



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: March 6, 2009

RE: Shells, Inc / 099-27197-00090

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

Notice of Decision: Approval - Effective Immediately

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 IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require 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 of 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.dot12/03/07



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Minor Source Operating Permit Renewal OFFICE OF AIR QUALITY

Shells, Inc.
502 Old U.S. Hwy. 30 East
Bourbon, Indiana 46504

(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.

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

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 MSOP under 326 IAC 2-6.1.

Operation Permit No.: M099-27197-00090	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: March 6, 2009 Expiration Date: March 6, 2019

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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 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

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

The Permittee owns and operates a stationary core making source.

Source Address:	502 Old U.S. Hwy. 30 East, Bourbon, Indiana 46504
Mailing Address:	502 Old U.S. Hwy. 30 East, Bourbon, IN 46504
General Source Phone Number:	(330) 335-1565
SIC Code:	3543
County Location:	Marshall
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source 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

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

- (a) One (1) Core sand system, with a maximum capacity of 3.725 tons per hour, controlled by two (2) Bin Filters, BF-1 and BF-2, and exhausting to stacks S-1 and S-2, and feeding into the following mixers:

- (1) One (1) Sand Mixer, identified as South line mixer 1, with a maximum capacity of 3.0 tons per hour and controlled by one (1) bin filter (BF-1) for particulate control which exhausts through one (1) stack (S-1). South line mixer 1 feeds sand in to the South Cold box core line.
- (2) One (1) Sand Mixer, identified as North line mixer 1, with a maximum capacity of 6.0 tons per hour and controlled by one (1) bin filter (BF-1) for particulate control which exhausts through one (1) stack (S-1). North line mixer 1 feeds sand in to the North Cold box core line.

There is a bottleneck at the downstream of the North line mixer 1. This bottleneck is as follows: the North Cold box core line has maximum production capacity of 0.725 tons per hour. This bottleneck limits the North line mixer 1 capacity to 0.725 tons per hour.

- (b) Two (2) core making operations, identified as Cold box core lines, using dimethylisopropylamine (DMIPA) as a catalyst, and consisting of the following:
- (1) One (1) cold box core line, identified as South Cold box core line, consisting of the following units with combined capacities of 4.0 tons per hour.
 - (i) Unit S-1 with a maximum capacity of 2.5 tons per hour
 - (ii) Units S-2 and S-3 each with a maximum capacity of 0.25 tons per hour
 - (iii) Units S-4 and S-5 each with a maximum capacity of 0.5 tons per hour

There is a bottleneck at the downstream of the South Cold box core line. This bottleneck is as follows: the south line mixture 1 has maximum production capacity of 3.0 tons of Part I/II resin per hour. This bottleneck limits the sum of the individual capacities of the South Cold Box Core Line to 3.0 tons per hour.

- (2) One (1) cold box core line, identified as North Cold box core line, consisting of the following units with a combined capacity of 0.725 tons per hour:
 - (i) Unit N-2 with a maximum capacity of 0.075 tons per hour
 - (ii) Units N-3 and N-4 each with a maximum capacity of 0.25 tons per hour
 - (iii) Unit N-5 with a maximum capacity of 0.15 tons per hour

- (c) One (1) Shell core line, consisting of the following units, with a total combined capacity of 2.155 tons per hour:
 - (1) Units 101, 102, 103, 104, 201, 202, 203, 204, 205, and 501 each with a maximum capacity of 0.125 tons per hour
 - (2) Units 301-304 each with a maximum combined capacity of 0.24 tons per hour
 - (3) Units 401-404 with a maximum combined capacity of 0.24 tons per hour
 - (4) Units 502 and 504 each with a maximum capacity of 0.06 tons per hour
 - (5) Unit 503 with a maximum capacity of 0.025 tons per hour
 - (6) Units 505-508 with a maximum combined capacity of 0.2 tons per hour
 - (7) Units 509-510 with a maximum combined capacity of 0.08 tons per hour

- (d) One (1) core drying oven rated at 3.0 MMBtu/hr and using natural gas.

- (e) One (1) air make-up unit rated at 5.0 MMBtu/hr and using natural gas.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

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 2-1.1-1) shall prevail.

B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, M099-27197-00090, 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

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

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

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

B.7 Duty to Provide Information

- (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. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). 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

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, 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 Notification [326 IAC 2-6.1-5(a)(5)]

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 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, IN 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.10 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) 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.
- (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 or potential to emit. The PMPs do not require the certification 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.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M099-27197-00090 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.12 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

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 one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.13 Permit Renewal [326 IAC 2-6.1-7]

- (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 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification 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 one hundred twenty (120) days 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 2-6.1 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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.14 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

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

Indiana Department of Environmental Management
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 shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.15 Source Modification Requirement

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

B.16 Inspection and Entry

[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][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 permitted 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.17 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

(a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to 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

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

- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.18 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees due within thirty (30) calendar days of receipt of a bill from IDEM, OAQ,.
- (b) 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.19 Credible Evidence [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 2-6.1-5(a)(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 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

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

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

C.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 or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

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.

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 61-52 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 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. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

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

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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 certification 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 certification 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 2-6.1-5(a)(2)]

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

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.13 Instrument Specifications [326 IAC 2-1.1-11]

- (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

C.14 Response to Excursions or Exceedances

- (a) Upon detecting an excursion or exceedance, the Permittee shall 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 emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned 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 within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (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 maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

- (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 take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.16 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (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. 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, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

C.18 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) 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.

SECTION D.1 EMISSIONS UNITS OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) Core sand system, with a maximum capacity of 3.725 tons per hour, controlled by two (2) Bin Filters, BF-1 and BF-2, and exhausting to stacks S-1 and S-2, and feeding into the following mixers:
- (1) One (1) Sand Mixer, identified as South line mixer 1, with a maximum capacity of 3.0 tons per hour and controlled by one (1) bin filter (BF-1) for particulate control which exhausts through one (1) stack (S-1). South line mixer 1 feeds sand in to the South Cold box core line.
 - (2) One (1) Sand Mixer, identified as North line mixer 1, with a maximum capacity of 6.0 tons per hour and controlled by one (1) bin filter (BF-1) for particulate control which exhausts through one (1) stack (S-1).

There is a bottleneck at the downstream of the North line mixer 1. This bottleneck is as follows: the North Cold box core line has maximum production capacity of 0.725 tons per hour. This bottleneck limits the North line mixer 1 capacity to 0.725 tons per hour.

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

Emission Limitations and Standards

D.1.1 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the South line mixer 1 shall not exceed 8.56 pounds per hour when operating at a process weight rate of 3.0 tons per hour. The pounds per hour limitation was calculated using the following equation:

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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the North line mixer 1 shall not exceed 3.30 pounds per hour when operating at a process weight rate of 0.725 tons per hour. The pounds per hour limitation was calculated using the following equation:

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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control device.

Compliance Determination Requirements

D.1.3 Particulate Control

In order to comply with D.1.1, the bin filters BF-1 and BF-2 for PM control shall be in operation and control emissions from the Sand core system and mixers (North and South lines) at all times that the Sand core system and mixers (North and South lines) are in operation.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (b) Two (2) core making operations, identified as Cold box core lines, using dimethylisopropylamine (DMIPA) as a catalyst, and consisting of the following:
- (1) One (1) cold box core line, identified as South Cold box core line, consisting of the following units with combined capacities of 4.0 tons per hour.
 - (i) Unit S-1 with a maximum capacity of 2.5 tons per hour
 - (ii) Units S-2 and S-3 each with a maximum capacity of 0.25 tons per hour
 - (iii) Units S-4 and S-5 each with a maximum capacity of 0.5 tons per hour

There is a bottleneck at the downstream of the South Cold box core line. This bottleneck is as follows: the south line mixture 1 has maximum production capacity of 3.0 tons of Part I/II resin per hour. This bottleneck limits the sum of the individual capacities of the South Cold Box Core Line to 3.0 tons per hour.
 - (2) One (1) cold box core line, identified as North Cold box core line, consisting of the following units with a combined capacity of 0.725 tons per hour:
 - (i) Unit N-2 with a maximum capacity of 0.075 tons per hour
 - (ii) Units N-3 and N-4 each with a maximum capacity of 0.25 tons per hour
 - (iii) Unit N-5 with a maximum capacity of 0.15 tons per hour
- (c) One (1) Shell core line, consisting of the following units, with a total combined capacity of 2.155 tons per hour:
- (1) Units 101, 102, 103, 104, 201, 202, 203, 204, 205, and 501 each with a maximum capacity of 0.125 tons per hour
 - (2) Units 301-304 each with a maximum combined capacity of 0.24 tons per hour
 - (3) Units 401-404 with a maximum combined capacity of 0.24 tons per hour
 - (4) Units 502 and 504 each with a maximum capacity of 0.06 tons per hour
 - (5) Unit 503 with a maximum capacity of 0.025 tons per hour
 - (6) Units 505-508 with a maximum combined capacity of 0.2 tons per hour
 - (7) Units 509-510 with a maximum combined capacity of 0.08 tons per hour

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

Emission Limitations and Standards

D.2.1 Preventive Maintenance Plan [326 IAC1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and any control devices.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

**MINOR SOURCE OPERATING PERMIT (MSOP)
CERTIFICATION**

Source Name: Shells, Inc.
Source Address: 502 Old U.S. Hwy. 30 East, Bourbon, Indiana 46504
Mailing Address: 502 Old U.S. Hwy. 30 East, Bourbon, IN 46504
MSOP No.: M099-27197-00090

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**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

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

Company Name:	Shells, Inc.
Address:	502 Old U.S. Hwy. 30 East
City:	Bourbon, Indiana 46504
Phone #:	(330) 335-1565
MSOP #:	M099-27197-00090

I hereby certify that Shells, Inc. is :

still in operation.

no longer in operation.

I hereby certify that Shells, Inc. is :

in compliance with the requirements of MSOP M099-27197-00090.

not in compliance with the requirements of MSOP M099-27197-00090.

Authorized Individual (typed):
Title:
Signature:
Date:

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

Noncompliance:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER: (317) 233-6865

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?____, 25 TONS/YEAR SULFUR DIOXIDE ?____, 25 TONS/YEAR NITROGEN OXIDES?____, 25 TONS/YEAR VOC ?____, 25 TONS/YEAR HYDROGEN SULFIDE ?____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?____, 25 TONS/YEAR FLUORIDES ?____, 100 TONS/YEAR CARBON MONOXIDE ?____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE ? Y N

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

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

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

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Minor Source Operating Permit Renewal

Source Description and Location

Source Name:	Shells, Inc.
Source Location:	502 Old U.S. Hwy. 30 East, Bourbon, IN 46504
County:	Marshall
SIC Code:	3543
Permit Renewal No.:	M099-27197-00090
Permit Reviewer:	Mehul Sura

Public Notice Information

On February 2, 2009, the Office of Air Quality (OAQ) had a notice published in the *Plymouth Pilot*, Plymouth, Indiana stating that IDEM had received an application from Shells, Inc. located at 502 Old U.S. Hwy. 30 East, Bourbon, IN 46504 for a renewal to their MSOP (099-14049-00090) issued on June 7, 2004. The notice also stated that OAQ proposed to issue this renewal and provided information on how the public could review the proposed renewal and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this renewal should be issued as proposed.

Upon further review IDEM, OAQ has made the following change (deleted language appears as ~~strike throughs~~ and new language appears in **bold**):

Several of IDEM's Branches and sections have been renamed. Therefore, IDEM has updated the addresses listed in the permit. References to Permit Administration and Development Section and the Permits Branch have been changed to Permit Administration and Support Section. References to Asbestos Section, Compliance Data Section, Air Compliance Section, and Compliance Branch have been changed to Compliance and Enforcement Branch.

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

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

Indiana Department of Environmental Management
~~Asbestos Section~~**Compliance and Enforcement Branch**, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

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

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a
Minor Source Operating Permit Renewal**

Source Background and Description

Source Name:	Shells, Inc.
Source Location:	502 Old U.S. Hwy. 30 East, Bourbon, IN 46504
County:	Marshall
SIC Code:	3543
Permit Renewal No.:	M099-27197-00090
Permit Reviewer:	Mehul Sura

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Shells, Inc. relating to the operation of a stationary core making source. This source operation is limited to core making. This source does not melt any metal.

History

On December 1, 2008, Shells, Inc. submitted an application to the OAQ requesting to renew its operating permit. Shells, Inc. was issued a MSOP on June 7, 2004.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following emission units:

- (a) One (1) Core sand system, with a maximum capacity of 3.725 tons per hour, controlled by two (2) Bin Filters, BF-1 and BF-2, and exhausting to stacks S-1 and S-2, and feeding into the following mixers:
 - (1) One (1) Sand Mixer, identified as South line mixer 1, with a maximum capacity of 3.0 tons per hour and controlled by one (1) bin filter (BF-1) for particulate control which exhausts through one (1) stack (S-1). South line mixer 1 feeds sand into the South Cold box core line.
 - (2) One (1) Sand Mixer, identified as North line mixer 1, with a maximum capacity of 6.0 tons per hour and controlled by one (1) bin filter (BF-1) for particulate control which exhausts through one (1) stack (S-1). North line mixer 1 feeds sand in to the North Cold box core line.

There is a bottleneck at the downstream of the North line mixer 1. This bottleneck is as follows: the North Cold box core line has maximum production capacity of 0.725 tons per hour. This bottleneck limits the North line mixer 1 capacity to 0.725 tons per hour.
- (b) Two (2) core making operations, identified as Cold box core lines, using dimethylisopropylamine (DMIPA) as a catalyst, and consisting of the following:
 - (1) One (1) cold box core line, identified as South Cold box core line, consisting of the following units with combined capacities of 4.0 tons per hour.
 - (i) Unit S-1 with a maximum capacity of 2.5 tons per hour
 - (ii) Units S-2 and S-3 each with a maximum capacity of 0.25 tons per hour
 - (iii) Units S-4 and S-5 each with a maximum capacity of 0.5 tons per hour

There is a bottleneck at the downstream of the South Cold box core line. This bottleneck is as follows: the south line mixture 1 has maximum production capacity of 3.0 tons of Part I/II resin per hour. This bottleneck limits the sum of the individual capacities of the South Cold Box Core Line to 3.0 tons per hour.

- (2) One (1) cold box core line, identified as North Cold box core line, consisting of the following units with a combined capacity of 0.725 tons per hour:
 - (i) Unit N-2 with a maximum capacity of 0.075 tons per hour
 - (ii) Units N-3 and N-4 each with a maximum capacity of 0.25 tons per hour
 - (iii) Unit N-5 with a maximum capacity of 0.15 tons per hour

- (c) One (1) Shell core line, consisting of the following units, with a total combined capacity of 2.155 tons per hour:
 - (1) Units 101, 102, 103, 104, 201, 202, 203, 204, 205, and 501 each with a maximum capacity of 0.125 tons per hour
 - (2) Units 301-304 each with a maximum combined capacity of 0.24 tons per hour
 - (3) Units 401-404 with a maximum combined capacity of 0.24 tons per hour
 - (4) Units 502 and 504 each with a maximum capacity of 0.06 tons per hour
 - (5) Unit 503 with a maximum capacity of 0.025 tons per hour
 - (6) Units 505-508 with a maximum combined capacity of 0.2 tons per hour
 - (7) Units 509-510 with a maximum combined capacity of 0.08 tons per hour

- (d) One (1) core drying oven rated at 3.0 MMBtu/hr and using natural gas.

- (e) One (1) air make-up unit rated at 5.0 MMBtu/hr and using natural gas.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

There are no emission units which are constructed and/or operating without a permit.

Emission Units and Pollution Control Equipment Removed From the Source

No emission unit and Pollution Control Equipment has been removed from the source since the MSOP No.099-14049-00090 was issued on June 7, 2004.

Existing Approvals

Since the issuance of the MSOP No. 099-14049-00090 on June 7, 2004, the source has constructed or has been operating under the following approval as well: MSOP Notice-Only Change No. 099-19681-00090, issued on February 28, 2005.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Marshall County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Marshall County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5

Marshall County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants

Marshall County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Unrestricted Potential Emissions

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants still less than 100 tons per year. The source is not subject to the provisions of 326 IAC 2-7. Therefore, the source will be issued an MSOP Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit renewal.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.
- (c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability - Entire Source

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

The source is subject to 326 IAC 1-6-3.

326 IAC 2-6 (Emission Reporting)

This source is located in Marshall County and the potential to emit all criteria pollutants is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

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

This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

326 IAC 5-1 (Opacity Limitations)

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

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of this source will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

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

This rule applies to a facility that meets the following criteria:

- (a) is constructed after 1979

- (b) has potential emissions of twenty-five (25) tons or more per year;
- (c) is located anywhere in the state; and
- (d) is not otherwise regulated by:
 - (A) other provisions of article 8;
 - (B) 326 IAC 20-48; or
 - (C) 326 IAC 20-56.

None of the facilities at the source is subject to the requirements of 326 IAC 8-1-6 because each facility at the source has VOC potential emissions less than twenty-five (25) tons per year.

326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) from the Core sand system (North line mixer 1) shall be limited by 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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour} \\ = 0.725$$

$$E = 4.10 (0.725)^{0.67} = 3.30 \text{ lbs PM/hr}$$

Based on the above equation, particulate matter emissions from the Core sand system (North line mixer 1) shall be limited to 3.30 pounds per hour.

Compliance calculation:

Uncontrolled PM emissions =
(11.43 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 2.60 lbs PM/hr

Controlled Compliance calculation:

(0.23 tons PM/yr) * (yr/8,760 hrs) * (2,000 lbs/ton) = 0.0525 lbs PM/hr

The Core sand system (North line mixer 1) can comply with the requirements of 326 IAC 6-3-2 by using Bin filters to control PM emissions.

- (b) The particulate matter (PM) from the Core sand system (South line mixer 1) shall be limited by 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:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour} \\ = 3.0$$

$$E = 4.10 (3.0)^{0.67} = 8.56 \text{ lbs PM/hr}$$

Based on the above equation, particulate matter emissions from the Core sand system (South line mixer 1) shall be limited to 8.56 pounds per hour.

Compliance calculation:

Uncontrolled PM emissions =
 $(47.30 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 10.80 \text{ lbs PM/hr}$

Controlled Compliance calculation:

$(0.95 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.21 \text{ lbs PM/hr}$

The Core sand system (South line mixer 1) can comply with the requirements of 326 IAC 6-3-2 by using Bin filters to control PM emissions.

Recommendation

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

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

An application for the purposes of this review was received on December 1, 2008.

Conclusion

The operation of this stationary core making source shall be subject to the conditions of the attached MSOP Renewal No. 099-27197-00090.

Appendix A: Emission Calculations

Company Name: Shells, Inc.
Address City IN Zip: 502 Old US Hwy. 30 East, Bourbon, IN 46504
Permit Renewal No.: M099-27197-00090
Reviewer: Mehul Sura
Date: 1/9/2009

Uncontrolled Potential Emissions (tons/year)

Pollutant	Sand handling*	One (1) Core sand system, including south and north line mixtures	Two (2) core making operations, identified as Cold box core lines, including south and north cold box core lines	One (1) Shell core line	Natural Gas Combustion	TOTAL
PM	0.00	58.7	0.00	0.0	0.27	59.00
PM10	0.00	8.8	0.00	0.0	0.27	9.08
PM2.5	0.00	8.8	0.00	0.0	0.27	9.08
SO2	0.00	0.0	0.00	0.0	0.02	0.02
NOx	0.00	0.0	0.00	0.0	3.50	3.50
VOC	0.00	0	10.63	2.7	0.19	13.50
CO	0.00	0	0.00	0	2.94	2.94
total HAPs	0.00	0	6.69	2.7	0.00	9.36
worst case single HAP	0.00	0.00	(Triethylamine) 6.69	-	-	6.69

Controlled and Limited Emissions (tons/year)

Pollutant	Sand handling*	One (1) Core sand system, including south and north line mixtures	Two (2) core making operations, identified as Cold box core lines, including south and north cold box core lines	One (1) Shell core line	Natural Gas Combustion	TOTAL
PM	0.0	1.2	0.0	0.0	0.27	1.44
PM10	0.0	0.2	0.0	0.0	0.27	0.44
PM2.5	0.0	8.8	0.0	0.0	0.3	9.1
SO2	0.0	0.0	0.0	0.0	0.02	0.02
NOx	0.0	0.0	0.0	0.0	3.50	3.50
VOC*	0.0	0.0	10.6	2.7	0.19	13.50
CO	0.0	0.0	0.0	0.0	2.94	2.94
total HAPs	0.0	0.0	6.7	2.7	0.00	9.36
worst case single HAP	0.0	0.0	(Triethylamine) 6.69	-	-	6.69

PM10=PM2.5

* Pneumatic conveyance method is used to transfer the raw sand from truck into enclosed hoppers, which are directly above the mixtures.

Appendix A: Emissions Calculations

One (1) Shell core line

VOC and HAP Emission Calculations

Company Name: Shells, Inc.
Address City IN Zip: 502 Old US Hwy. 30 East, Bourbon, IN 46504
Permit Renewal No.: M099-27197-00090
Reviewer: Mehul Sura
Date: 1/9/2009

Shell Cores Emission Calculation

Maximum Process Rate (tons/hr)

1.91

Resin Coated Sand: Faskure 206FT

Emission Factor in lb/ton	Pollutant		
	Phenol (HAP)	Formaldehyde (HAP)	VOC
	0.19	0.13	0.32
Potential Emission in tons/yr	1.59	1.08	2.67

Notes:

Emission factors for constituents released during the core making process (provided by the source with the initial MSOP application) are based on the suppliers data.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

Company Name: Shells, Inc.
Address City IN Zip: 502 Old US Hwy. 30 East, Bourbon, IN 46504
Permit Renewal No.: M099-27197-00090
Reviewer: Mehul Sura
Date: 1/9/2009

Heat Input Capacity	Potential Throughput
MMBtu/hr	MMCF/yr
8.0	70.1

Heat Input Capacity includes:
 One (1) core drying over rated at 3.0 MMBtu/hr
 One (1) air make up unit rated at 5.0 MMBtu/hr

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	7.6	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.3	0.3	0.02	3.5	0.2	2.9

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.358E-05	4.205E-05	2.628E-03	6.307E-02	1.191E-04

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.752E-05	3.854E-05	4.906E-05	1.332E-05	7.358E-05

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
 The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Two (2) core making operations, identified as Cold box core lines, including south and north cold box core lines

VOC and HAP Emission Calculations

Company Name: Shells, Inc.
 Address City IN Zip: 502 Old US Hwy, 30 East, Bourbon, IN 46504
 Permit Renewal No.: M099-27197-00090
 Reviewer: Mehul Sura
 Date: 1/9/2009

Coldbox Coremaking (South and North Cold Box Core Line) VOC and HAP Emission Calculations

Maximum Core Capacity (Total) : **3.725** tons per hour

Source	Pounds of Component per Ton of Core (lb/ton)	Weight % VOC	% Evaporated VOC	Weight % Phenol	% Evaporated Phenol	Weight % Diphenylmethane 4,4 - Diisocyanate	% Evaporated Diphenylmethane 4,4 - Diisocyanate	Weight % Polymeric Diphenylmethane	% Evaporated Polymeric Diphenylmethane	Weight % Triethylamine	% Evaporated Triethylamine
Part I Resin (Sigma Cure 7121)	13.05	45.30%	3.25%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Part II Resin (Sigma Cure 7516)	10.67	14.30%	3.25%	0.00%	0.00%	42.90%	0.00%	42.90%	0.00%	0.00%	0.00%
Catalyst (TEA)	0.41	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	100.00%

Source	Potential VOC Emissions (tons/yr)	Phenol Emissions (tons/yr)	Diphenylmethane 4,4 -Diisocyanate (tons/yr)	Polymeric Diphenylmethane (tons/yr)	Triethylamine Emissions (tons/yr)
Part I Resin (Sigma Cure 7121)	3.13	0.00	0.00	0.00	0.00
Part II Resin (Sigma Cure 7516)	0.81	0.00	0.00	0.00	0.00
Catalyst (TEA)	6.69	0.00	0.00	0.00	6.69

Worst Case Total Uncontrolled VOC emissions (tons/yr) **10.63**

Worst Case Total Uncontrolled single HAP emissions (tons/yr) **6.69**

Worst Case Total Uncontrolled single HAP emissions (tons/yr) **6.69**

Methodology

VOC/HAPs Emissions (tons/yr) = Material usage (lb/ton core) * Max. Core production (ton core/ hr) * VOC Content (%) * % Evaporated (%) * (1 ton/ 2000 lbs) * 8760 (hrs/yr)

Appendix A: Emissions Calculations

One (1) Core sand system, including south and north line mixtures

Company Name: Shells, Inc.
Address City IN Zip: 502 Old US Hwy. 30 East, Bourbon, IN 46504
Permit Renewal No.: M099-27197-00090
Reviewer: Mehul Sura
Date: 1/9/2009

Core Sand System

Maximum Process Rate (tons/hr)

3.73

	Pollutant					
Emission Factor in lb/ton	PM 3.60	PM10 0.54	SO2 0.00	NOx 0.00	VOC 0.00	CO 0.00
Potential Emission in tons/yr	58.74	8.81	0.00	0.00	0.00	0.00

Total Emissions		
Potential Emission in tons/yr	PM 58.74	PM10 8.81
Controlled Emissions in tons/yr	1.17	0.18

Notes:
 Emission factors are from FIRE, Version 5.0 for Sand Grinding/Handling operations (SCC 30400350)
 Controlled emissions are based on the bin filter control efficiency of 98.0%