established by multiplying the maximum natural gas usage rate of 33,315 cu. ft /hr by the AP-42 emission factor of 100 lbs of NOx/mm cu. ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 4 and 7 of 40 CFR, Part 60, Appendix A.

f. Emission Limitation: 2.80 lb CO/hour (natural gas combustion)

Applicable Compliance Method: The hourly allowable CO emission limitation was established by multiplying the maximum natural gas usage rate of 33,315 cu. ft /hr by the AP-42 emission factor of 84 lbs of CO/mm cu. ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

g. Emission Limitation: 0.009 lb PE/hour (end brushing)

Applicable Compliance Method: The hourly allowable PE limitation was established by multiplying the maximum phosphor coating application rate of 12.56 lbs/1000 lamps by the production rate of 7500 lamps per hour, a removal rate of 1% of the phosphor applied, and then multiplying by a control factor (1-0.99*).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 5 of 40 CFR, Part 60, Appendix A.

* the baghouse control efficiency is assumed to be 99%

h. Emission Limitation: (end brushing) Visible PE shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method: Compliance shall be determined in accordance with the test method and procedures in Method 9 of 40 CFR, Part 60, Appendix A.

i. Emission Limitation: 0.84 lb SO2/hour (SO2 lubricant)

Applicable Compliance Method: The hourly allowable SO2 emission limitation was established by summing the maximum of 0.11 lb of SO2/hour injected in the Lehr and 0.73 lb of SO2/hour injected in the flare machines.

If required, the permittee shall demonstrate compliance in accordance with Methods 1 - 4 and 6 of 40 CFR, Part 60, Appendix A.

j. Emission Limitation: 0.25 lb NOx/hour (binder combustion)

Applicable Compliance Method: The hourly allowable NOx emission limitation was established by multiplying the maximum phosphor coating application rate of 12.56 lbs/1000 lamps by the maximum lamp processing rate of 7500 lamps per hour and by 0.11 lb of binder/lb of coating, and then by 0.0238 lb of NOx/lb of binder.

If required, the permittee shall demonstrate compliance in accordance with the test methods and procedures in Methods 1- 4 and 7 of 40 CFR, Part 60, Appendix A.

k. Emission Limitation: 0.0004 lb Hg/hour

Applicable Compliance Method: Compliance with this emission limitation was demonstrated with the results of emissions testing conducted on November 18, 2003.

If required, the permittee shall conduct any future compliance demonstration with the emission limitation in accordance with Methods 1 through 4, and 29 of 40 CFR, Part 60, Appendix A.

l. Emission Limitations:

14.59 tons NO_x/year (natural gas combustion)
12.26 tons CO/year (natural gas combustion)
0.04 ton PE/year (end brushing)
3.68 tons SO_2/year (SO2 lubricant)
1.10 ton NO_x/year (binder combustion)
0.002 ton Hg/year

Applicable Compliance Method: Compliance with the annual emission limitation for each pollutant above shall be assumed as long as compliance with the hourly emission limitation for the specific pollutant is maintained (the annual emission limitation for each pollutant was determined by multiplying the hourly emission limitation for the specific pollutant by 8760, and then dividing by 2000).

Formulation data or U.S. EPA Method 24 shall be used to determine the OC/VOC contents of all the coatings and cleanup materials.

[All of Section f): OAC 3745-21-04(B)(5), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.

5. P008, L-6

Operations, Property and/or Equipment Description:

L-6 High Speed Horizontal Lamp Assembly Line (Line L) - Coating, End Brushing, Natural Gas Combustion, and Mercury Evacuation with Cyclone and Carbon Adsorber (Modification to increase current permit emission limitations)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 03-13538)	Coating Emissions: 8.72 lbs organic compounds (OC)/hour*; 38.19 tons OC/year * see also b)(2)a Cleanup Emissions: 2.82 lbs OC/month; 0.02 ton OC/year Natural Gas Combustion Emissions: 3.36 lbs nitrogen oxides (NOx)/hour; 14.72 tons NOx/year 2.83 lbs carbon monoxide (CO)/hour; 12.40 tons CO/year Binder Combustion Emissions: 0.23 lb NOx/hour; 1.01 ton NOx/year End Brushing Emissions: 0.18 lb particulate emissions (PE)/hour; 0.79 ton PE/year Visible PE shall not exceed 5% opacity, as a six-minute average. SO2 Lubricant Emissions: 0.84 lb sulfur dioxide (SO2)/hr;

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		3.68 tons SO2/yr
b.	OAC rule 3745-31-05(A)(3) (PTI 03-16008)	Mercury Evacuation System Emissions: 0.0004 lb of Mercury (Hg)/hour; 0.002 ton of Hg/year See b)(2)a through b)(2)c.
c.	OAC rule 3745-21-09(U)(1)(c)	3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents [for the coatings used for the metal parts (base cement coatings)]
d.	OAC rule 3745-21-07(G)(2)	OC emissions shall not exceed 8 pounds per hour and 40 pounds per day (for the coatings /cleanup materials used for only the non-metal parts) [See b)(2)b].
e.	OAC rule 3745-17-11(B)(2)	See b)(2)d.
f.	OAC rule 3745-17-07(A)(1)	See b)(2)e.
g.	OAC rule 3745-18-06(E)	Exempt [See b)(2)f].
	OAC rule 3745-21-08(B)	See b)(2)g.

(2) Additional Terms and Conditions

a. This emissions unit is subject to the emission limitation of 7.81 lbs of OC/hour, from the coating operations, at all times, except when subject to OAC rule 3745-21-07(G)(2) as specified in b)(2)b.

The hourly OC emission limitation of 7.81 pounds 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 reporting requirements to ensure compliance with this limitation.

b. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-09(U)(1), 3745-21-07(G)(2), 3745-18-06(E), and 3745-21-08(B).

c. Best available technology (BAT) control requirements have been determined to be the following:

i. Use of a cyclone (or fabric filter) for particulate emissions from the end brushing operation; the cyclone (or fabric filter) shall achieve an overall control efficiency of 80%, by weight.

ii. Use of a carbon adsorber for mercury emissions from the mercury evacuation system; the carbon adsorber shall achieve a maximum outlet emission rate of 0.0004 pound of mercury per hour.

d. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the facility is located in Crawford County, which is identified as a P-2 county.

e. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

f. The maximum process weight rate for this emissions unit is less than 1000 lbs/hr. Therefore, pursuant to OAC rule 3745-18-06 (C), this emissions unit is exempt from OAC rule 3745-18-06 (E).

g. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in this permit to install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

h. The hourly and annual emission limitations for NOx, CO, PE, SO2 and Hg were established for PTI purposes to reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with these limitations.

i. Terms b)(2)a. through b)(2)h. above are intended for clarification of current regulatory applicability and requirements at the time of permit issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07(I).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain daily records of the following information for this emissions unit:

a. The company name and identification number of each coating/ink applied to non-metal substrates;

b. The company name and identification number of each cleanup material employed; and

c. Whether or not each coating/ink and cleanup material employed is a photochemically reactive material.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) On any day when any photochemically reactive material is employed in an operation involving non-metal substrates, the permittee shall collect and record the following information for this emissions unit for each such day:

a. The company name and identification of the following:

i. each coating and ink employed on non-metal substrates; and

ii. each photochemically reactive cleanup material employed;

iii. The total number of lamps processed;

iv. The OC emissions from all the coatings and inks employed on non-metal substrates, calculated in accordance with the following equation:

OC emissions (lbs/day) = (# of lamps processed/day) x (A + B + C + D + E + F + G + H + I)

where:

A = emission factor for surfactant phosphor coating:
maximum lb of coating/1000 lamps (0.358) x maximum OC content weight fraction (0.83) = 0.297 lb of OC/1000 lamps

B = emission factor for mono-ethanol amine phosphor coating:

maximum lb of coating/1000 lamps (0.181) x maximum OC content weight fraction (1.0) = 0.181 lb of OC/1000 lamps

C = emission factor for monogram ink:
maximum lb of ink/1000 lamps (0.006) x maximum OC content weight fraction (0.30) = 0.0018 lb of OC/1000 lamps

D = emission factor for monogram ink diluent solvent:
maximum lb of ink/1000 lamps (0.0002) x maximum OC content weight fraction (1.0) = 0.0002 lb of OC/1000 lamps

E = emission factor for headmarking ink:
maximum lb of ink/1000 lamps (0.0063) x maximum OC content weight fraction (0.71) = 0.0045 lb of OC/1000 lamps

F = emission factor for headmarking ink diluent solvent:
maximum lb of solvent/1000 lamps (0.0037) x maximum OC content weight fraction (1.0) = 0.0037 lb of OC/1000 lamps

G = emission factor for E-Mix:

maximum lb of E-Mix/1000 lamps (0.551) x maximum OC content weight fraction (0.29) = 0.160 lb of OC/1000 lamps

H = emission factor for E-Mix diluent solvent:
maximum lb of solvent/1000 lamps (0.0235) x maximum OC content weight fraction (1.00) = 0.0235 lb of OC/1000 lamps

I = emission factor for Dry-Film:
maximum lb of Dry-Film/1000 lamps (0.0339) x maximum weight fraction (.50) = 0.017 lb of OC/1000 lamps

b. The OC content of each photochemically reactive cleanup material employed, in pounds per gallon;

c. The number of gallons of each photochemically reactive cleanup material employed;

d. The OC emissions from each photochemically reactive cleanup material employed [d)(2)d x d)(2)e], in pounds;

e. The total OC emissions from all the photochemically reactive cleanup materials employed [summation of d)(2)f for all photochemically reactive cleanup materials], in pounds;

f. The total number of hours the emissions unit was in operation while coating non-metal substrates and employing photochemically reactive cleanup materials;

g. The total OC emissions from all the coatings/inks and photochemically reactive cleanup materials employed {[d)(2)c + d)(2)g] / d)(2)h}, in pounds; and

h. The average hourly OC emission rate [d)(2)i / d)(2)h], in pounds per hour (average).

[Note: The coating information must be for the coatings as employed, including any thinning solvents added at the emissions unit. Also, the definitions of "photochemically reactive" is based upon OAC rule 3745-21-01(C)(5).]

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) On the days when coating metal parts, the permittee shall collect and record the following information for this emissions unit for the coatings used for the metal parts:

a. The company name and identification of each coating (base cement) employed;

b. The VOC content of each coating (pounds/gallon, excluding water and exempt solvents) employed. [The VOC content excluding water and exempt solvents shall be calculated in accordance with the equation specified in paragraph (B)(8) of OAC rule 3745-21-10 for CVOC,2.]

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) In conjunction with the coating information required in d)(2) above, the permittee shall collect and record the following information each month for all OC emissions emitted (including OC emissions from the use of photochemically reactive materials, non-photochemically reactive materials, and base cement) from lamp processing for this emissions unit:

a. The name and identification number of each coating, ink and base cement employed;

b. The total number of lamps processed;

c. The total number of bases cemented;

d. The total OC emissions from the coatings and inks employed, calculated in accordance with the following equation:

OC emissions (lbs/month) = (# of lamps processed/month) x (A + B + C + D + E + F + G + H + I)*

* For emission factors A, B, C, D, E, F, G, H, and I, see d(2).

e. The total OC emissions from all the base cement employed, calculated in accordance with the following equation:

OC emissions (lbs/month) = (# of bases cemented/month) x (EF)

where

EF = emission factor for base cement:

EF (lb OC/1000 bases) = maximum lbs cement/1000 bases (5.055) x maximum OC content weight fraction (0.0774) x 0.98* = 0.383

* 2% of the OC is emitted elsewhere

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(5) The permittee shall collect and record the following information each month for all the cleanup materials employed in this emissions unit:

a. The name and identification of each cleanup material employed;

b. The OC content of each cleanup material employed, in pounds per gallon;

c. The number of gallons of each cleanup material employed;

d. The OC emissions from each cleanup material employed [d)(5)b x d)(5)c];

e. The total OC emissions from all the cleanup materials employed [summation of d)(5)d for all cleanup materials], in pounds.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(6) The permittee shall calculate and record each month the total OC emissions for this emissions unit, in tons, calculated as follows:

Total OC emissions (tons/month) = {the total OC emissions from lamp processing [from d(4)d] + the total OC emissions from base cementing [from d)(4)e] + the total OC emissions from cleanup materials usage [from d)(5)e]} /2000
[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(7) The permittee shall collect and record each year the total OC emissions for this emissions unit, in tons, calculated by summing the monthly OC emissions [from d(6)] for the calendar year.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(8) The permittee shall monitor at least once every fifteen minutes the pressure drop across the carbon adsorber serving the vacuum pump, and across the baghouse (fabric filter) serving the end brushing operation, during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for each control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value is outside of the applicable range specified below (hereinafter the "Pressure Drop Range"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the carbon adsorber or the baghouse (whichever is producing a Daily Pressure Drop Value outside of its Pressure Drop Range), and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is outside of its Pressure Drop Range), the permittee shall record the number of days during which the Daily Pressure Drop Value remained outside of its Pressure Drop Range and a description of the maintenance or repairs, if any, made to the carbon adsorber or the baghouse. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Pressure Drop Ranges are:

a. For the carbon adsorber, 0.01 to 5.0 inches of water.

b. For the baghouse, 0.5 to 5.0 inches of water.

These Pressure Drop Ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the range(s) based upon information that demonstrates compliance with the allowable mercury emission rate (for the carbon adsorber) or particulate emission rate (for the baghouse) for this

emissions unit. If the permittee submits a written request to establish a new Pressure Drop Range, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall notify the Northwest District Office in writing of any daily record showing the use of base cement exceeding 3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents. The notification shall include a copy of such record and shall be sent to the Northwest District Office within 30 days following the end of the calendar month.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall submit semiannual reports that identify the following information concerning the operation of the carbon adsorber during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its applicable Pressure Drop Range; and

b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) The permittee shall submit semiannual reports that identify the following information concerning the operation of the baghouse (fabric filter) during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its applicable Pressure Drop Range; and

b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following limitation:

a. The monthly OC emission limitation of 2.82 pounds (from cleanup materials).

The permittee shall submit these reports in accordance with the General Terms and Conditions of this permit.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(5) The permittee shall submit annual reports that summarize the actual annual OC emissions for this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(6) The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation: 8.72 lbs OC/hour

Applicable Compliance Method: The hourly allowable OC emission rate was established based on the summation of the OC emissions generated during lamp manufacturing and OC emissions generated during lamp base cementing. The following outlines potential emissions generated during each process:

i. Lamp manufacturing - the potential to emit for lamp manufacturing is 2.04 lbs of OC per hour based on the summation of emissions from the following components of the line and a maximum lamp manufacturing rate of 7000 lamps per hour:

Phosphor Coating - 1.48 pounds of OC per hour (based on a maximum surfactant usage rate of 0.358 lb/1000 lamps and a maximum OC content of 8.3% by weight, plus a maximum mono ethanol amine usage rate of 0.181 lb/1000 lamps and a maximum OC content of 100% by weight).

Monogram Ink - 0.01 pound of OC per hour (based on a maximum ink usage rate of 0.006 lb/1000 lamps and a maximum OC content of 30% by weight, plus a maximum diluent usage rate of 0.0002 lb/1000 lamps and a maximum OC content of 100% by weight).

Headmarking Ink - 0.06 pound of OC per hour (based on a maximum ink usage rate of 0.0063 lb/1000 lamps and a maximum OC content of 71% by weight, plus a maximum diluent solvent usage rate of 0.0037 lb/1000 lamps and maximum OC content of 100% by weight).

E-Mix - 1.28 pound of OC per hour (based on a maximum usage rate of 0.551 lb/1000 lamps and a maximum OC content of 29% by weight, plus a maximum diluent solvent usage rate of 0.0235 lb/1000 lamps and a maximum OC content of 100% by weight).

Dry Film - 0.12 pound of OC per hour (based on a maximum usage rate of 0.0339 lb/1000 lamps and a maximum OC content of 50% by weight).

ii. Lamp base cementing - the potential to emit for lamp base cementing is 5.77 lbs of OC per hour based on a maximum lamp base cementing rate of 16,130 bases per hour and a maximum cement usage rate of 5.055 lbs/1000 bases, a maximum OC content of 7.74 % by weight and a maximum emission rate of 98% (98% for this emissions unit, i.e. 2% of the OC is emitted during base cement mixing).

If required, the permittee shall demonstrate compliance in accordance with Methods 1 - 4, 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

b. Emission Limitation: 38.19 tons OC/year

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d).

c. Emission Limitation: 2.82 lbs OC/month, from cleanup materials

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d)(5).

d. Emission Limitation: 0.02 ton OC/year, from cleanup materials

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and record keeping requirements established in d)(5) and shall be the summation of the 12 OC emission rates for the calendar year.

e. Emission Limitation: 3.36 lbs NO_x/hour (natural gas combustion)

Applicable Compliance Method: The hourly allowable NO_x emission limitation was established by multiplying the maximum natural gas usage rate of 33,637 cu. ft /hr by the AP-42 emission factor of 100 lbs of NO_x/mm cu. ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 4 and 7 of 40 CFR, Part 60, Appendix A.

f. Emission Limitation: 2.83 lb CO/hour (natural gas combustion)

Applicable Compliance Method: The hourly allowable CO emission limitation was established by multiplying the maximum natural gas usage rate of 33,637 cu. ft /hr by the AP-42 emission factor of 84 lbs of CO/mm cu. ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 4 and 10 of 40 CFR, Part 60, Appendix A.

g. Emission Limitation: 0.18 lb PE/hour (end brushing)

Applicable Compliance Method: The hourly allowable PE limitation was established by multiplying the maximum phosphor coating application rate of 12.56 lbs/1000 lamps by the production rate of 7000 lamps per hour, a removal rate of 1% of the phosphor applied, and then multiplying by a control factor (1-0.80*).

If required, the permittee shall demonstrate compliance in accordance with Methods 1- 5 of 40 CFR, Part 60, Appendix A.

* the cyclone (or baghouse) control efficiency is assumed to be at least 80%

h. Emission Limitation: (end brushing) Visible PE shall not exceed 5% opacity, as a six minute average.

Applicable Compliance Method: If required, compliance shall be determined in accordance with the test method and procedures in Method 9 of 40 CFR, Part 60, Appendix A.

i. Emission Limitation: 0.84 lb SO_2/hour (SO_2 lubricant)

Applicable Compliance Method: The hourly allowable SO_2 emission limitation was established by summing the maximum of 0.11 lb of SO_2/hour injected in the Lehr and 0.73 lb of SO_2/hour injected in the flare machines.

If required, the permittee shall demonstrate compliance in accordance with Methods 1 - 4 and 6 of 40 CFR, Part 60, Appendix A.

j. Emission Limitation: 0.23 lb NO_x/hour (binder combustion)

Applicable Compliance Method: The hourly allowable NO_x emission limitation was established by multiplying the maximum phosphor coating application rate of 12.56 lbs/1000 lamps by the maximum lamp processing rate of 7500 lamps per hour and by 0.11 lb of binder/lb of coating, and then by 0.0238 lb of NO_x/lb of binder.

If required, the permittee shall demonstrate compliance in accordance with the test methods and procedures in Methods 1- 4 and 7 of 40 CFR, Part 60, Appendix A.

k. Emission Limitation: 0.0004 lb Hg/hour

Applicable Compliance Method: Compliance with this emission limitation was demonstrated with the results of emissions testing conducted on November 18, 2003.

If required, the permittee shall conduct any future compliance demonstration with the emission limitation in accordance with Methods 1 through 4, and 29 of 40 CFR, Part 60, Appendix A.

l. Emission Limitations:

14.72 tons NO_x/year (natural gas combustion)
12.40 tons CO/year (natural gas combustion)
0.79 ton PE/year (end brushing)
3.68 tons SO_2/year (SO2 lubricant)
1.01 ton NO_x/year (binder combustion)
0.002 ton Hg/year

Applicable Compliance Method: Compliance with the annual emission limitation for each pollutant above shall be assumed as long as compliance with the hourly emission limitation for the specific pollutant is maintained (the annual emission limitation for each pollutant was determined by multiplying the hourly emission limitation for the specific pollutant by 8760, and then dividing by 2000).

(2) Formulation data or U.S. EPA Method 24 shall be used to determine the OC/VOC contents of all the coatings and cleanup materials.

[All of Section f): OAC rules 3745-21-04(B)(5), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.

6. P013, C-2A

Operations, Property and/or Equipment Description:

East Spray Lehr (with tin chloride application) direct-fired natural gas, 13.6 mmBtu/hr, with settling chamber and 2 wet scrubbers in series

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 03-5922 as modified on June 26, 2003)	0.38 lb particulate emissions (PE)/hr; 1.66 ton PE /year 1.43 lbs nitrogen oxides (NOx) /hr; 6.26 tons NOx /year 1.20 lbs carbon monoxide (CO) /hr; 5.25 tons CO /year 0.91 lbs volatile organic compounds (VOC) /hr; 3.99 tons VOC /year 0.37 lb hydrogen chloride (HCl) /hr 1.62 tons HCl/year See b)(2)a.
b.	OAC rule 3745-17-11(B)(2)	See b)(2)b.
c.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
d.	OAC rule 3745-18-06(E)	Exempt [See b)(2)d].
e.	OAC rule 3745-21-08(B)	See b)(2)e.

(2) Additional Terms and Conditions

a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B).

b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the facility is located in Crawford County, which is identified as a P-2 county.

c. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

d. The maximum process weight rate for this emissions unit is less than 1000 lbs/hr. Therefore, pursuant to OAC rule 3745-18-06 (C), this emissions unit is exempt from OAC rule 3745-18-06 (E).

e. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in this permit to install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

f. Terms b)(2)a. through b)(2)e. above are intended for clarification of current regulatory applicability and requirements at the time of permit issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07(I).

c) Operational Restrictions

(1) The permittee shall burn only natural gas, or other such 'inherently clean' fuel that would result in emissions that comply with the limitations and restrictions of this permit, in this emissions unit.

[OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall monitor at least once every fifteen minutes the pressure drop across the high energy venturi section of the scrubber system during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for each control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the

time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value drops below 35 inches of water ("Minimum Pressure Drop"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the scrubber system, and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is below the Minimum Pressure Drop), the permittee shall record the number of days during which the Daily Pressure Drop Value remained below the Minimum Pressure Drop and a description of the maintenance or repairs, if any, made to the scrubber system. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Minimum Pressure Drop is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the Minimum Pressure Drop based upon information that demonstrates compliance with the allowable HCl and particulate emission limits for this emissions unit. If the permittee submits a written request to establish a new Minimum Pressure Drop, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall monitor at least once every fifteen minutes the flow rate through the packed tower section and the pH of the scrubber water during operation of this emissions unit, and record the average of those values for each three-hour block period during which this emissions unit is in operation. For purposes of this requirement, the permittee shall record one average value for the parameter measured on this control device each three-hour block period, beginning at midnight, during each the emissions unit operates, provided, however, that the permittee shall not be required to record an average value for any three-hour block period during which the emissions unit did not operate for the full three hours.

(3) Whenever the recorded value (i.e. the average value for the three-hour block period) is outside the range or below the value specified below (hereinafter the "Scrubber Parameters"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the scrubber system, and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when the three-hour average for a parameter is below or outside an applicable Scrubber Parameter), the permittee shall record the number of three-hour periods during which the parameter remained below or outside of its Scrubber Parameter and a description of the maintenance or repairs, if any, made to the scrubber system. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Scrubber Parameters are:

a. For the packed tower section, a flow rate of no less than 150 gallons per minute.

b. For the scrubber system packed tower water, a pH within the range of 9 to 12.

These Scrubber Parameters are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the values based upon information that demonstrates compliance with the allowable HCl and particulate emission rate for this emissions unit. If the permittee submits a written request to establish a new Scrubber Parameter, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) For each day during which the permittee burns a fuel other than natural gas or other inherently clean fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports that identify the following information concerning the operation of the scrubber system during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was below the Minimum Pressure Drop;

b. The total number of three-hour periods during which any monitored value remained below or outside the range of its applicable Scrubber Parameter; and

c. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

d. These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall submit deviation (excursion) reports that identify each day when any fuel was burned in this emissions unit other than natural gas or other inherently clean fuel. Each report shall be submitted within 30 days after the deviation occurs.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation: 0.38 lb PE/hr

Applicable Compliance Method: To determine the actual maximum PE rate (E), the permittee may use the following equation:

E = E1 + E2

E1 = 0.15 lb PE/hr (determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (mm cu. ft./hour) by the AP-42, Table 1.4-2 (revised 7/98) emission factor for natural gas (1.9 lbs PE/mm cu. ft))

E2 = 0.10 lb PE/hr (determined based on the results of emission testing conducted for emissions unit P009 in November, 1991)

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 5.

b. Emission Limitation: 1.43 lbs NO_x/hr

Applicable Compliance Method: The permittee may demonstrate compliance with the hourly allowable NO_x limitation by multiplying the maximum hourly gas burning capacity of the emissions unit (12,000 cu. ft./hour) by the AP-42, Table 1.4-1 (revised 7/98) emission factor for natural gas (100 lbs NO_x/mm cu. ft).

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 4 and 7.

c. Emission Limitation: 1.20 lb CO/hr

Applicable Compliance Method: The permittee may demonstrate compliance with the hourly allowable CO limitation by multiplying the maximum hourly gas burning capacity of the emissions unit (12,000 cu. ft./hour) by the AP-42, Table 1.4-1 (revised 7/98) emission factor for natural gas (84 lbs CO/mm cu. ft).

If required, the permittee shall demonstrate compliance in accordance with the test methods and procedures in Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

d. Emission Limitation: 0.91 lb VOC/hr

Applicable Compliance Method: The permittee may demonstrate compliance with the hourly allowable VOC limitation by multiplying the maximum hourly gas burning capacity of the emissions unit (12,000 cu. ft./hour) by the AP-42, Table 1.4-2 (revised 7/98) emission factor for natural gas (5.5 lbs VOC/mm cu. ft).

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 4, and 25.

e. Emission Limitation: 0.37 lb HCl/hr

Applicable Compliance Method: Compliance with this emission limitation was demonstrated with the results of emissions testing conducted on November 18, 2003.

If required, the permittee shall conduct any future compliance demonstration with the emission limitation in accordance with Methods 1 through 4, and 29 of 40 CFR, Part 60, Appendix A.

f. Emission Limitations:

1.66 ton PE /yr
6.26 ton NO_x /yr
5.25 ton CO /yr
3.99 ton OC /yr
1.62 ton HCl /yr

Applicable Compliance Method: Compliance with the annual emission limitation for each pollutant above shall be assumed as long as compliance with the hourly emission limitation for the specific pollutant is maintained (the annual emission limitation for each pollutant was determined by multiplying the hourly emission limitation for the specific pollutant by 8760, and then dividing by 2000).

[All of Section f): OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.

7. P022, C-2B

Operations, Property and/or Equipment Description:

West Spray Lehr (with tin chloride application) direct-fired natural gas, 13.6 mmBtu/hr, with settling chamber and 2 wet scrubbers in series

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 03-5922 as modified on June 26, 2003)	0.38 lb particulate emissions (PE)/hr; 1.66 ton PE /year 1.43 lbs nitrogen oxides (NOx) /hr; 6.26 tons NOx /year 1.20 lbs carbon monoxide (CO) /hr; 5.25 tons CO /year 0.91 lbs volatile organic compounds (VOC) /hr; 3.99 tons VOC /year 0.37 lb hydrogen chloride (HCl) /hr 1.62 tons HCl/year See b)(2)a.
b.	OAC rule 3745-17-11(B)(2)	See b)(2)b.
c.	OAC rule 3745-17-07(A)(1)	See b)(2)c.
d.	OAC rule 3745-18-06(E)	Exempt [See b)(2)d].
e.	OAC rule 3745-21-08(B)	See b)(2)e.

(2) Additional Terms and Conditions

a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B).

b. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the facility is located in Crawford County, which is identified as a P-2 county.

c. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

d. The maximum process weight rate for this emissions unit is less than 1000 lbs/hr. Therefore, pursuant to OAC rule 3745-18-06 (C), this emissions unit is exempt from OAC rule 3745-18-06 (E).

e. The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05 (A)(3) in this permit to install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

f. Terms b)(2)a. through b)(2)e. above are intended for clarification of current regulatory applicability and requirements at the time of permit issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07(I).

c) Operational Restrictions

(1) The permittee shall burn only natural gas, or other such 'inherently clean' fuel that would result in emissions that comply with the limitations and restrictions of this permit, in this emissions unit.

[OAC rules 3745-77-07(A)(1) and 3745-31-05(A)(3)]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall monitor at least once every fifteen minutes the pressure drop across the high energy venturi section of the scrubber system during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for each control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the

time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value drops below 35 inches of water ("Minimum Pressure Drop"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the scrubber system, and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is below the Minimum Pressure Drop), the permittee shall record the number of days during which the Daily Pressure Drop Value remained below the Minimum Pressure Drop and a description of the maintenance or repairs, if any, made to the scrubber system. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Minimum Pressure Drop is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the Minimum Pressure Drop based upon information that demonstrates compliance with the allowable HCl and particulate emission limits for this emissions unit. If the permittee submits a written request to establish a new Minimum Pressure Drop, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall monitor at least once every fifteen minutes the flow rate through the packed tower section and the pH of the scrubber water during operation of this emissions unit, and record the average of those values for each three-hour block period during which this emissions unit is in operation. For purposes of this requirement, the permittee shall record one average value for the parameter measured on this control device each three-hour block period, beginning at midnight, during each the emissions unit operates, provided, however, that the permittee shall not be required to record an average value for any three-hour block period during which the emissions unit did not operate for the full three hours.

Whenever the recorded value (i.e. the average value for the three-hour block period) is outside the range or below the value specified below (hereinafter the "Scrubber Parameters"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the scrubber system, and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when the three-hour average for a parameter is below or outside an applicable Scrubber Parameter), the permittee shall record the number of three-hour periods during which the parameter remained below or outside of its Scrubber Parameter and a description of the maintenance or repairs, if any, made to the scrubber system. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Scrubber Parameters are:

a. For the packed tower section, a flow rate of no less than 150 gallons per minute.

b. For the scrubber system packed tower water, a pH within the range of 9 to 12.

These Scrubber Parameters are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the values based upon information that demonstrates compliance with the allowable HCl and particulate emission rate for this emissions unit. If the permittee submits a written request to establish a new Scrubber Parameter, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) For each day during which the permittee burns a fuel other than natural gas or other inherently clean fuel, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports that identify the following information concerning the operation of the scrubber system during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was below the Minimum Pressure Drop;

b. The total number of three-hour periods during which any monitored value remained below or outside the range of its applicable Scrubber Parameter; and

c. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall submit deviation (excursion) reports that identify each day when any fuel was burned in this emissions unit other than natural gas or other inherently clean fuel. Each report shall be submitted within 30 days after the deviation occurs.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation: 0.38 lb PE/hr

Applicable Compliance Method: To determine the actual maximum PE rate (E), the permittee may use the following equation:

E = E1 + E2

E1 = 0.15 lb PE/hr (determined by multiplying the maximum hourly natural gas burning capacity of the emissions unit (mm cu. ft./hour) by the AP-42, Table 1.4-2 (revised 7/98) emission factor for natural gas (1.9 lbs PE/mm cu. ft))

E2 = 0.10 lb PE/hr (determined based on the results of emission testing conducted for emissions unit P009 in November, 1991)

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 5.

b. Emission Limitation: 1.43 lbs NO_x/hr

Applicable Compliance Method: The permittee may demonstrate compliance with the hourly allowable NO_x limitation by multiplying the maximum hourly gas burning capacity of the emissions unit (12,000 cu. ft./hour) by the AP-42, Table 1.4-1 (revised 7/98) emission factor for natural gas (100 lbs NOx/mm cu. ft).

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 4 and 7.

c. Emission Limitation: 1.20 lb CO/hr

Applicable Compliance Method: The permittee may demonstrate compliance with the hourly allowable CO limitation by multiplying the maximum hourly gas burning capacity of the emissions unit (12,000 cu. ft./hour) by the AP-42, Table 1.4-1 (revised 7/98) emission factor for natural gas (84 lbs CO/mm cu. ft).

If required, the permittee shall demonstrate compliance in accordance with the test methods and procedures in Methods 1-4 and 10 of 40 CFR Part 60, Appendix A.

d. Emission Limitation: 0.91 lb VOC/hr

Applicable Compliance Method: The permittee may demonstrate compliance with the hourly allowable VOC limitation by multiplying the maximum hourly gas burning capacity of the emissions unit (12,000 cu. ft./hour) by the AP-42, Table 1.4-2 (revised 7/98) emission factor for natural gas (5.5 lbs VOC/mm cu. ft).

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 4, and 25.

e. Emission Limitation: 0.37 lb HCl/hr

Applicable Compliance Method: Compliance with this emission limitation was demonstrated with the results of emissions testing conducted on November 18, 2003.

If required, the permittee shall conduct any future compliance demonstration with the emission limitation in accordance with Methods 1 through 4, and 29 of 40 CFR, Part 60, Appendix A.

f. Emission Limitations:

1.66 ton PE /yr
6.26 ton NO_x /yr
5.25 ton CO /yr
3.99 ton OC /yr
1.62 ton HCl /yr

Applicable Compliance Method: Compliance with the annual emission limitation for each pollutant above shall be assumed as long as compliance with the hourly emission limitation for the specific pollutant is maintained (the annual emission limitation for each pollutant was determined by multiplying the hourly emission limitation for the specific pollutant by 8760, and then dividing by 2000).

[All of Section f): OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.

8. P033, BR-1

Operations, Property and/or Equipment Description:

BR-1

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05 (A)(3) (PTI 03-13601 as modified on September 11, 2001)	0.46 lb of particulate emissions (PE)/hr; 2.01 tons of PE/year 0.003 lb of mercury (Hg) /hr; 0.013 ton of Hg/year See b)(2)a and b)(2)b
b.	OAC rule 3745-17-11(B)(2)	See b)(2)c
c.	OAC rule 3745-17-07(A)(1)	Visible PE shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

(2) Additional Terms and Conditions

a. Best available technology (BAT) for this emissions unit has been determined to be the following:

i. For the chopper hopper and the crusher: use of a control system consisting of a fabric filter (hose filter) followed by a carbon adsorption unit.

ii. For the sieve and silo: use of a control system consisting of a cyclone followed by a fabric filter (hose filter) and carbon adsorption unit.

b. The control systems for the chopper hopper, crusher, sieve and silo shall achieve an overall control efficiency of 99.5% (100% capture) for PE and Hg.

c. The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rule 3745-17-07(A).

d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall monitor at least once every fifteen minutes the pressure drop across the carbon adsorbers and across the baghouses (fabric filter) during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for each control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value is outside of the applicable range specified below (hereinafter the "Pressure Drop Range"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of either carbon adsorber or either baghouse (whichever is producing a Daily Pressure Drop Value outside of its Pressure Drop Range), and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is outside of its Pressure Drop Range), the permittee shall record the number of days during which the Daily Pressure Drop Value remained outside of its Pressure Drop Range and a description of the maintenance or repairs, if any, made to either carbon adsorber or either baghouse. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Pressure Drop Ranges are:

a. For each carbon adsorber, 1.0 to 8.0 inches of water.
b. For each baghouse, 0.2 to 4.0 inches of water.

These pressure drop ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the range(s) based upon information that demonstrates compliance with the allowable mercury emission rate or particulate emission rate for this emissions unit. If the permittee submits a written request to establish a new pressure drop range, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports that identify the following information concerning the operation of each carbon adsorber during operation of this emissions unit:

a. The total duration (in days) that its daily pressure drop value was outside of its applicable Pressure Drop Range; and

b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall submit semiannual reports that identify the following information concerning the operation of each baghouse (fabric filter) during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its applicable Pressure Drop Range; and

b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. <u>Emission Limitation</u>: 0.46 pound of PE per hour

<u>Applicable Compliance Method</u>: The hourly allowable PE limitation was established by multiplying the maximum bulb crushing rate of 6000 bulbs per hour by a "worst case" PE rate of 7.0 grams per bulb (based on a maximum

phosphor content) and by an overall control factor of (1 - 0.995)*, and then dividing by 454.

If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 5.

* the overall control efficiency for the baghouse and carbon adsorber is assumed to be 99.5%

b. Emission Limitation: 0.003 lb Hg per hour

Applicable Compliance Method: The hourly allowable Hg emission limitation was established by multiplying the maximum bulb crushing rate of 6,000 bulbs per hour by the maximum Hg content of the bulbs of 0.050 gram per bulb and by an overall control factor of (1 - 0.995)*, and then dividing by 453.59.

If required, the permittee shall demonstrate compliance with the hourly allowable Hg emission limitation above based on the results of emission testing conducted in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 4 and 29.

* the overall control efficiency for the baghouse and carbon adsorber is assumed to be 99.5%

c. Emission Limitation:

2.01 tons of PE per year
0.013 ton of Hg per year

Applicable Compliance Method: Compliance with the annual emission limitation shall be assumed as long as compliance with the hourly emission limitation is maintained (the annual emission limitation was determined by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

d. Emission Limitation: Visible PE shall not exceed 20 percent opacity, as a six-minute average except as provided by rule.

Applicable Compliance Method: The permittee shall demonstrate compliance with the visible PE limitation above in accordance with OAC rule 3745-17-03(B)(1).

[All of Section f): OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.

9. P035, L-7

Operations, Property and/or Equipment Description:

L-7 High Speed Horizontal Lamp Assembly Line - HSH IV

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) (PTI # P0105519 issued April 20, 2010)	17.68 tons organic compounds (OC)/rolling, 12-month period from coating and cleanup operations 0.30 lb Nitrogen Oxide (NOx)/1000 bulbs from natural gas combustion and binder combustion
b.	OAC rule 3745-21-09 (U)(1)(c)	3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents [for the coatings used for the metal parts (base cement coatings)]
c.	OAC rule 3745-17-11 (B)(2)	See b)(2)a.
d.	OAC rule 3745-17-07 (A)(1)	See b)(2)b.
e.	OAC rule 3745-18-06 (E)	See b)(2)c.
f.	ORC 3704.03 (F)(3)(c) & (F) (4)	See d)(1)
g.	OAC rule 3745-31-05(A)(3), as effective 11/30/01 (PTI # P0105519 issued April 20, 2010)	0.01 lb particulate less than 10 micron in size (PM10)/hr & 0.04 ton PM10/yr from end brushing [see b)(2)i.] Visible particulate emissions PE from end brushing shall not exceed 5% opacity, as a six-minute average. 1.89 lbs carbon monoxide (CO)/hr and 8.28 tons CO/yr from natural gas combustion 1.21 lbs sulfur dioxide (SO2)/hr & 5.30

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		tons SO2/hr from sulfur lubricant operations 11.17 tons NOx/yr See b)(2)d. and b)(2)e.
h.	OAC rule 3745-31-05 (A)3)(a)(ii), as effective 12/01/06 (PTI # P0105519 issued April 20, 2010)	See b)(2)f.

(2) Additional Terms and Conditions

a. The uncontrolled mass rate of particulate emissions (PE) is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11 (A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the facility is located in Crawford County, which is identified as a P-2 county.

b. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07 (A), pursuant to OAC rule 3745-17-07 (A)(3)(h), because OAC rule 3745-17-11 is not applicable.

c. The maximum process weight rate for this emissions unit is less than 1000 lbs/hr. Therefore, pursuant to OAC rule 3745-18-06 (C), this emissions unit is exempt from OAC rule 3745-18-06.

d. The BAT requirements under OAC rule 3745-31-05(A)(3), effective 11/30/01 have been determined to the the following:

i. The following mass emission rate limitations:

(a) 0.01 lb PM_{10}/hr & 0.04 ton PM_{10}/yr from end brushing;

(b) 1.89 lbs carbon monoxide CO/hr & 8.28 tons CO/yr from natural gas combustion;

(c) 1.21 lbs sulfur dioxide SO_2/hr & 5.30 tons SO_2/hr from sulfur lubricant operations

(d) 11.17 tons NO_x/yr;

ii. Use of a baghouse (fabric filter) for particulate emissions from the end brushing operation; the fabric filter shall achieve an overall control efficiency of 99%, by weight;

iii. compliance with the requirements established under ORC 3704.03(T); and

iv. compliance with OAC rule 3745-21-09(U)(1)(c).

e. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05 (A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutant less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then these emission limits/control measures no longer apply.

f. This rule applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM_{10}, CO, and SO_2 emissions from this air contaminant source since the uncontrolled potential to emit for PM_{10}, CO and SO_2 is less than 10 tons/year.

The potential to emit PM_{10} is 4.49 tons per year and was calculated by multiplying a maximum phosphor coating application rate of 12.56 lbs/1000 lamps by a maximum lamp production rate of 8500 lamps per hour and a removal rate of 1% of the phosphor applied. The potential to emit does not take into account the use of a baghouse as required under OAC rule 3745-31-05(A)(3), as effective 11/30/01.

The potential to emit CO is 8.28 tons per year and was calculated by multiplying the maximum natural gas usage rate of 22,464 cubic feet/hr by the AP-42 emission factor of 84 lbs of NO_x/mm cu.ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]) by a maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton.

The potential to emit SO_2 is 5.3 tons per year and is the summation of SO_2 emissions from the sulphur flare operations and the Lehr Oven. These emissions were calculated as follows:

Flare Operations - multiplying the maximum material usage rate of 0.00013 lb material/bulb by an emission rate of 1.0 lbs SO_2/bulb by a maximum bulb production rate of 8500 bulbs/hr.

g. The emission limitations for, CO, NO_x and SO_2 established in this permit to install (PTI) reflect the potentials to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and reporting requirements to ensure compliance with these limitations.

h. Terms b)(2)a. through b)(2)g. above are intended for clarification of current regulatory applicability and requirements at the time of permit issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07 (I).

i. All emissions of particulate matter are PM_{10}.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Modeling to demonstrate compliance with, the Toxic Air Contaminant Statute, ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. 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 cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install.

[OAC rule 3745-31-05(A)(3) and PTI #P0105519]

(2) The permittee shall collect and record the following information for this emissions unit for the coatings used for the metal parts:

a. The company name and identification of each coating (base cement) employed; and

b. The VOC content of each coating (pounds/gallon, excluding water and exempt solvents) employed. [The VOC content excluding water and exempt solvents shall be calculated in accordance with the equation specified in paragraph (B)(8) of OAC rule 3745-21-10 for CVOC,2.]

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

(3) In conjunction with the coating information required in d)(2) above, the permittee shall collect and record the following information each month for all OC emissions emitted (for metal and non-metal parts) from lamp processing for this emissions unit:

a. The name and identification number of each coating, ink and base cement employed;

b. The total number of lamps processed;

c. The total number of bases cemented;

d. The total OC emissions from the coatings and inks employed, in pounds; and

e. The total OC emissions from all the base cement employed

[OAC rule 3745-77-07(C)(1) and PTI #P0105519]

(4) The permittee shall collect and record the following information each month for all the cleanup materials employed in this emissions unit:

a. The name and identification of each cleanup material employed;

b. The OC content of each cleanup material employed, in pounds per gallon;

c. The number of gallons of each cleanup material employed;

d. The OC emissions from each cleanup material employed [d)(6)b. x d)(6)c.];

e. The total OC emissions from all the cleanup materials employed [summation of d)(6)d. for all cleanup materials], in pounds.

[OAC rule 3745-77-07(C)(1) and PTI #P0105519]

(5) The permittee shall collect and record the following each month for total OC emissions for this emissions unit:

a. The total OC emissions each month calculated as follows:

Total OC emissions (tons/month) = {the total OC emissions from lamp processing [from d(3)d.] + the total OC emissions from base cementing [from d)(3)e.] + the total OC emissions from cleanup materials usage [from d)(4)e.]} /2000;

b. The rolling, 12-month summation of OC emissions.

[OAC rule 3745-77-07(C)(1) and PTI #P0105519]

(6) The permittee shall monitor at least once every fifteen minutes the pressure drop across the baghouse (fabric filter) serving the end brushing operation during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for the control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value is outside of the applicable range specified below (hereinafter the "Pressure Drop Range"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the baghouse, and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is outside of its Pressure Drop Range), the permittee shall record the number of days during which the Daily Pressure Drop Value remained outside of its Pressure Drop Range and a description of the maintenance or repairs, if any, made to the baghouse. If upon the investigation the permittee determines there is no

malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Pressure Drop Ranges is:

a. For the end brushing baghouse, 0.2 to 6.0 inches of water.

The pressure drop range is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the range(s) based upon information that demonstrates compliance with the allowable particulate emission rate (for the baghouse) for this emissions unit. If the permittee submits a written request to establish a new pressure drop range, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

e) Reporting Requirements

(1) The permittee shall notify the Northwest District Office in writing of any daily record showing the use of base cement exceeding 3.5 pounds of volatile organic compounds (VOC) per gallon of coating, excluding water and exempt solvents. The notification shall include a copy of such record and shall be sent to the Northwest District Office within 30 days following the end of the calendar month.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

(2) The permittee shall submit semiannual reports that identify the following information concerning the operation of the baghouse (fabric filter) during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its applicable Pressure Drop Range; and

b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d)(6) of this permit.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

(3) The permittee shall submit annual reports that summarize the actual annual OC emissions for this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

(4) The permittee shall submit quarterly summaries that include a log of the downtime for the capture (collection) system, control device and monitoring equipment when the associated emissions unit was in operation.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

(5) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation: 17.68 tons OC/rolling, 12-month period

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and recordkeeping established in section d)(5) of this permit.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

b. Emission Limitation: 0.30 lb NO_x/1000 bulbs from natural gas combustion and binder combustion

Applicable Compliance Method: The allowable NO_x emission limitation was established by summing NOx emissions from natural gas combustion as well as emissions from the binder combustion as calculated below:

Natural gas combustion emissions were determined by multiplying the maximum natural gas usage rate of 22,464 cubic feet/hr by the AP-42 emission factor of 100 lbs of NO_x/mm cu. ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]) dividing by 8500 lbs/hr and multiply by a factor of 1000.

NO_x emissions from the binder combustion were determined by multiplying the maximum phosphor coating application rate of 12.22 lbs/gallon, by a maximum gallon usage of 0.0023 gallons phosphor coating/bulb, by 0.11 lb of binder/lb of phosphor coating, then by 0.0055 lb of NO_x/lb of binder, multiplying by a factor of 1000.

If required, the permitee shall demonstrate compliance in accordance with the test methods and procedures in Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

c. Emission Limitation: 11.17 tons NO_x/yr from natural gas combustion and binder combustion

Applicable Compliance Method: The allowable NO_x emission limitation was determined by multiplying the emission limitation of 0.30 lb NO_x/1000 bulbs lamps by the maximum production rate of 8500 lamps per hour, and then by 8760 hours per year, and dividing by 2000 lbs per ton. Therefore, provided compliance is shown with the lb/1000 bulb emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

d. Emission Limitation: 0.01 lb PM_{10}/hr

Applicable Compliance Method: The hourly allowable PM_{10} limitation was established by multiplying the maximum phosphor coating application rate of 12.56 lbs/1000 lamps by the production rate of 8500 lamps per hour, a removal rate of 1% of the phosphor applied, and then multiplying by a control factor (1-0.99*)

If required, the permitee shall demonstrate compliance in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

*the baghouse control efficiency is assumed to be 99%

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

e. Emission Limitation: Visible PE shall not exceed 5% opacity, as a six-minute average (end brushing)

Applicable Compliance Method: Compliance shall be determined in accordance with the test method and procedures in Method 9 of 40 CFR, Part 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

f. Emission Limitation: 1.89 lbs CO/hr

Applicable Compliance Method: The hourly allowable CO emission limitation was established by multiplying the maximum natural gas usage rate of 22,464 cu. ft/hr by the AP-42 emission factor of 84 lbs of CO/mm cu.ft (AP-42, Section 1.4, Table 1.4-1 [revised 7/98]).

If required, the permitee shall demonstrate compliance in accordance with the Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

g. Emission Limitation: 1.21 lbs SO_2/hr

Applicable Compliance Method: The hourly allowable SO_2 emission limitation was established by summing the maximum of 0.11 lb of SO2/hr injected in the Lehr and 1.1 lbs SO_2/hr injected in the flare machines.

If required, the permittee shall demonstrate compliance in accordance with Methods 1-4 and 6 of 40 CFR, Part 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

h. Emission Limitations:

0.04 ton PM_{10}/yr
8.28 tons CO/yr
5.30 tons SO_2/yr

Applicable Compliance Method: The annual emission limitation for each pollutant was determined by multiplying the hourly emission limitation for the specific pollutant by 8760 hours per year, and then dividing by 2000 pounds per ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

i. Emission Limitation: 3.5 pounds of VOC/gallon of coating, excluding water and exempt solvents [for the coatings used for the metal parts (base cement coatings)]

Applicable Compliance Method: Compliance with the OC emission limitation above shall be demonstrated based on the monitoring and recordkeeping established in term d)(2) of this permit.

Formulation data or U.S. EPA Method 24 shall be used to determine the OC/VOC contents of all the coatings and cleanup materials.

[OAC rule 3745-77-07(C)(1) and PTI # P0105519]

g) Miscellaneous Requirements

(1) None.

10. P036, MRT - #2

Operations, Property and/or Equipment Description:

MRT Bulb Recycling System #2

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)f., d)(4), through d)(7) and e)(2).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(F) (PTI # P0107745 issued April 19, 2011)	Mercury (Hg) emissions shall not exceed 0.0002 lbs/hr and 0.00088 tons/yr. See b)(2)a. and c)(1).
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01 (PTI # P0107745 issued April 19, 2011)	Particulate matter equal to or less than 10 microns in size (PM10) shall not exceed 0.007 lbs/hr and 0.031 tons/yr. Visible particulate emissions (PE) shall not exceed 5% opacity, as six-minute average. See b)(2)b.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)c.
d.	OAC rule 3745-17-11(B)	See b)(2)d.
e.	OAC rule 3745-17-07(A)	See b)(2)e.
f.	OAC rule 3745-114-01 and ORC 3704.04(F)	See d)(4) through d)(7) and e)(2)

(2) Additional Terms and Conditions

a. Permit to install (PTI) P0107745 establishes the following voluntary restrictions for the purpose of establishing legally and practically enforceable limitations representing the potential to emit (PTE). These emission limitations are based on the operational restriction contained in c)(1) which requires control equipment:

i. 0.0002 lbs Hg/hr and 0.00088 tons Hg/yr.

b. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(F); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective 12-1-06 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(F) will remain applicable after the above SIP revisions are approved by U.S. EPA.

c. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the PM_{10} emissions from this air contaminant source since the uncontrolled potential to emit (PTE) is less than 10 tons per year. The uncontrolled PTE for PM10 from this source is 1.5 tons PM10/yr, calculated by multiplying the maximum bulb crushing rate of 6000 bulbs per hour by an emissions rate of 5.77E-07 lbs PM10 per bulb (developed from emissions testing of a similar source in 2002), applying conversion factors of 8760 hours/yr and 2000 lbs/ton, and dividing by a control efficiency of 0.01.

d. The uncontrolled mass rate of particulate emissions (UMRE) from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. Also Table 1 does not apply because the facility is located in Crawford County.

e. This emissions unit is exempt from the visible emissions limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

c) Operational Restrictions

(1) The following operational restriction has been included in this permit for the purpose of establishing legally and practically enforceable limitation requirements which limit PTE [see b)(2)a.]:

a. The end cut machine shall be vented to the ECM cyclone followed by carbon adsorber #3;

b. The blown phosphor shall be vented to the phosphor collection cyclone followed by carbon adsorber #4; and

c. The barrel collection, glass crushing auger, bin turner, intermediary silo, and compact crush and separate unit, shall be vented to the CCS cyclones followed by carbon adsorber #5.

The overall efficiency of each cyclone followed by a carbon adsorber shall be at least 99% for Hg.

[OAC rules 3745-77-07(A)(1) and PTI #P0107745]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall document all times that any cyclone and/or carbon adsorber serving this emissions unit was not employed when the emissions unit was in operation.

[OAC rules 3745-77-07(C)(1) and PTI #P0107745]

(2) The permittee shall properly install, operate, and maintain equipment to continuously monitor and record the pressure drop, in inches of water, across each cyclone and each carbon adsorber during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The permittee shall record the pressure drop on a daily basis.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date(s) the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation, and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date the corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the pressure drop readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph does not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

[OAC rules 3745-77-07(C)(1) and PTI #P0107745]

(3) Except for an initial operating period after filter media replacement to attain design filtering efficiency, the acceptable range for the pressure drop across each cyclone is 0.2 to 4 inches of water, and each carbon adsorber is 1 to 8 inches of water.

[OAC rules 3745-77-07(C)(1) and PTI #P0107745]

(4) These ranges are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the NWDO. The permittee may request revisions to the pressure drop range based upon information obtained during future operation of the control device and/or particulate emission tests that demonstrate compliance with the allowable particulate and mercury emissions rates and for this emissions unit. In addition, approved revisions to the pressure drop range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a permit modification.

[OAC rules 3745-77-07(C)(1) and PTI #P0107745]

(5) Thepermit-to-install (PTI)application for this emissions unitwas evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee. The Toxic Air Contaminant Statute, ORC 3704.03(F), was applied to this emissions unit for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant emitted using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration results from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled Review of New Sources of Air Toxic Emissions, Option A, as follows:

a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound emitted from the emissions unit, (as determined from the raw materials processed and/or coatings or other materials applied) has been documented

from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices; or

ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

c. This standard is then adjusted to account for the duration of the exposure or the operating hours of the emissions unit, i.e., 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4\ TLV/XY = MAGLC$$

d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or worst case toxic contaminant(s):

Toxic Contaminant: Mercury (Hg)

TLV (mg/m3): 0.025

Maximum Hourly Emission Rate (lbs/hr): 0.0002

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.105

MAGLC (ug/m3): 0.595

The permittee, has demonstrated that emissions of Hg, from emissions unit P036, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F).

[PTI #P0107745]

(6) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can

affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and

c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the Toxic Air Contaminant Statute will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a “modification”, the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

[PTI #P0107745]

(7) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F):

a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F);

c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

d. the documentation of the initial evaluation of compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), and documentation of any determination

that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

[PTI #P0107745]

(8) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

[PTI #P0107745]

e) Reporting Requirements

(1) The permittee shall submit quarterly reports that identify the following information concerning the operation of the control equipment during the operation of this emissions unit:

a. each period of time (start time and date, and end time and date) when the pressure drop across the cyclone and/or carbon adsorber was outside of the acceptable range;

b. any period of time (start time and date, and end time and date)when the emissions unit was in operation and the process emissions were not vented to a cyclone followed by a carbon adsorber;

c. an identification of each incident of deviation described in e)(1)a. where a prompt investigation was not conducted;

d. an identification of each incident of deviation described in e)(1)a. where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. an identification of each incident of deviation described in e)(1)a. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

The quarterly reports shall be submitted,electronically through Ohio EPA Air Services, each year by January 31, April 30, July 31, and October 31, and shall cover the previous calendar quarters unless an alternative schedule has been established and approved by the Director (Ohio EPA, Northwest District Office).

[OAC rules 3745-77-07(C)(1) and PTI #P0107745]

(2) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the quarterly deviation (excursion) reports. If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

[OAC rules 3745-77-07(C)(1) and PTI #P0107745]

(3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-15-03(A)]

f) Testing Requirements

(1) Compliance with the emission limitations in section b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

0.0002 lbs Hg/hr and 0.00088 tons Hg/yr

Applicable Compliance Method:

The hourly allowable Hg emissions rate was established by multiplying the maximum bulb crushing rate of 6000 bulbs per hour by an emissions rate of 3.3E-08 lbs Hg per bulb (engineering estimate based on emissions testing of a similar source in 2002). The annual limitation was established by multiplying the hourly limitation by 8760 hours/yr, and applying a conversion factor of 1 ton/2000 lbs. Therefore, provided compliance is shown with the hourly limitation, compliance with the annual limitation shall also be demonstrated.

If required, the permittee shall demonstrate compliance with the hourly allowable limitation by emissions testing in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 29.

[OAC rule 3745-77-07(C)(1) and PTI # P0107745]

b. Emission Limitations:

0.007 lbs PM10/hr and 0.031 tons PM10/yr

Applicable Compliance Method:

The hourly allowable PM10 emissions rate was established by multiplying the maximum bulb crushing rate of 6000 bulbs per hour by an emissions rate of 1.17E-06 lbs PM10 per bulb (engineering estimate based on emissions testing of a similar source in 2002). The annual limitation was established by multiplying the hourly limitation by 8760 hours/yr, and applying a conversion factor of 1 ton/2000 lbs. Therefore, provided compliance is shown with the hourly limitation, compliance with the annual limitation shall also be demonstrated.

If required, the permittee shall demonstrate compliance with the hourly allowable PM10 emissions limitation in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4, and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S.EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office (NWDO).

[OAC rule 3745-77-07(C)(1) and PTI # P0107745]

c. Emission Limitations:

Visible particulate emissions (PE) shall not exceed 5% opacity, as six-minute average.

Applicable Compliance Method:

If required, compliance with the visible emission limitation listed above shall be determined according to Test Method 9 as set forth in the "Appendix on Test Methods" in 40 CFR Part 60 "Standards of Performance for New Stationary Sources."

[OAC rule 3745-77-07(C)(1) and PTI # P0107745]

g) Miscellaneous Requirements

(1) None.

11. R001, MX-1

Operations, Property and/or Equipment Description:

MX-1

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 03-11289 issued May 6, 1998)	0.1 lb particulate emissions (PE)/hr; 0.44 tons PE /yr 1.17 lbs organic compounds (OC)/hr; 5.12 tons OC /yr
b.	OAC rule 3745-17-11(B)	None [See b)(2)a].
c.	OAC rule 3745-17-07(A)	None [See b)(2)b].
d.	OAC rule 3745-21-07(G)(2)	None [See b)(2)c].

(2) Additional Terms and Conditions

a. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the facility is located in Crawford County, which is identified as a P-2 county.

b. This emissions unit is exempt from the visible particulate emission limitations specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

c. This emissions unit is not subject to OAC rule 3745-21-07(G)(2) as determined by the Ohio Supreme Court in Ashland Chem. Co. v. Jones (2001), 92 Ohio St.3.d 234.

d. The OC limitation of 1.17 lbs/hr 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 reporting requirements to ensure compliance with this limit.

e. Terms b)(2)a. through b)(2)d. above are intended for clarification of current regulatory applicability under this permit at time of issuance, and are not intended to address or prohibit any change that could otherwise be processed under OAC rule 3745-77-07(I).

c) Operational Restrictions

(1) The OC content of the solvent-based mixture in this emissions unit shall not exceed 1.82 pounds per gallon of mixed material.

(2) The OC content of the clean-up material in this emissions unit shall not exceed 6.34 pounds per gallon.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall monitor at least once every fifteen minutes the pressure drop across the baghouse (fabric filter) during operation of this emissions unit, and record the average of those values over the period during which this emissions unit operates each day. For purposes of this requirement, the permittee shall record one average total pressure drop value for each control device each day, for a period beginning at midnight or such time after midnight when the emissions unit begins to operate and ending at the time the emissions unit ceases that day or at midnight should the emissions unit operate beyond midnight. If the emissions unit starts and stops more than once during this 24-hour period, the permittee shall record the average value for the time during this 24-hour period when the emissions unit is in operation. Hereinafter this value shall be called a "Daily Pressure Drop Value".

Whenever the Daily Pressure Drop Value is outside of the applicable range specified below (hereinafter the "Pressure Drop Range"), the permittee shall promptly conduct an investigation to determine if there is a malfunction of the baghouse (whichever is producing a Daily Pressure Drop Value outside of its Pressure Drop Range), and if so, comply with the requirements of OAC rule 3745-15-06. For each such occasion (i.e. when a Daily Pressure Drop Value is outside of its Pressure Drop Range), the permittee shall record the number of days during which the Daily Pressure Drop Value remained outside of its Pressure Drop Range and a description of the maintenance or repairs, if any, made to the baghouse. If upon the investigation the permittee determines there is no malfunction that is subject to OAC rule 3745-15-06, the permittee shall also maintain records documenting the basis for such determination.

The Pressure Drop Range is 2 to 8 inches of water.

This Pressure Drop Range is effective for the duration of this permit, unless a revision is requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the range based upon information that demonstrates compliance with the allowable particulate emission rate for this emissions unit. If the permittee submits a written request to establish a new Pressure Drop Range, Ohio EPA shall promptly evaluate and act on that request and, if approved, incorporate the new range into this permit as a minor permit modification.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the baghouse serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. The color of the emissions;

b. Whether the emissions are representative of normal operations;

c. If the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. The total duration of any visible emission incident; and

e. Any corrective actions taken to eliminate the visible emissions.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) The permittee shall retain records of the following information:

a. The maximum OC content mixture formulation for this emissions unit; and

b. The maximum OC content of the clean-up material used.

These records shall be maintained for a period of not less than five years, and the records shall be available for review by the director or his representative during normal business hours.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(4) The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's “Review of New Sources of Air Toxic Emissions” policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

Pollutant: ethyl alcohol
TLV (ug/m3): 1,880,000
Maximum Hourly Emission Rate (lbs/hr): 1.67
Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 3221
MAGLC (ug/m3): 44,760

[OAC 3745-77-07(C)(1) and OAC 3745-31-05(A)(3)]

(5) Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound* with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant* with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

* Only compounds / pollutants as identified in OAC rule 3745-114-01 at the time of the change will be subject to re-evaluation.

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.
[OAC 3745-77-07(C)(1) and OAC 3745-31-05(A)(3)]

(6) The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. Documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. Where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

[OAC 3745-77-07(C)(1) and OAC 3745-31-05(A)(3)]

e) Reporting Requirements

(1) The permittee shall submit semiannual reports that identify the following information concerning the operation of the baghouse (fabric filter) during operation of this emissions unit:

a. The total duration (in days) that its Daily Pressure Drop Value was outside of its Pressure Drop Range; and

b. Any and all omissions of the monitoring, record keeping, investigation, and malfunction reporting requirements specified in d).

These semiannual reports shall be submitted by January 31 for the six-month period ending December 31 and by July 31 for the six-month period ending June 30.
[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(2) The permittee shall submit quarterly written reports that (a) identify all days during which any visible particulate emissions were observed from the baghouse serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. The permittee shall submit these reports in accordance with the General Terms and Conditions of this permit.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

(3) The permittee shall submit deviation (excursion) reports that identify each day when any formulation restriction from Section c) has been exceeded. Each report shall be submitted within 30 days after the deviation occurs.

[OAC rules 3745-77-07(C)(1) and 3745-31-05(A)(3)]

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. <u>Emission Limitation</u>: 0.1 lb PE /hr

<u>Applicable Compliance Method</u>: To determine the actual maximum PE rate (E), the permittee may use the following equation:

E = maximum process throughput*, in tons per hour X [EF X (1-CE)]

E = PE rate (lbs/hr)

EF = 20 lbs PE/ton**

CE = control efficiency of the baghouse control system (assumed to be 99 percent)

* 232 lbs/hr, from the Title V permit application (80% is solids)

** based on AP-42, Table 6.4-1 (revised 5/83)

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 5.

b. Emission Limitation: 1.17 lbs OC /hr

Applicable Compliance Method: The permittee may determine compliance with the limitation above as follows:

E = E1 + E2

where:

E = OC emission rate (lbs/hr)

E1 = the maximum process throughput* (in tons per hour) x (EF)

E2 = the maximum cleanup material usage rate (1.5 gallons/hr) x the maximum OC content of all the cleanup materials (6.34 lbs/gallon) x the maximum evaporation rate (assumed to be 5% per hour)

EF = 30 lbs OC/ton**

* 232 lb/hr, from the Title V permit application (the OC content is assumed to be 20%)

** based on AP-42, Table 6.4-1 (revised 5/83)

If required, the permittee shall demonstrate compliance with the limitation above in accordance with 40 CFR, Part 60, Appendix A, Methods 1 - 4 and 25.

c. Emission Limitation:

0.44 ton PE /year
5.12 ton of OC per year

Applicable Compliance Method: Compliance with the annual emission limitation shall be assumed as long as compliance with the hourly emission limitation is maintained (the annual emission limitation was determined by multiplying the hourly emission limitation by 8760, and then dividing by 2000).

d. Emission Limitation: Visible PE shall not exceed 5% opacity, as a six-minute average.

Applicable Compliance Method: The permittee shall demonstrate compliance with the visible emission limitation above in accordance with 40 CFR, Part 60, Appendix A, Method 9.

e. Emission Limitations (OC Content Limitations):

1.82 pounds per gallon of mixed material
6.34 pounds per gallon, for clean-up materials

Applicable Compliance Method: The permittee shall demonstrate compliance with the OC content limitations above through the record keeping requirements established in d)(3).

Formulation data or USEPA Method 24 shall be used to determine the OC contents of all the solvent-containing materials.

[All of Section f): OAC rules 3745-21-04(B)(5), 3745-77-07(C)(1) and 3745-31-05(A)(3)]

g) Miscellaneous Requirements

(1) None.