INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: August 10, 2012

RE: Lighting Resources Inc. / 081-32128-00030

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot12/3/07

IDEM

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Ron Hughes
Lighting Resources, Inc.
498 Park 800 Dr.
Greenwood, IN 46143

August 10, 2012

Re: 081-32128-00030
First Administrative Amendment to
F081-23235-00030

Dear Ron Hughes:

Lighting Resources, Inc. was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F081-23235-00030 on March 19, 2008 for a stationary fluorescent bulb and HDI bulb de-manufacturing facility located at 498 Park 800 Dr., Greenwood, IN 46143. On July 18, 2012 the Office of Air Quality (OAQ) received an application from the source requesting that the permit be amended to remove the one (1) fluorescent lamp/bulb de-manufacturing system (BD1) and all the associated requirements and to clarify the testing requirements for one (1) fluorescent lamp/bulb de-manufacturing system (BD2). These changes to the permit is considered an administrative amendment under 326 IAC 2-8-10(a)(5), since it is a change to a testing, monitoring, maintenance, or record keeping requirement that is not environmentally significant.

Pursuant to the provisions of 326 IAC 2-8-10, the permit is hereby administratively amended as follows with the deleted language as ~~strikeouts~~ and new language **bolded**:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

~~(a) One (1) fluorescent lamp/bulb de-manufacturing system, identified as BD1, constructed in 1994, with a maximum capacity of 3500 lamps/bulbs per hour (3500 pounds of lamps/bulbs per hour), consisting of crushing fluorescent lamp/bulbs internally within the system, with the resulting glass, metal end caps, and mercury phosphor powder separated internally and collected in containers, with particulate matter and mercury particulate/vapor emissions controlled by one (1) baghouse, one (1) HEPA filter, and one (1) Carbon Adsorption Unit. Containers of crushed glass and metal end caps are shipped offsite for disposal or recycling and the mercury phosphor powder is processed in the mercury retort machine.~~

(**b**a) One (1) fluorescent lamp/bulb de-manufacturing system, identified as BD2, ~~approved for~~ construct~~ion~~**ed** in 2012, with a maximum capacity of 5000 lamps/bulbs per hour (5005 pounds of lamps/bulbs per hour), consisting of crushing fluorescent lamp/bulbs internally within the system, with the resulting glass, metal end caps, and mercury phosphor powder separated internally and collected in containers, with particulate matter and mercury particulate/vapor emissions controlled by two (2) cartridge filters and two (2) carbon beds, and exhausting to stacks 2 and 3. Containers of crushed glass and metal end caps will be shipped offsite for disposal or recycling and the mercury phosphor powder will be processed in the mercury retort machine.

(**c**b) One (1) mercury retort machine for separation of mercury from the mercury phosphor

powder generated by the de-manufacturing of fluorescent and HID bulbs, constructed in 1998, with mercury vapor recovered and collected using a condenser and a copper adsorber, and with residual mercury vapor controlled by one (1) carbon adsorption unit, exhausting to stack SV1.

...

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

~~(a) One (1) fluorescent lamp/bulb de-manufacturing system, identified as BD1, constructed in 1994, with a maximum capacity of 3500 lamps/bulbs per hour (3500 pounds of lamps/bulbs per hour), consisting of crushing fluorescent lamp/bulbs internally within the system, with the resulting glass, metal end caps, and mercury phosphor powder separated internally and collected in containers, with particulate matter and mercury particulate/vapor emissions controlled by one (1) baghouse, one (1) HEPA filter, and one (1) Carbon Adsorption Unit. Containers of crushed glass and metal end caps are shipped offsite for disposal or recycling and the mercury phosphor powder is processed in the mercury retort machine.~~

(~~b~~**a**) One (1) fluorescent lamp/bulb de-manufacturing system, identified as BD2, ~~approved for~~ construct~~ion~~**ed** in 2012, with a maximum capacity of 5000 lamps/bulbs per hour (5005 pounds of lamps/bulbs per hour), consisting of crushing fluorescent lamp/bulbs internally within the system, with the resulting glass, metal end caps, and mercury phosphor powder separated internally and collected in containers, with particulate matter and mercury particulate/vapor emissions controlled by two (2) cartridge filters and two (2) carbon beds, and exhausting to stacks 2 and 3. Containers of crushed glass and metal end caps will be shipped offsite for disposal or recycling and the mercury phosphor powder will be processed in the mercury retort machine.

(~~c~~**b**) One (1) mercury retort machine for separation of mercury from the mercury phosphor powder generated by the de-manufacturing of fluorescent and HID bulbs, constructed in 1998, with mercury vapor recovered and collected using a condenser and a copper adsorber, and with residual mercury vapor controlled by one (1) carbon adsorption unit, exhausting to stack SV1.

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Mercury

Pursuant to F081-6374-00030, issued December 9, 1996, the source is subject to the following requirements:

(a) The source shall recycle mercury from the bulb de-manufacturing system~~s~~ (~~BD1 and~~ BD2) and the mercury retort machine unless extenuating circumstances exist and the failure to recycle mercury has been approved in advance by the Commissioner.

(b) The source shall eliminate the likelihood of fugitive mercury emissions by maintaining negative atmospheric pressure in all rooms containing the equipment that collects the phosphor powder and mercury. The air inside such rooms shall be recirculated through a carbon adsorption system. No air shall be vented from or otherwise be allowed to escape from such rooms without being treated through the recycling process and through a comparable treatment system. If contaminated air is released from this room or rooms,

Lighting Resources, Inc. shall notify OAQ within twenty-four (24) hours.

(c) All broken bulbs received at the source shall be recycled at the Lighting Resources, Inc. facilities or otherwise be disposed of in accordance with the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.).

D.1.2 PM, PM10, and PM2.5 Emission Limitations [326 IAC 2-2] [326 IAC 2-3] [326 IAC 2-1.1-5] [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, and to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-7 (Part 70 Permits) non-applicable the Permittee shall comply with the following:

(1) PM emissions from the bulb de-manufacturingsystem, identified as BD2, (after control) shall not exceed 12.51 pounds per hour.

~~(2) PM emissions from the bulb de-manufacturingsystem, identified as BD1, (after control) shall not exceed 8.75 pounds per hour.~~

(~~3~~**2**) PM10 and PM2.5 emissions from the bulb de-manufacturing system, identified as BD2, (after control) shall each not exceed 12.51 pounds per hour.

~~(4) PM10 and PM2.5 emissions from the bulb de-manufacturing system, identified as BD1, (after control) shall each not exceed 8.75 pounds per hour.~~

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period, PM10 and PM2.5 to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-1.1-5 (Nonattainment New Source Review), not applicable.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, particulate emissions from each of following emission units shall not exceed the pound per hour limit listed in the table below:

Emission Unit	Process Weight Rate (tons/hr)	Particulate Emissions (lbs/hr)
Bulb De-manufacturing (BD2)	2.503	7.58
~~Bulb De-manufacturing (BD1)~~	~~1.75~~	~~5.97~~

These limitations were calculated using the following:

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

$E = 4.10\ P^{.067}$ Where E = Rate of emmision in lbs/hr and
P = Process weight rate in tons/hr

...

Compliance Determination Requirements

D.1.5 Particulate and Mercury Control

~~(a) Pursuant to F081-6374-00030, issued December 9, 1996 and in order to comply with Conditions D.1.2 and D.1.3, the baghouse and HEPA filters for PM, PM10, and PM2.5~~

~~control shall be in operation at all times when the bulb de-manufacturing system (BD1) is in operation.~~

(~~b~~**a**) Pursuant to F081-6374-00030, issued December 9, 1996 particulate matter (PM) emissions shall be considered in compliance with 326 IAC 6, provided that:

(1) Good housekeeping and equipment maintenance procedures are implemented;

(2) Emissions are minimized in receiving, handling, and shipping operations by appropriate methods. These may include but need not be limited to, dust collection systems, windscreen, baffles, restricted hopper openings, enclosed transfer points, flexible drop spouts and/or sleeves; and

(3) Emissions do not create a nuisance or a violation of fugitive dust rule 326 IAC 6-4.

(~~c~~**b**) In order to comply with D.1.1(a), the condenser, copper adsorber, and carbon adsorption unit shall be in operation and capture and control mercury at all times when the mercury retort machine is in operation.

(~~d~~**c**) In order to comply with Conditions D.1.2 and D.1.3, the two (2) cartridge filters and two (2) carbon beds for particulate control shall be in operation and control emissions from the bulb de-manufacturing operation (BD2) at all times that the bulb de-manufacturing operation (BD2) is in operation.

~~(e) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

D.1.6 Testing Requirements [326 IAC 2-1.1-11]

~~In order to demonstrate compliance with Conditions D.1.2 and D.1.3, the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing of the bulb de-manufacturing systems (BD1 and BD2) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). PM_{10} includes filterable and condensable PM_{10}. Section C- Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

In order to demonstrate compliance with Conditions D.1.2 and D.1.3, the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing for the bulb de-manufacturing system (BD2) not later than one hundred and eighty (180) days after issuance of this permit, Permit No 081-32128-00030, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM includes filterable and condensable PM. PM_{10} includes filterable and condensable PM_{10}. $PM_{2.5}$ includes filterable and condensable $PM_{2.5}$.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhausts associated with the bulb de-manufacturing

systems ~~(BD1 and~~ BD2) shall be performed during normal daylight operations once daily**, when exhausting outdoors**. A trained employee shall record whether emissions are normal or abnormal.

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

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

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

~~D.1.8 Baghouse Parametric Monitoring~~

~~(a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the bulb de-manufacturing system (BD1), at least once per day when the bulb de-manufacturing system (BD1) is in operation. When for any one reading, the pressure drop across the baghouses is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~(b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

~~D.1.9 Broken or Failed Bag Detection~~

~~(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).~~

~~(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).~~

~~Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.~~

D.1.~~10~~**8** Mercury

Pursuant to F081-6374-00030, issued December 9, 1996, the source is subject to the following requirements:

(a) To verify that mercury is not being washed away from the source in rainwater or other precipitations events, the Permittee shall, at least annually, collect a representative sample of rainwater runoff from the roof and source property. This sample shall be tested for mercury and the results submitted to OAQ. The sample shall be collected from the first wash of water over the roof and the property at the beginning of the rainfall event and may only be collected when it has been at least seventy-two hours since the previous rainfall event.

(b) To further ensure that mercury is not washed away from the source, all vehicles used to transport bulbs shall be unloaded inside the building whenever it is raining or otherwise precipitating on the source property.

D.1.~~11~~**9** Carbon Adsorber

The carbon beds will be deemed saturated when mercury readings in the vent stream after the carbon beds exceed 0.05 micrograms per cubic meter each. Samples shall be obtained from the vent streams on a daily basis and the samples shall be used to obtain a reading of the mercury content in the vent streams. At this time, upstream units shall be assessed to ensure that they are not causing the mercury readings to reach 0.05 micrograms per cubic meter each. If an upstream failure was not discovered, the carbon beds shall be replaced.

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

D.1.~~12~~**10** Record Keeping Requirements

(a) To document the compliance status with Condition D.1.7, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts associated with the bulb de-manufacturing system~~s~~ (~~BD1 and~~ BD2). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

~~(b) To document the compliance status with Condition D.1.8, the Permittee shall maintain records of the pressure drop across the baghouse associated with the bulb de-manufacturing system (BD1). The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).~~

(~~c~~**b**) To document the compliance status with Condition D.1.~~10~~**8**, the Permittee shall:

(1) Maintain daily records of all leaks or spills of mercury. The records shall indicate the amount, location, and date the leaks or spills occurred, identify the cause of the leak or spill, state the immediate steps taken to minimize mercury emissions and steps taken to prevent further occurrences, and provide the time and date on which corrective steps were taken.

(2) Effectively decontaminate all areas and equipment expected of broken bulbs on at least a daily basis. Records of the contamination shall be created each day, even if the source is not in operation and records shall be maintained at the source. A checklist or other log is an appropriate means of maintaining this daily record.

(~~d~~**c**) To document the compliance status with Condition D.1.~~11~~**9**, the Permittee shall maintain daily records of mercury readings from the vent stream of the carbon adsorber and the

upstream assessments when the mercury reading exceeds 0.05 micrograms per cubic meter.

...

All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Deena Patton, of my staff, at 317-234-5400 or 1-800-451-6027, and ask for extension 4-5400.

Sincerely,

Nathan C. Bell, Section Chief
Permits Branch
Office of Air Quality

Attachments: Updated Permit and calculations

NCB/DP

cc: File - Johnson County
Johnson County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section

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Federally Enforceable State Operating Permit Renewal
OFFICE OF AIR QUALITY

Lighting Resources, Inc.
498 Park 800 Drive
Greenwood, Indiana 46143

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

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. 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 conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No. F081-23235-00030	
Issued by: *Original signed by* Alfred C. Dumaual, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: March 19, 2008 Expiration Date: March 19, 2018

First Significant Permit Revision No. 081-31362-00030, issued May 10, 2012

First Administrative Amendment No. 081-32128-00030	
Issued by: Nathan C. Bell, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 10, 2012 Expiration Date: March 19, 2018

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SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a fluorescent bulb and HDI bulb de-manufacturing source with control.

Source Address:	498 Park 800 Drive, Greenwood, Indiana 46143
General Source Phone Number:	(317) 888-3889
SIC Code:	5093
County Location:	Johnson
Source Location Status:	Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

(a) One (1) fluorescent lamp/bulb de-manufacturing system, identified as BD2, constructed in 2012, with a maximum capacity of 5000 lamps/bulbs per hour (5005 pounds of lamps/bulbs per hour), consisting of crushing fluorescent lamp/bulbs internally within the system, with the resulting glass, metal end caps, and mercury phosphor powder separated internally and collected in containers, with particulate matter and mercury particulate/vapor emissions controlled by two (2) cartridge filters and two (2) carbon beds, and exhausting to stacks 2 and 3. Containers of crushed glass and metal end caps will be shipped offsite for disposal or recycling and the mercury phosphor powder will be processed in the mercury retort machine.

(b) One (1) mercury retort machine for separation of mercury from the mercury phosphor powder generated by the de-manufacturing of fluorescent and HID bulbs, constructed in 1998, with mercury vapor recovered and collected using a condenser and a copper adsorber, and with residual mercury vapor controlled by one (1) carbon adsorption unit, exhausting to stack SV1.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21).

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

(a) This permit, F081-23235-00030, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

(1) it contains a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

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

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

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
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The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may

require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to F081-23235-00030 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to

326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

(b) Emission Trades [326 IAC 2-8-15(b)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(b).

(c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

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

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.9 Performance Testing [326 IAC 3-6]

(a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

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

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than ninety (90) days after the date of issuance of this permit.

The ERP does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

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

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

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

C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following:

(AA) All calibration and maintenance records.

(BB) All original strip chart recordings for continuous monitoring instrumentation.

(CC) Copies of all reports required by the part 70 permit.

Records of required monitoring information include the following:

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

(BB) The dates analyses were performed.

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

(DD) The analytical techniques or methods used.

(EE) The results of such analyses.
(FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B- Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) One (1) fluorescent lamp/bulb de-manufacturing system, identified as BD2, constructed in 2012, with a maximum capacity of 5000 lamps/bulbs per hour (5005 pounds of lamps/bulbs per hour), consisting of crushing fluorescent lamp/bulbs internally within the system, with the resulting glass, metal end caps, and mercury phosphor powder separated internally and collected in containers, with particulate matter and mercury particulate/vapor emissions controlled by two (2) cartridge filters and two (2) carbon beds, and exhausting to stacks 2 and 3. Containers of crushed glass and metal end caps will be shipped offsite for disposal or recycling and the mercury phosphor powder will be processed in the mercury retort machine.

(b) One (1) mercury retort machine for separation of mercury from the mercury phosphor powder generated by the de-manufacturing of fluorescent and HID bulbs, constructed in 1998, with mercury vapor recovered and collected using a condenser and a copper adsorber, and with residual mercury vapor controlled by one (1) carbon adsorption unit, exhausting to stack SV1.

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Mercury

Pursuant to F081-6374-00030, issued December 9, 1996, the source is subject to the following requirements:

(a) The source shall recycle mercury from the bulb de-manufacturing system (BD2) and the mercury retort machine unless extenuating circumstances exist and the failure to recycle mercury has been approved in advance by the Commissioner.

(b) The source shall eliminate the likelihood of fugitive mercury emissions by maintaining negative atmospheric pressure in all rooms containing the equipment that collects the phosphor powder and mercury. The air inside such rooms shall be recirculated through a carbon adsorption system. No air shall be vented from or otherwise be allowed to escape from such rooms without being treated through the recycling process and through a comparable treatment system. If contaminated air is released from this room or rooms, Lighting Resources, Inc. shall notify OAQ within twenty-four (24) hours.

(c) All broken bulbs received at the source shall be recycled at the Lighting Resources, Inc. facilities or otherwise be disposed of in accordance with the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.).

D.1.2 PM, PM10, and PM2.5 Emission Limitations [326 IAC 2-2] [326 IAC 2-3] [326 IAC 2-1.1-5] [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, and to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-7 (Part 70 Permits) non-applicable the Permittee shall comply with the following:

(1) PM emissions from the bulb de-manufacturingsystem, identified as BD2, (after control) shall not exceed 12.51 pounds per hour.

(2) PM10 and PM2.5 emissions from the bulb de-manufacturing system, identified as BD2, (after control) shall each not exceed 12.51 pounds per hour.

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period, PM10 and PM2.5 to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-1.1-5 (Nonattainment New Source Review), not applicable.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, particulate emissions from each of following emission units shall not exceed the pound per hour limit listed in the table below:

Emission Unit	Process Weight Rate (tons/hr)	Particulate Emissions (lbs/hr)
Bulb De-manufacturing (BD2)	2.503	7.58

These limitations were calculated using the following:

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

$E = 4.10\ P^{.067}$ Where E = Rate of emmision in lbs/hr and
P = Process weight rate in tons/hr

D.1.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B-Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.5 Particulate and Mercury Control

(a) Pursuant to F081-6374-00030, issued December 9, 1996 particulate matter (PM) emissions shall be considered in compliance with 326 IAC 6, provided that:

(1) Good housekeeping and equipment maintenance procedures are implemented;

(2) Emissions are minimized in receiving, handling, and shipping operations by appropriate methods. These may include but need not be limited to, dust collection systems, windscreen, baffles, restricted hopper openings, enclosed transfer points, flexible drop spouts and/or sleeves; and

(3) Emissions do not create a nuisance or a violation of fugitive dust rule 326 IAC 6-4.

(b) In order to comply with D.1.1(a), the condenser, copper adsorber, and carbon adsorption unit shall be in operation and capture and control mercury at all times when the mercury retort machine is in operation.

(c) In order to comply with Conditions D.1.2 and D.1.3, the two (2) cartridge filters and two (2) carbon beds for particulate control shall be in operation and control emissions from the bulb de-manufacturing operation (BD2) at all times that the bulb de-manufacturing operation (BD2) is in operation.

D.1.6 Testing Requirements [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.2 and D.1.3, the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing for the bulb de-manufacturing system (BD2) not later than one hundred and eighty (180) days after issuance of this permit, Permit No 081-32128-00030, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM includes filterable and condensable PM. PM_{10} includes filterable and condensable PM_{10}. $PM_{2.5}$ includes filterable and condensable $PM_{2.5}$.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhausts associated with the bulb de-manufacturing system (BD2) shall be performed during normal daylight operations once daily, when exhausting outdoors. A trained employee shall record whether emissions are normal or abnormal.

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

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

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.8 Mercury

Pursuant to F081-6374-00030, issued December 9, 1996, the source is subject to the following requirements:

(a) To verify that mercury is not being washed away from the source in rainwater or other precipitations events, the Permittee shall, at least annually, collect a representative sample of rainwater runoff from the roof and source property. This sample shall be tested for mercury and the results submitted to OAQ. The sample shall be collected from the first wash of water over the roof and the property at the beginning of the rainfall event and may only be collected when it has been at least seventy-two hours since the previous rainfall event.

(b) To further ensure that mercury is not washed away from the source, all vehicles used to transport bulbs shall be unloaded inside the building whenever it is raining or otherwise precipitating on the source property.

D.1.9 Carbon Adsorber

The carbon beds will be deemed saturated when mercury readings in the vent stream after the carbon beds exceed 0.05 micrograms per cubic meter each. Samples shall be obtained from the vent streams on a daily basis and the samples shall be used to obtain a reading of the mercury

content in the vent streams. At this time, upstream units shall be assessed to ensure that they are not causing the mercury readings to reach 0.05 micrograms per cubic meter each. If an upstream failure was not discovered, the carbon beds shall be replaced.

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

D.1.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.7, the Permittee shall maintain daily records of the visible emission notations of the stack exhausts associated with the bulb de-manufacturing system (BD2). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(b) To document the compliance status with Condition D.1.8, the Permittee shall:

(1) Maintain daily records of all leaks or spills of mercury. The records shall indicate the amount, location, and date the leaks or spills occurred, identify the cause of the leak or spill, state the immediate steps taken to minimize mercury emissions and steps taken to prevent further occurrences, and provide the time and date on which corrective steps were taken.

(2) Effectively decontaminate all areas and equipment expected of broken bulbs on at least a daily basis. Records of the contamination shall be created each day, even if the source is not in operation and records shall be maintained at the source. A checklist or other log is an appropriate means of maintaining this daily record.

(c) To document the compliance status with Condition D.1.9, the Permittee shall maintain daily records of mercury readings from the vent stream of the carbon adsorber and the upstream assessments when the mercury reading exceeds 0.05 micrograms per cubic meter.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Lighting Resources, Inc.
Source Address: 498 Park 800 Drive, Greenwood, Indiana 46143
FESOP Permit No.: F081-23235-00030

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)_____

☐ Report (specify)_____

☐ Notification (specify)_____

☐ Affidavit (specify)_____

☐ Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Lighting Resources, Inc.
Source Address: 498 Park 800 Drive, Greenwood, Indiana 46143
FESOP Permit No.: F081-23235-00030

This form consists of 2 pages **Page 1 of 2**

□ This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance and Enforcement Branch); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone:_____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Lighting Resources, Inc.
Source Address: 498 Park 800 Drive, Greenwood, Indiana 46143
FESOP Permit No.: F081-23235-00030

Months: _____ **to** _____ **Year:** _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B- Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: ______________________________

Title / Position: ______________________________

Date: ______________________________

Phone: ______________________________

Appendix A: Emissions Calculations
Summary

Company Name: Lighting Resources, Inc.
Source Address: 498 Park 800 Dr., Greenwood, IN 46143
Administrative Amendment: 081-32128-00030
Reviewer: Deena Patton

Uncontrolled PTE (tons/yr)											
Unit ID	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	HAP	Worst Single HAP	
Bulb De-manufacturing (BD2)	749.34	749.34	749.34	0.0	0.0	0.0	0.0	0.0	2.85	2.85	Mercury
Mercury Retort Machine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.66	1.66	Mercury
Total	**749.34**	**749.34**	**749.34**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.52**	**4.52**	Mercury

Controlled PTE (tons/yr)											
Unit ID	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	HAP	Worst Single HAP	
Bulb De-manufacturing (BD2)	0.07	0.07	0.07	0.0	0.0	0.0	0.0	0.0	2.9E-04	2.9E-04	Mercury
Mercury Retort Machine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7E-04	1.7E-04	Mercury
Total	**0.07**	**0.07**	**0.07**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.5E-04**	**4.5E-04**	Mercury

Limted PTE (tons/yr)											
Unit ID	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO	GHGs as CO2e	HAP**	Worst Single HAP	
Bulb De-manufacturing (BD2)	54.80	54.80	54.80	0.0	0.0	0.0	0.0	0.0	2.85	2.85	Mercury
Mercury Retort Machine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.66	1.66	Mercury
Total	**54.80**	**54.80**	**54.80**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.52**	**4.52**	Mercury

* Bulb De-manufacturing process (BD2) is limited to 5.0 lbs/ton of PM, PM10, and PM2.5 emissions.

Appendix A: Emissions Calculations
Bulb De-manufacturing System

Company Name: Lighting Resources, Inc.
Source Address: 498 Park 800 Dr., Greenwood, IN 46143
Administrative Amendment: 081-32128-00030
Reviewer: Deena Patton

PM/PM10/PM2.5 and Mercury Emission Factors
Based on stack testing performed August 30, 2007 and certified by OAQ on November 5, 2007, the PM/PM10 and mercury emission factors from the the bulb de-manufacturing system is as follows:

Stack Test Data

Average Operating Rate =	2925.5	lbs/hr of bulbs/lamps*
Controlled PM/PM10 Emission Rate =	0.01	lbs/hr PM/PM10*
Controlled PM/PM10/PM2.5 Emission Factor =	0.006836	lbs/ton**
Controlled Mercury Emission Rate =	0.000074	grains/second Mercury*
Controlled Mercury Emission Rate =	3.81E-05	lbs/hr Mercury
Controlled Mercury Emission Rate =	1.96E-05	grams/second
Controlled Mercury Emission Factor =	0.000026	lbs/ton

Methodology
*Based on stack testing performed August 30, 2007 and certified by OAQ on November 5, 2007
**PM2.5 emissions assumed equal to PM10 emissions.
PM/PM10/PM2.5 Emission Factor (lbs/ton) = [PM/PM10 Emission Rate (lbs/hr)] / [Average Operating Rate (lbs/hr of bulbs/lamps) / (2000 lbs/ton)]
Mercury Emission Rate (lbs/hr) = [Mercury Emission Rate (grains/second)] * [lb/7000 grains] * [3600 seconds/hr]
Mercury Emission Factor = [Mercury Emission Rate (lbs/hr)] / [Average Operating Rate (lbs/hr of bulbs/lamps) / (2000 lbs/ton)]

Unlimited Potential to Emit (PTE) of PM/PM10/PM2.5

Unit	Maximum Throughput (lbs/hr)	Controlled PM/PM10/PM2.5 Emission Factor (lbs/ton)	Control Efficiency (%)	Controlled PTE of PM/PM10/PM2.5 (lb/hr)	Controlled PTE of PM/PM10/PM2.5 (ton/yr)	Uncontrolled PTE of PM/PM10/PM2.5 (lb/hr)	Uncontrolled PTE of PM/PM10/PM2.5 (ton/yr)
Bulb De-manufacturing (BD2)	5005	0.006836	99.99%	0.017	0.075	171.1	749.3

Limited Potential to Emit (PTE) of PM/PM10/PM2.5

Unit	Limited Throughput (lbs/hr)	PM/PM10/PM2.5 Emission Limit (lbs/ton)	Limited PTE of PM/PM10/PM2.5 (lb/hr)	Limited PTE of PM/PM10/PM2.5 (ton/yr)
Bulb De-manufacturing (BD2)	5005	5.00	12.51	54.80

Unlimited Potential to Emit (PTE) of Mercury

Unit	Maximum Throughput (lbs/hr)	Controlled Mercury Emission Factor (lbs/ton)	Control Efficiency (%)	Controlled PTE of Mercury (lb/hr)	Controlled PTE of Mercury (ton/yr)	Uncontrolled PTE of Mercury (lb/hr)	Uncontrolled PTE of Mercury (ton/yr)
Bulb De-manufacturing (BD2)	5005	0.000026	99.99%	6.5E-05	2.9E-04	0.65	2.85

Methodology:
Controlled PTE (lbs/hr) = [Maximum Throughput (lbs/hr)] * [Emission Factor (lbs/ton)] * [ton/2,000 lbs]
Controlled PTE (tons/yr) = [Controlled PTE (lbs/hr)] * [8760 hrs/year] * [ton/2000 lbs]
Uncontrolled PTE (lbs/hr) = [Controlled PTE (lbs/hr)] / [1 - Control Efficiency]
Uncontrolled PTE (tons/yr) = [Uncontrolled PTE (lbs/hr)] * [8760 hrs/year] * [ton/2000 lbs]

Appendix A: Emissions Calculations
Mercury Retort Machine

Company Name: Lighting Resources, Inc.
Source Address: 498 Park 800 Dr., Greenwood, IN 46143
Administrative Amendment: 081-32128-00030
Reviewer: Deena Patton

Potential to Emit Mercury (Hg) Vapor

The bulb de-manufacturing process may be used to crush spent fluorescent lamps of any length. However, for these calculations it is assumed that the system will primarily crush 4-ft T12 lamps (1-1/2 inch diameter) and 4-ft T8 lamps (1 inch diameter). The mecury content of the smaller T8 lamp type is approximately 10 mg/lamp and the mercury content of the larger T12 lamp type is approximately 21 mg/lamp. To determine the potential to emit from the mercury retort machine, the worst case emissions between crushing only T8 lamps and crushing only T12 lamps was determined (worst case emissions in bold text below).

Unit	Maximum Throughput (lbs/hr)
Bulb De-manufacturing (BD2)	5005

	T8 Lamp	T12 Lamp	
Maximum Throughput =	5005	5005	lbs lamps/hr (1)
Average Lamp Weight =	0.41	0.61	lbs/lamp (assuming 4ft length lamp)
Maximum Throughput =	12207	8205	lamps/hr
Maximum Mercury Content =	10	21	mg/lamp (assuming 4ft length lamp) (2)
Maximum Mercury Content =	2.2E-05	4.6E-05	lb/lamp (assuming 4ft length lamp)
Uncontrolled Mercury Emissions =	1.179	**1.664**	tons/year
Mercury Control Efficiency =	99.99%	99.99%	(condensation + copper adsorber + activated carbon adsorber)
Controlled Mercury Emissions =	1.2E-04	**1.7E-04**	tons/year

Methodology
(1) Based on information provided by the source.
(2) Based on typical fluorescent lamps manufactured from 2000-2007. Source: Mercury Emissions from the Disposal of Fluorescent Lamps, Final Report Office of Solid Waste, U.S. Environmental Protection Agency, June 30, 1997 (Tables 2-2 and 2-3) currently available on the internet at: http://www.epa.gov/osw/hazard/wastetypes/universal/merc-emi/merc-pgs/merc-rpt.pdf

Maximum Throughput (lamps/hr) = [Maximum Throughput (lbs lamps/hr)] / [Average Lamp Weight (lbs/lamp)]
Maximum Mercury Content (lb/lamp) = [Maximum Mercury Content (mg/lamp)] * [gram/1000 mg] * [lb/453.6 gram]
Uncontrolled Mercury Emissions (tons/year) = [Maximum Throughput (lamps/hr)] * [Maximum Mercury Content (lb/lamp)] * [8760 hours/year] * [ton/2000 lbs]
Controlled Mercury Emissions (tons/year) = [Uncontrolled Mercury Emissions (tons/year)] * [1 - Control Efficiency (%)]

Appendix A: Emission Calculations
PM Emissions From the Bulb De-manufacturing Systems
Demonstration of Compliance with 326 IAC 6-3-2

Company Name: **Lighting Resources, Inc.**
Source Address: **498 Park 800 Dr., Greenwood, IN 46143**
Administrative Amendment: **081-32128-00030**
Reviewer: **Deena Patton**

Allowable Emissions Under 326 IAC 6-3-2

Emissions Unit Description	Maximum Throughput (lbs/hr)	Maximum Process Weight (tons/hr)	PM Emissions Before Control (lbs/hr)	**326 IAC 6-3-2 Allowable PM Emissions (lbs/hr)**	PM Emissions After Control (lbs/hr)
Bulb De-manufacturing (BD2)	5,005	2.50	171.1	**7.58**	0.017

Where the process weight rate is in excess of sixty thousand (60,000) pounds per hour calculate the allowable emissions using of the equation:

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

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

above, provided the concentration of particulate matter in the discharge gases to the atmosphere is less than 0.10 pounds per one thousand (1,000) pounds of gases.

Emission Factor is calculated from the stack test performed August 30, 2007 and certified by OAQ on November 5, 2007

Methodology
Uncontrolled PM/PM10 Emission Rate (lb/hr) = Controlled PM/PM10 Emission Rate (lb/hr) / (1-Control Efficiency %)
Uncontrolled Emission Factor (lb/ton) = Uncontrolled PM/PM10 Emission Rate (lb/hr) / (Average Operating Rate (lb/hr) / 2000 lbs)
Maximum Process Weight (tons/hr) = Maximum Throughput (lbs/hr) x 60 (lbs/bushel) x 1 ton/2000 lbs
PTE of PM/PM10 Before Control (lbs/hr) = Maximum Throughput (tons/hr) x Emission factor (lbs/ton)
PTE of PM/PM10 After Control (tons/yr) = Maximum Throughput (tons/hr) x Emission factor (lbs/ton) x (1- Control Efficiency (%))

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Ron Hughes
Lighting Resources Inc
498 Park 800 Dr
Greenwood, IN 46143

DATE: August 10, 2012

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
FESOP
081-32128-00030

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Jim Euler
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Mail Code 61-53

IDEM Staff	CDENNY 8/10/2012 Lighting Resources Inc 081-32128-00030 (final)		
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

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1		Ron Hughes Lighting Resources Inc 498 Park 800 Dr Greenwood IN 46143 (Source CAATS)									
2		Johnson County Commissioners 5 East Jefferson Franklin IN 46131 *(Local Official)*									
3		Johnson County Health Department 86 W. Court St, Courthouse Annex Franklin IN 46131-2345 *(Health Department)*									
4		Frederick & Iva Moore 6019 W 650 N Ligonier IN 46767 *(Affected Party)*									
5		Larry and Becky Bischoff 10979 North Smokey Row Road Mooresville IN 46158 *(Affected Party)*									
6		Greenwood City Council and Mayors Office 2 N. Madison Ave. Greenwood IN 46142 *(Local Official)*									
7		Jim Euler DECA Environmental & Associates, Inc. 410 1st Ave. NE Carmel IN 46032 *(Consultant)*									
8		Franklin City Council & Mayors Office 701 E Monroe St Franklin IN 46131 *(Local Official)*									
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