



*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: January 19, 2006  
RE: United States Gypsum Company / 089-19551-00333  
FROM: Paul Dubenetzky  
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 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, 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 4-21.5-3-7 and IC 13-15-7-3 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) 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.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency  
401 M Street  
Washington, D.C. 20406

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.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
(317) 232-8603  
(800) 451-6027  
[www.in.gov/idem](http://www.in.gov/idem)

Mr. Jay King  
Plant Manager  
United States Gypsum Company  
301 Riley Road  
East Chicago, IN 46312

January 19, 2006

Re: 089-19551-00333  
Fifth Significant Permit Modification to  
Part 70 No.: T 089-7532-00333

Dear Mr. King:

United States Gypsum Company was issued a permit on July 6, 1999 for a stationary gypsum wallboard and gypsum products manufacturing plant. A letter requesting changes to this permit was received on July 6, 2004. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of the construction and operation of one (1) high energy calcining kettle, identified as #1B, at the existing stucco production process. The changes in the Part 70 Operating Permit are documented in the Technical Support Document. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

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 Edward A. Longenberger, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 ext. 20 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by  
Paul Dubenetzky  
Assistant Commissioner  
Office of Air Quality

Attachments  
EAL/MES

cc: File - Lake County  
U.S. EPA, Region V  
Lake County Health Department  
Northwest Regional Office  
Air Compliance Section Inspector - Richard Massoels  
Compliance Branch  
Administrative and Development Section  
Technical Support and Modeling - Michelle Boner



**MITCHELL E. DANIELS, JR.**

Governor

**THOMAS W. EASTERLY**

Commissioner

100 North Senate Avenue  
 Indianapolis, Indiana 46204-2251  
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 www.IN.gov/idem

**PART 70 OPERATING PERMIT  
 OFFICE OF AIR QUALITY**

**United States Gypsum Company  
 301 Riley Road  
 East Chicago, Indiana 46312**

(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 in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 and 326 IAC 2-1-3.2 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.

Operation Permit No.: T089-7532-00333	
Original Signed by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: July 6, 1999  Expiration Date: July 6, 2004

1 <sup>st</sup> Significant Permit Modification No. 089-11767-00333	Issuance Date: November 13, 2002
1 <sup>st</sup> Significant Source Modification No. 089-16064-00333	Issuance Date: March 4, 2003
2 <sup>nd</sup> Significant Permit Modification No. 089-16805-00333	Issuance Date: March 14, 2003
2 <sup>nd</sup> Significant Source Modification No. 089-18553-00333	Issuance Date: April 27, 2004
3 <sup>rd</sup> Significant Permit Modification No. 089-18554-00333	Issuance Date: May 12, 2004
1 <sup>st</sup> Administrative Amendment No. 089-19720-00333	Issuance Date: September 3, 2004
2 <sup>nd</sup> Administrative Amendment No. 089-19361-00333	Issuance Date: August 30, 2004
1 <sup>st</sup> Minor Source Modification No. 089-19642-00333	Issuance Date: October 13, 2005
3 <sup>rd</sup> Significant Source Modification No. 089-21284-00333	Issuance Date: pending
4 <sup>th</sup> Significant Permit Modification No. 089-21728-00333	Issuance Date: pending
3 <sup>rd</sup> Administrative Amendment No. 089-21947-00333	Issuance Date: November 17, 2005

Fifth Significant Permit Modification No.: SPM 089-19551-00333	Sections Affected: A.2 (stucco process), D.3
Issued by: Original signed by Paul Dubenetzky, Assistant Commissioner Office of Air Quality	Issuance Date: January 19, 2006

- C.14 Monitoring Methods [326 IAC 3]
- C.15 Pressure Gauge Specifications

**Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

- C.16 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.17 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68.215]1
- C.18 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5]
- C.19 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- C.20 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)]
- C.21 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]
- C.22 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]
- C.23 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11][326 IAC 2-2] [326 IAC 2-3]

**Stratospheric Ozone Protection**

- C.24 Compliance with 40 CFR 82 and 326 IAC 22-1

**D.1 FACILITY OPERATION CONDITIONS - Raw Material Storage and Handling ..... 34**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.1.1 Nonattainment Area Particulate Limitation [326 IAC 6-1-2]
- D.1.2 Lake County PM<sub>10</sub> Emission Requirements [326 IAC 6-1-10.1]
- D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**

- D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)]
- D.1.5 Particulate Matter (PM)

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.1.6 Visible Emissions Notations
- D.1.7 Parametric Monitoring
- D.1.8 Baghouse Inspections
- D.1.9 Broken or Failed Bag Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.1.10 Record Keeping Requirements

**D.2 FACILITY OPERATION CONDITIONS - Landplaster Production ..... 37**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.2.1 Nonattainment Area Particulate Limitation [326 IAC 6-1-2]
- D.2.2 Lake County PM<sub>10</sub> Emission Requirements [326 IAC 6-1-10.1]
- D.2.3 Emission Offset Minor PM and PM<sub>10</sub> Limit [326 IAC 2-3]
- D.2.4 Emission Offset Minor NO<sub>x</sub> Limit [326 IAC 2-3]
- D.2.5 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart OOO]
- D.2.6 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**

- D.2.7 Testing Requirements [326 IAC 2-7-6(1),(6)]
- D.2.8 Particulate Matter (PM and PM<sub>10</sub>)

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.2.9 Visible Emissions Notations
- D.2.10 Parametric Monitoring
- D.2.11 Baghouse Inspections
- D.2.12 Broken or Failed Bag Detection
- D.2.13 Cyclone Inspections
- D.2.14 Cyclone Failure Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.2.15 Record Keeping Requirements
- D.2.16 Reporting Requirements

**D.3 FACILITY OPERATION CONDITIONS - Stucco Production ..... 43**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.3.1 Nonattainment Area Particulate Limitation [326 IAC 6.8]
- D.3.2 Lake County PM<sub>10</sub> Emission Requirements [326 IAC 6.8-2-37]
- D.3.3 Emission Offset Minor PM Limit [326 IAC 2-3]
- D.3.4 Emission Offset Minor NO<sub>x</sub> Limit [326 IAC 2-3]
- D.3.5 PSD and Emission Offset [326 IAC 2-2] [326 IAC 2-3]
- D.3.6 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart UUU]
- D.3.7 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart OOO]
- D.3.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**

- D.3.9 Testing Requirements [326 IAC 2-7-6(1),(6)]
- D.3.10 Particulate Matter (PM)

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.3.11 Visible Emissions Notations
- D.3.12 Parametric Monitoring
- D.3.13 Baghouse Inspections
- D.3.14 Broken or Failed Bag Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.3.15 Record Keeping Requirements
- D.3.16 Reporting Requirements

**D.4 FACILITY CONDITIONS - Wallboard Line ..... 49**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.4.1 Emission Offset Minor PM Limit [326 IAC 2-3]
- D.4.2 Nonattainment Area Particulate Limitation [326 IAC 6-1-2]
- D.4.3 Emission Offset Minor NO<sub>x</sub> Limit [326 IAC 2-3]
- D.4.4 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart OOO]
- D.4.5 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**

- D.4.6 Testing Requirements [326 IAC 2-7-6(1),(6)]
- D.4.7 Particulate Matter (PM)

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.4.8 Visible Emissions Notations
- D.4.9 Parametric Monitoring
- D.4.10 Baghouse Inspections
- D.4.11 Broken or Failed Detection

A stucco production process, consisting of the following equipment:

- (a) Two (2) kettle feed bins, known as kettle feed bin #1 and kettle feed bin #2, each with a maximum capacity of 60 tons, with particulate matter emissions controlled by two (2) baghouses. Emissions from kettle feed bin #1 will be controlled by one (1) baghouse, known as MBH-25, and exhausting through one (1) stack, identified as M-25. Emissions from kettle feed bin #2 will be controlled by one (1) baghouse, known as MBH-27 and exhausting through one (1) stack, identified as M-27.
- (b) One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of 11.5 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22A.
- (c) One (1) calcining kettle, known as calcining kettle #1B, with a maximum throughput of 12.0 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-26, and exhausting through one (1) stack, identified as M-26.
- (d) One (1) calcining kettle, known as calcining kettle #2, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (e) One (1) natural gas-fired burner for calcining kettle #1, with a heat input capacity of 7.5 MMBtu per hour, and exhausting through one (1) stack, identified as M-22A.
- (f) One (1) natural gas-fired burner for calcining kettle #1B, with a heat input capacity of 7.5 million British thermal units per hour, and exhausting through one (1) stack, identified as M-26.
- (g) Six (6) natural gas-fired burners for the calcining kettle #2, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-14.
- (h) One (1) kettle feed bin, known as kettle feed bin #3, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-28, and exhausting through one (1) stack, identified as M-28.
- (i) One (1) calcining kettle, known as calcining kettle #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j) One (1) natural-gas fired burner for the calcining kettle #3, with a heat input capacity of 15 MMBtu per hour, and exhausting through one (1) stack, identified as M-6.
- (k) One (1) hot pit, known as hot pit #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (l) Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the stucco handling system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.
- (m) Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as M-

23.

- (n) Stucco storage equipment, including one (1) #1 elevator and one (1) #27 screw, with a maximum capacity of seventy (70) tons per hour, and three (3) stucco storage bins, known as #4, #5 and #6, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-23, and exhausting through one (1) stack, identified as M-23.
- (o) One (1) stucco storage bin, with a maximum capacity of 50 tons, with particulate matter controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

A gypsum wallboard manufacturing line, consisting of the following equipment:

- (a) One (1) stucco storage bin, with a maximum capacity of 1200 tons, with particulate matter controlled by one (1) bin vent, identified as BBH-11, and exhausting through one (1) stack, identified as B-11.
- (b) One (1) stucco surge bin with hopper, with a maximum capacity of 2 tons, with particulate matter controlled by one (1) baghouse, identified as BBH-13, and exhausting through one (1) stack, identified as B-13.
- (c) One (1) (HRA) landplaster feed bin, with a maximum capacity of 20 tons, with particulate matter emissions controlled by one (1) bin vent, identified as BBH-12, and exhausting inside the building through one (1) stack, identified as B-12.
- (d) One (1) HRA mill additive bin (sugar), with a maximum capacity of 10 cubic feet, feeding the HRA ball mill, with particulate matter emissions uncontrolled, and exhausting inside the building.
- (e) One (1) HRA ball mill, with a maximum throughput of 2400 pounds per hour, with particulate matter controlled by one (1) baghouse, identified as BBH-18, and exhausting inside the building through one (1) stack, identified as B-18.
- (f) One (1) HRA bin, with a maximum capacity of 3 tons, with particulate matter controlled by one (1) baghouse, identified as BBH-13, and exhausting through one (1) stack, identified as B-13.
- (g) One (1) additive refill bin (starch), with a maximum capacity of 3 tons, with particulate matter controlled by one (1) baghouse, identified as BBH-16, and exhausting inside the building through one (1) stack, identified as B-16.
- (h) One (1) additive refill receiver (vermiculite), controlled by one (1) vacuum receiver, identified as BVH-17, and exhausting inside the building through one (1) stack, identified as B-17.
- (i) Two (2) additive bulk storage bins (starch and vermiculite), each with a maximum capacity of 75 tons, with particulate matter emissions controlled by two (2) separate baghouses, identified as BBH-14 (starch) and BBH-15 (vermiculite), and all exhausting to two (2) respective stacks, identified as B-14 and B-15.
- (j) One (1) additive surge bin (vermiculite), with a maximum capacity of 5 tons, with particulate matter controlled by one (1) baghouse, identified as BBH-13, and exhausting through one (1) stack, identified as B-13.
- (k) One (1) glass fiber additive bin, with a maximum capacity of six (6) cubic feet, with particulate matter emissions uncontrolled, and exhausting inside the building.

- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.22 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.
- (c) If there is a reasonable possibility that a "project" (as defined in 326 IAC 2-3-1(II)) at an existing emissions unit other than projects at a Clean Unit which is not part of a "major modification" (as defined in 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-3-1(mm)), the Permittee shall comply with following:
  - (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-3-1(II)) at an existing emissions unit, document and maintain the following records:
    - (A) A description of the project;
    - (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project;
    - (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
      - (i) Baseline actual emissions;
      - (ii) Projected actual emissions;
      - (iii) Amount of emissions excluded under section 326 IAC 2-3-1(mm)(2)(A)(3); and
      - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
  - (2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
  - (3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.23 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11][326 IAC 2-2] [326 IAC 2-3]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each

deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204

- (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) 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 the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) 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.
- (f) If the Permittee is required to comply with the record keeping provisions of (c) in Section C- General Record Keeping Requirements for any "project" (as defined 326 IAC 2-3-1 (II)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
- (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and
  - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(ii).
- (g) The report for a project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:
- (1) The name, address, and telephone number of the major stationary source.
  - (2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C- General Record Keeping Requirements.
  - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-3-2(c)(3).
  - (4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management

Air Compliance Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204

- (h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C - General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

### **Stratospheric Ozone Protection**

#### **C.24 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 the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

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## SECTION D.3

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]

A stucco production process, consisting of the following equipment:

- (a) Two (2) kettle feed bins, known as kettle feed bin #1 and kettle feed bin #2, each with a maximum capacity of 60 tons, with particulate matter emissions controlled by two (2) baghouses. Emissions from kettle feed bin #1 will be controlled by one (1) baghouse, known as MBH-25, and exhausting through one (1) stack, identified as M-25. Emissions from kettle feed bin #2 will be controlled by one (1) baghouse, known as MBH-27, and exhausting through one (1) stack, identified as M-27.
- (b) One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of 11.5 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22A.
- (c) One (1) calcining kettle, known as calcining kettle #1B, with a maximum throughput of 12.0 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-26, and exhausting through one (1) stack, identified as M-26.
- (d) One (1) calcining kettle, known as calcining kettle #2, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (e) One (1) natural gas-fired burner for calcining kettle #1, with a heat input capacity of 7.5 MMBtu per hour, and exhausting through one (1) stack, identified as M-22A.
- (f) One (1) natural gas-fired burner for calcining kettle #1B, with a heat input capacity of 7.5 million British thermal units per hour, and exhausting through one (1) stack, identified as M-26.
- (g) Six (6) natural gas-fired burners for the calcining kettle #2, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-14.
- (h) One (1) kettle feed bin, known as kettle feed bin #3, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-28, and exhausting through one (1) stack, identified as M-28.
- (i) One (1) calcining kettle, known as calcining kettle #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j) One (1) natural-gas fired burner for the calcining kettle #3, with a heat input capacity of 15 MMBtu per hour, and exhausting through one (1) stack, identified as M-6.
- (k) One (1) hot pit, known as hot pit #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (l) Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the stucco handling system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

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

A stucco production process, consisting of the following equipment: (continued)

- (m) Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as M-23.
- (n) Stucco storage equipment, including one (1) #1 elevator and one (1) #27 screw, with a maximum capacity of seventy (70) tons per hour, and three (3) stucco storage bins, known as #4, #5 and #6, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-23, and exhausting through one (1) stack, identified as M-23.
- (o) One (1) stucco storage bin, with a maximum capacity of 50 tons, with particulate matter controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

(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 2-7-5(1)]**

#### **D.3.1 Nonattainment Area Particulate Limitation [326 IAC 6.8]**

Pursuant to 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2) (Nonattainment Area Particulate Limitations), the PM emissions from the stucco production process shall be limited as follows:

- (a) PM emissions from kettle feed bins #1, #2 and #3 exhausting to stacks M-25, M-27 and M-28 shall each not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (b) PM emissions from calcining kettle #1 exhausting to stack M-22A shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (c) PM emissions from calcining kettle #1B exhausting to stack M-26 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (d) PM emissions from calcining kettle #2 exhausting to stack M-16 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (e) PM emissions from the natural gas-fired burner for kettle #1 exhausting to stack M-22A shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (f) PM emissions from the natural gas-fired burners for kettle #2 exhausting to stack M-14 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (g) PM emissions from the natural gas-fired burner for kettle #3 exhausting to stack M-6 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (h) PM emissions from hot pit #3 exhausting to stack M-1 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (i) PM emissions from the stucco storage bin exhausting to stack M-2 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (j) PM emissions from the stucco storage bins #1 through #6, exhausting to stack M-23, shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).

#### **D.3.2 Lake County PM<sub>10</sub> Emission Requirements [326 IAC 6.8-2-37]**

Pursuant to 326 IAC 6.8-2-37 (formerly 326 IAC 6-1-10.1) (Lake County PM<sub>10</sub> Emission Requirements), the PM<sub>10</sub> emissions shall be limited as follows:

- (a) The PM<sub>10</sub> emissions from kettle #3 exhausting to stack M-1 shall not exceed 0.012 grains per dry standard cubic foot and 3.210 pounds per hour.

- (b) The PM<sub>10</sub> emissions from the stucco handling system exhausting to stack M-2 shall not exceed 0.015 grains per dry standard cubic foot and 2.210 pounds per hour.

#### D.3.3 Emission Offset Minor PM Limit [326 IAC 2-3]

Pursuant to CP 089-8657-00333, issued on January 8, 1998, the PM emissions shall be limited as follows:

- (a) PM emissions from kettle #2 exhausting to stack M-16 shall not exceed 0.010 grains per dry standard cubic foot.
- (b) PM emissions from kettle feed bin #2 exhausting to stack M-27 shall not exceed 0.008 grains per dry standard cubic foot.

Compliance with these limits make 326 IAC 2-3 (Emission Offset) not applicable. Compliance with these limits also will satisfy the requirements of 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations) for these facilities.

#### D.3.4 Emission Offset Minor NO<sub>x</sub> Limit [326 IAC 2-3]

Pursuant to CP-089-8657-00333, issued on January 8, 1998, natural gas throughput to the six (6) natural gas fired burners for calcining kettle #2 shall not exceed 338.4 million cubic feet per consecutive twelve (12) month period, including natural gas throughput to the wet and dry end seal natural gas burners, and the gauging water heater, which are found in Section D.4.

Compliance with this limit will assure that the NO<sub>x</sub> emissions from the facilities permitted under CP-089-8657-00333, issued on January 8, 1998 shall remain less than twenty-five (25) tons per year and that the requirements of 326 IAC 2-3 (Emission Offset) are not applicable.

#### D.3.5 PSD and Emission Offset [326 IAC 2-2] [326 IAC 2-3]

The Permittee shall demonstrate that a significant emissions increase of any regulated pollutant will not occur as a result of the construction and operation of kettle #1B, as follows:

- (a) Before beginning actual construction of the calcining kettle #1B, the Permittee shall document and maintain the following records:
  - (1) A description of the project;
  - (2) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project;
  - (3) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
    - (i) Baseline actual emissions;
    - (ii) Projected actual emissions;
    - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) or 326 IAC 2-3-1(mm)(2)(A)(3); and
    - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
- (b) The Permittee shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the construction and operation of kettle #1B, and that is emitted by any existing emissions unit identified in (a)(2) above; and

- (c) The Permittee shall calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

D.3.6 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart UUU]

Pursuant to 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), PM emissions from kettle #1 exhausting to stack M-22A, kettle #1B exhausting to stack M-26, and kettle #2 exhausting to stack M-16, shall not exceed 0.092 grams per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] and ten percent (10%) opacity.

D.3.7 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart OOO]

Pursuant to 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants), PM emissions from kettle feed bin #1, exhausting through stack M-25, and kettle feed bin #2, exhausting through stack M-27, as well as all stucco storage and handling equipment exhausting through stacks M-2 and M-23, shall not exceed 0.05 grams per dry standard cubic meter (g/dscm) and seven percent (7%) opacity.

D.3.8 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

**Compliance Determination Requirements**

D.3.9 Testing Requirements [326 IAC 2-7-6(1),(6)]

- (a) To demonstrate compliance with 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), and Condition D.3.6, the Permittee shall perform compliance testing for PM and opacity from calcining kettle #1 exhausting through stack M-22A and calcining kettle #2, exhausting through stack M-16, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.
- (b) To demonstrate compliance with 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), and Condition D.3.6, the Permittee shall perform compliance testing for PM and opacity from calcining kettle #1B exhausting through stack M-26, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.
- (c) To demonstrate compliance with 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants), and Condition D.3.7, the Permittee shall perform compliance testing for PM and opacity from kettle feed bin #1, exhausting through stack M-25, and kettle feed bin #2, exhausting through stack M-27, and the stucco storage and handling equipment exhausting through stacks M-2 and M-23, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.675.
- (d) The Permittee is not required to test the remaining stucco production facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the limits specified in Conditions D.3.1 and D.3.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.10 Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times when the associated facilities are in operation.

## **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR Part 64]**

### **D.3.11 Visible Emissions Notations**

- (a) Visible emission notations of the stack exhausts M-1, M-2, M-16, M-22A, M-26, M-23, M-25, M-27 and M-28 shall be performed once per shift during normal daylight operations when exhausting directly to the atmosphere. 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) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

### **D.3.12 Parametric Monitoring**

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the stucco production process, at least once per shift when the associated facilities are in operation when venting directly to the atmosphere.

- (a) When for any one reading, the pressure drop across the baghouses MBH-1, MBH-2, MBH-16, MBH-22, MBH-26, MBH-23, MBH-24, MBH-27 and MBH-28 is outside the normal range of 0.5 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (b) When for any one reading, the pressure drop across the baghouse MBH-25 is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

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

### **D.3.13 Baghouse Inspections**

An inspection shall be performed each calendar quarter of all bags controlling the stucco production process. All defective bags shall be replaced.

### **D.3.14 Broken or Failed Bag Detection**

In the event that bag failure has been observed.

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. 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 single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have 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).

### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

#### D.3.15 Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain records of natural gas throughput to the six (6) natural gas fired burners for calcining kettle #2.
- (b) To document compliance with Condition D.3.11, the Permittee shall maintain records of visible emission notations of the stack exhausts M-1, M-2, M-16, M-22A, M-26, M-23, M-25, M-27 and M-28, once per shift.
- (c) To document compliance with Condition D.3.12, the Permittee shall maintain the following:
  - (1) Records of the following operational parameters taken once per shift during normal operation when venting directly to the atmosphere:
    - (A) Inlet and outlet differential static pressure; and
    - (B) Cleaning cycle: frequency and differential pressure.
  - (2) Documentation of all response steps implemented, per event.
  - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
  - (4) Quality Assurance/Quality Control (QA/QC) procedures.
  - (5) Operator standard operating procedures (SOP).
  - (6) Manufacturer's specifications or its equivalent.
  - (7) Equipment "troubleshooting" contingency plan.
  - (8) Documentation of the dates vents are redirected.
- (d) To document compliance with Condition D.3.13, the Permittee shall maintain records of the results of the inspections required under Condition D.3.13.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.3.16 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or an equivalent, within thirty (30) days after the

end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## Indiana Department of Environmental Management Office of Air Quality

### Addendum to the Technical Support Document for a Significant Permit Modification to a Part 70 Operating Permit

<b>Source Name:</b>	<b>United States Gypsum Company</b>
<b>Source Location:</b>	<b>301 Riley Road, East Chicago, Indiana 46312</b>
<b>County:</b>	<b>Lake</b>
<b>Operation Permit No.:</b>	<b>T 089-7532-00333</b>
<b>Significant Permit Modification No.:</b>	<b>SPM 089-19551-00333</b>
<b>SIC Code:</b>	<b>3275</b>
<b>Permit Reviewer:</b>	<b>Edward A. Longenberger</b>

On October 18, 2005, the Office of Air Quality (OAQ) had a notice published in the Times, Munster, Indiana, stating that United States Gypsum Company had applied for a Significant Permit Modification to a Part 70 Operating Permit to operate a new calcining kettle, known as calcining kettle #1B, with a baghouse for particulate control. The notice also stated that OAQ proposed to issue a Significant Permit Modification and provided information on how the public could review the proposed Significant Permit Modification 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 Significant Permit Modification to a Part 70 Operating Permit should be issued as proposed.

On October 20, 2005, John T. Wellspring of SECOR International Incorporated, on behalf of United States Gypsum Company, submitted comments on the proposed Significant Permit Modification to a Part 70 Operating Permit. The comments are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.

#### Comment 1:

At the time of application for HE kettle #1B, it was anticipated that HE kettles #1 and #1B would exhaust to common stack M-22. Since that time, USG has dismantled stack M-22, and has rerouted HE kettle #1 to a new stack designated as M-22A. Since Stack M-22 no longer exists, kettle #1B will be routed, upon construction, to a new exhaust stack designated M-26. The revised exhaust parameters for this stack are included within the comments provided below.

#### Response 1:

The following descriptive changes were made in Sections A.2 and D.3:

A stucco production process, consisting of the following equipment:

- (b) One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of 11.5 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22**A**.
- (c) One (1) calcining kettle, known as calcining kettle #1B, with a maximum throughput of 12.0 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-26, and exhausting through one (1) stack, identified as **M-26** ~~M-22B~~.
- (e) One (1) natural gas-fired burner for calcining kettle #1, with a heat input capacity of 7.5 MMBtu per hour, and exhausting through one (1) stack, identified as M-22**A**.

- (f) One (1) natural gas-fired burner for calcining kettle #1B, with a heat input capacity of 7.5 million British thermal units per hour, and exhausting through one (1) stack, identified as **M-26 M-22B**.

D.3.1 Nonattainment Area Particulate Limitation [326 IAC 6.8]

- (b) PM emissions from calcining kettle #1 exhausting to stack M-22A shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (c) PM emissions from calcining kettle #1B exhausting to stack **M-26 M-22B** shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (e) PM emissions from the natural gas-fired burner for kettle #1 exhausting to stack M-22A shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).

D.3.6 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart UUU]

Pursuant to 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), PM emissions from kettle #1 exhausting to stack M-22A, kettle #1B exhausting to stack **M-26 M-22B**, and kettle #2 exhausting to stack M-16, shall not exceed 0.092 grams per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] and ten percent (10%) opacity.

D.3.9 Testing Requirements [326 IAC 2-7-6(1),(6)]

- (a) To demonstrate compliance with 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), and Condition D.3.6, the Permittee shall perform compliance testing for PM and opacity from calcining kettle #1 exhausting through stack M-22A and calcining kettle #2, exhausting through stack M-16, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.
- (b) To demonstrate compliance with 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), and Condition D.3.6, the Permittee shall perform compliance testing for PM and opacity from calcining kettle #1B exhausting through stack **M-26 M-22B**, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.

D.3.11 Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts M-1, M-2, M-16, M-22A, **M-26 M-22B**, M-23, M-25, M-27 and M-28 shall be performed once per shift during normal daylight operations when exhausting directly to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

D.3.12 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the stucco production process, at least once per shift when the associated facilities are in operation when venting directly to the atmosphere.

- (a) When for any one reading, the pressure drop across the baghouses MBH-1, MBH-2, MBH-16, MBH-22, ~~MBH-22B~~, MBH-23, MBH-24, **MBH-26**, MBH-27 and MBH-28 is outside the normal range of 0.5 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C -

Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

- (b) When for any one reading, the pressure drop across the baghouses MBH-25 and ~~MBH-26~~ is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

**D.3.15 Record Keeping Requirements**

- (b) To document compliance with Condition D.3.11, the Permittee shall maintain records of visible emission notations of the stack exhausts M-1, M-2, M-16, M-22A, ~~M-26~~ ~~M-22B~~, M-23, M-25, M-27 and M-28, once per shift.

**Comment 2:**

The revised exhaust parameters for Stacks M-22 A and M-26 are as follows:

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
M-22A	Kettle #1	<del>100</del> 46.5	<del>1.5</del> 1.33	<del>4,900</del> 6,000	<del>260</del> 300
<del>M-26</del> M-22B	Kettle #1B	<del>100</del> 46.5	<del>1.5</del> 1.33	<del>4,900</del> 6,000	<del>260</del> 300

**Response 2:**

The IDEM, OAQ prefers that the Technical Support Document reflect the document that was on public notice. Changes to the technical support material that occur after the public notice period are documented in this Addendum to the Technical Support Document. Therefore, no change to the TSD or the permit is made as a result of this comment.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Part 70 Minor Source Modification and a Significant Permit Modification

#### Source Background and Description

<b>Source Name:</b>	<b>United States Gypsum Company</b>
<b>Source Location:</b>	<b>301 Riley Road, East Chicago, Indiana 46312</b>
<b>County:</b>	<b>Lake</b>
<b>SIC Code:</b>	<b>3275</b>
<b>Operation Permit No.:</b>	<b>T 089-7532-00333</b>
<b>Operation Permit Issuance Date:</b>	<b>July 6, 1999</b>
<b>Minor Source Modification No.:</b>	<b>089-19642-00333</b>
<b>Significant Permit Modification No.:</b>	<b>089-19551-00333</b>
<b>Permit Reviewer:</b>	<b>Edward A. Longenberger</b>

The Office of Air Quality (OAQ) has reviewed a modification application from United States Gypsum Company relating to the construction and operation of the following emission units and pollution control devices:

- (a) One (1) calcining kettle, known as calcining kettle #1B, with a maximum throughput of 12.0 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-26, and exhausting through one (1) stack, identified as M-22B.
- (b) One (1) natural gas-fired burner for calcining kettle #1B, with a heat input capacity of 7.5 million British thermal units per hour, and exhausting through one (1) stack, identified as M-22B.

#### History

U.S. Gypsum Company was issued a Part 70 permit on July 6, 1999. On July 6, 2004, U.S. Gypsum Company submitted an application to IDEM, OAQ, requesting to add one (1) additional calcining kettle to the stucco production process at their existing plant. This new kettle is a high efficiency kettle which will reduce the amount of natural gas needed for the calcining process. The existing calcining process consists of three (3) kettles with a combined throughput of 86.5 tons per hour. The upstream and downstream processes each have a capacity of 70.0 tons per hour. The applicant submits that the addition of kettle #1B will not cause an increase in utilization of associated processes since the current calcining capacity already exceeds the capacity of the line.

#### Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the dust collector be considered as an integral part of the calcining kettle #1B:

- (a) The operation of the baghouse dust collector has an overwhelming positive net economic effect since the dust collector serves as a product recovery device. The calcining kettle contains a fluidized bed of land plaster (partially hydrated calcium sulfate) that is heated and dehydrated as it circulates within the kettle. Once the land plaster is sufficiently dehydrated, it forms a higher density material (stucco), which is the finished product. The dust collector constitutes the top portion of the kettle enclosure, and prevents any entrained product from escaping the kettle with the heated exhaust air. On each cleaning cycle, the dust collector returns any captured product to the process.

- (b) The applicant has submitted a cost analysis which compares the capital cost of the dust collection equipment and associated operating costs with the value of the product being captured.

Their analysis shows that the total of the annualized capital investment and annual operating costs are \$13,646 per year:

Initial Capital Costs:	
Initial Capital Cost of Dust Collector	\$28,916
Initial Capital Cost of Booster fan:	\$4,325
Estimated Cost of DC Piping and Installation:	<u>\$3,759</u>
Total Capital Cost Investment:	\$37,000
Annual Capital Depreciation Expense:	
(\$37,000 w/10 year equipment lifetime and 10% annual interest)	\$6,031
Annual Replacement parts:	\$3,900
Annual Maintenance Expense:	\$2,677
Annual Energy Cost of Induced Draft Fan:	<u>\$1,038</u>
<b>Total Actual Annualized Dust Collector Operating Expense:</b>	<b>\$13,646</b>

The estimated value of product that would be lost if the dust collector was not in place is \$414,366 per year:

Input Capacity of Kettle:	12 ton/hr
Value of Product Produced:	\$30/ton
Yield of Kettle with Dust Collector:	99.9+%
Yield of Kettle without Dust Collection:	<80%
Actual Operating hours of #1A Kettle:	5784 hrs/yr

Annual Cost Savings:

$$12 \text{ ton/hr} \times \$30/\text{ton} \times 5784 \text{ hr/yr} \times (99.9\% - 80\%) \text{ yield} = \$414,366$$

Return on investment:

$$\$13,646 / \$414,366 = 0.0329 \text{ years} = 12.0 \text{ days}$$

Since the dust collector can pay for itself within approximately 12 days, the applicant submits that operating the control device results in an overwhelming positive net economic effect.

IDEM, OAQ has evaluated the justifications and agreed that the baghouse dust collector will be considered as an integral part of the calcining kettle #1B. Therefore, the permitting level will be determined using the potential to emit after the baghouse dust collector. Operating conditions in the proposed permit will specify that this baghouse dust collector shall operate at all times when the calcining kettle #1B is in operation.

#### Enforcement Issue

There are no enforcement actions pending.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
M-22B	Kettle #1B	46.5	1.5	6,000	300

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Minor Source Modification and Significant Permit Modification be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on July 6, 2004. Additional information was received on August 25, 2004 and September 23, 2004.

**Emission Calculations**

See pages 1 and 2 of Appendix A of this document for detailed emissions calculations from natural gas combustion.

Potential emissions from the calcining kettle #1B are shown below. Since the dust collector has been determined to be integral to the process, the potential emissions are considered after control. Emission factors are from FIRE 6.25, SCC# 3-05-015-12:

$$\text{PM emissions} = \text{Throughput (12.0 tons/hour)} \times \text{controlled PM emission factor (0.04 pounds/ton)} \times (1 \text{ ton}/2000 \text{ pounds}) \times (8,760 \text{ hours/year}) = 2.10 \text{ tons per year}$$

$$\text{PM}_{10} \text{ emissions} = \text{Throughput (12.0 tons/hour)} \times \text{controlled PM emission factor (0.034 pounds/ton)} \times (1 \text{ ton}/2000 \text{ pounds}) \times (8,760 \text{ hours/year}) = 1.79 \text{ tons per year}$$

**Potential To Emit of Modification**

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

This table reflects the PTE before controls, except for the calcining kettle #1B, where the controls are considered to be integral to the process. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	2.16
PM <sub>10</sub>	2.04
SO <sub>2</sub>	0.020

Pollutant	Potential To Emit (tons/year)
VOC	0.181
CO	2.76
NO <sub>x</sub>	3.29

HAPs	Potential To Emit (tons/year)
Benzene	0.00007
Dichlorobenzene	0.00004
Formaldehyde	0.002
Hexane	0.059
Toluene	0.0001
Lead Compounds	0.00002
Cadmium Compounds	0.00004
Chromium Compounds	0.00005
Manganese Compounds	0.00001
Nickel Compounds	0.00007
TOTAL	0.062

**Justification for Modification**

The Part 70 Operating Permit is being modified through a Part 70 Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(d)(5), because the modification is subject to an NSPS (40 CFR 60.730, Subpart UUU). The proposed operating conditions shall be incorporated into the Part 70 Operating Permit as a Significant Permit Modification (SPM 089-19551-00333) in accordance with 326 IAC 2-7-12(d)(1). The Significant Permit Modification will give the source approval to operate the proposed emission units.

**County Attainment Status**

The source is located in Lake County.

Pollutant	Status
PM <sub>2.5</sub>	nonattainment
PM <sub>10</sub>	attainment
SO <sub>2</sub>	nonattainment
NO <sub>2</sub>	attainment

Pollutant	Status
1-Hour Ozone	severe nonattainment
8-Hour Ozone	moderate nonattainment
CO	attainment
Lead	attainment

- (a) U.S. EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Lake County as nonattainment for PM<sub>2.5</sub>. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of non-attainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions pursuant to the Non-attainment New Source Review requirements. See the State Rule Applicability – Entire Source section.
- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone.
- (1) On January 26, 1996 in 40 CFR 52.777(l), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO<sub>x</sub> threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Lake County has been designated as nonattainment in Indiana for the 1-hour ozone standard. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.
- (2) VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as non-attainment for the 8-hour ozone standard. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.
- (c) Lake County has been classified as nonattainment in Indiana for SO<sub>2</sub>. Therefore, these emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.
- (d) Lake County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

### Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	233
PM <sub>10</sub>	233
SO <sub>2</sub>	20.6
VOC	96.2
CO	1,202
NO <sub>x</sub>	4,807
Total HAPs	1.91

- (a) This existing source is a major stationary source under 326 IAC 2-2 (PSD), because an attainment regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more, and it is not one of the 28 listed source categories.
- (b) This existing source is a major stationary source under 326 IAC 2-3 (Emission Offset), because a nonattainment regulated pollutant (NO<sub>x</sub>) is emitted at a rate of one hundred (100) tons per year or more.
- (c) These emissions are based upon 1999 maximum potential to emit emissions data submitted to the Office of Air Quality.

**Potential to Emit of Modification After Issuance**

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
Proposed Modification (Kettle #1B including burner)	2.16	2.04	0.020	0.181	2.76	3.29
De Minimis Increases (SSM 18553, issued 4/27/04)	-	-	-	0.181	-	-
Net Emissions	2.16	2.04	0.020	0.362	2.76	3.29
PSD/Offset Significant/De Minimis Level	25	15	40	25	100	40

The Permittee has stated in the application for this approval that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1 or Emission Offset under 326 IAC 2-3-1. IDEM, OAQ has not reviewed any additional information and will not be making any determination in this regard as part of this approval. The applicant may be required to keep records and report in accordance with 326 IAC 2-2-8 and/or 326 IAC 2-3-2.

### Federal Rule Applicability

- (a) Since the dust collector for the calcining kettle #1B has been determined to be integral to the process, the dust collector is not considered to be a “control device” as defined in 40 CFR Part 64.1. Therefore, this modification does not involve a pollutant-specific emissions unit as defined in 40 CFR 64.1 with the potential to emit before controls equal to or greater than the major source threshold for particulate matter, which uses a control device as defined in 40 CFR Part 64.1 to comply with an emission limitation or standard.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable to this modification.

- (b) Calcining kettle #1B is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR Part 60.730 through 60.737, Subpart UUU (Standards of Performance for Calciners and Dryers in the Mineral Industries). This rule requires that no emissions shall be discharged into the atmosphere from any affected facility that:
- (1) Contain particulate matter in excess of 0.092 grams per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm for dryers; and
  - (2) Exhibit greater than 10 percent opacity, unless emissions are discharged from an affected facility using a wet scrubbing control device.

Because the facility is not equipped with a wet scrubbing control device, calcining kettle #1B shall not emit particulate matter in excess of 0.092 grams per dry standard cubic meter (g/dscm) or exhibit greater than 10 percent opacity.

- (c) There are still no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this proposed modification.

### State Rule Applicability - Individual Facilities

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

The existing source is a major PSD source. The Permittee has stated in the application for this approval that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1. IDEM, OAQ has not reviewed any additional information and will not be making any determination in this regard as part of this approval. The applicant shall be required to keep records and report in accordance with 326 IAC 2-2-8.

#### 326 IAC 2-3 (Emission Offset)

The existing source is a major Emission Offset source. The Permittee has stated in the application for this approval that this modification at a major stationary source will not be major for Emission Offset under 326 IAC 2-3-1. IDEM, OAQ has not reviewed any additional information and will not be making any determination in this regard as part of this approval. The applicant shall be required to keep records and report in accordance with 326 IAC 2-3-2.

#### 326 IAC 6.8 (Particulate Matter Limitations for Lake County)

- (a) Because the proposed modification is located in Lake County, 326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2) is applicable. Pursuant to 326 IAC 6.8-1-2 (a) (formerly 326 IAC 6-1-2 (a)),

particulate emissions from the calcining kettle #1B shall not exceed 0.03 grains per dry standard cubic foot.

- (b) Because the natural gas-fired burner for calcining kettle #1B is not a fuel combustion steam generator, 326 IAC 6.8-1-2 (b) (formerly 326 IAC 6-1-2 (b)) is not applicable.

#### 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(1), if a limit is established by 326 IAC 6.8-1 (formerly 326 IAC 6-1), then the limitation contained in 326 IAC 6-3 shall not apply. Therefore, since the calcining kettle #1B, is subject to the requirements of 326 IAC 6.8-1-2 (a) (formerly 326 IAC 6-1-2 (a)), the requirements of 326 IAC 6-3-2 are not applicable.

### Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

The calcining kettle #1B has applicable compliance monitoring conditions as specified below:

- (a) Visible emission notations of the stack exhaust M-22B shall be performed once per shift during normal daylight operations when exhausting directly to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. 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. 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. 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. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (b) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the calcining kettle #1B, at least once per shift when the kettle is in operation when venting directly to the atmosphere. When for any one reading, the pressure drop across the baghouse MBH-26 is outside the normal range of 2.0 and 8.0 inches of water or a range

established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

- (c) An inspection shall be performed each calendar quarter of all bags controlling the calcining kettle #1B. All defective bags shall be replaced. In the event that bag failure has been observed:
- (1) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. 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).
  - (2) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have 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).

These monitoring conditions are necessary because the baghouse for the calcining kettle must operate properly to ensure compliance with 326 IAC 6.8 (Particulate Matter Limitations for Lake County), 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70).

### Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

#### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

A stucco production process, consisting of the following equipment:

- (a) Two (2) kettle feed bins, known as kettle feed bin #1 and kettle feed bin #2, each with a maximum capacity of 60 tons, with particulate matter emissions controlled by two (2) baghouses. Emissions from kettle feed bin #1 will be controlled by one (1) baghouse, known as MBH-25, and exhausting through one (1) stack, identified as M-25. Emissions from kettle feed bin #2 will be controlled by one (1) baghouse, known as MBH-27, and exhausting through one (1) stack, identified as M-27.
- (b) One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of 11.5 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22.

- (c)** One (1) calcining kettle, known as calcining kettle #1B, with a maximum throughput of 12.0 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-26, and exhausting through one (1) stack, identified as M-22B.
- (d e)** One (1) calcining kettle, known as calcining kettle #2, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (e d)** One (1) natural gas-fired burner for calcining kettle #1, with a heat input capacity of 7.5 MMBtu per hour, and exhausting through one (1) stack, identified as M-22.
- (f)** One (1) natural gas-fired burner for calcining kettle #1B, with a heat input capacity of 7.5 million British thermal units per hour, and exhausting through one (1) stack, identified as M-22B.
- (g e)** Six (6) natural gas-fired burners for the calcining kettle #2, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-14.
- (h f)** One (1) kettle feed bin, known as kettle feed bin #3, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-28, and exhausting through one (1) stack, identified as M-28.
- (l g)** One (1) calcining kettle, known as calcining kettle #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j h)** One (1) natural-gas fired burner for the calcining kettle #3, with a heat input capacity of 15 MMBtu per hour, and exhausting through one (1) stack, identified as M-6.
- (k t)** One (1) hot pit, known as hot pit #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (l j)** Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw, and one (1) #17A screw, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the stucco handling system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.
- (m k)** Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as M-23.
- (n t)** Stucco storage equipment, including one (1) #1 elevator and one (1) #27 screw, with a maximum capacity of seventy (70) tons per hour, and three (3) stucco storage bins, known as #4, #5 and #6, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-23, and exhausting through one (1) stack, identified as M-23.
- (o m)** One (1) stucco storage bin, with a maximum capacity of 50 tons, with particulate matter controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

C.22 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] **[326 IAC 2-2][326 IAC 2-3]**

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(b) ~~Records of required monitoring information shall include, where applicable:~~

- ~~(1) The date, place, and time of sampling or measurements;~~
- ~~(2) The dates analyses were performed;~~
- ~~(3) The company or entity performing the analyses;~~
- ~~(4) The analytic techniques or methods used;~~
- ~~(5) The results of such analyses; and~~
- ~~(6) The operating conditions existing at the time of sampling or measurement.~~

(c) ~~Support information shall include, where applicable:~~

- ~~(1) Copies of all reports required by this permit;~~
- ~~(2) All original strip chart recordings for continuous monitoring instrumentation;~~
- ~~(3) All calibration and maintenance records;~~
- ~~(4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.~~

(bd) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

(c) **If there is a reasonable possibility that a "project" (as defined in 326 IAC 2-3-1(II)) at an existing emissions unit other than projects at a Clean Unit) which is not part of a "major modification" (as defined in 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-3-1(mm)), the Permittee shall comply with following:**

- (1) **Before beginning actual construction of the "project" (as defined in 326 IAC 2-3-1 (II)) at an existing emissions unit, document and maintain the following records:**
  - (A) **A description of the project;**
  - (B) **Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project;**

- (C) **A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:**
  - (i) **Baseline actual emissions;**
  - (ii) **Projected actual emissions;**
  - (iii) **Amount of emissions excluded under section 326 IAC 2-3-1(mm)(2)(A)(3); and**
  - (iv) **An explanation for why the amount was excluded, and any netting calculations, if applicable.**
- (2) **Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and**
- (3) **Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.**

C.23 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11][326 IAC 2-2][326 IAC 2-3]

- ~~(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-Annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported.~~
- ~~(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015~~
- ~~(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) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period.~~
- ~~(e) All instances of deviations as described in Section B-Deviations from Permit Requirements Conditions must be clearly identified in such reports.~~
- ~~(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.~~
- ~~(g) The first report shall cover the period commencing on the date of issuance of this permit and~~

~~ending on the last day of the reporting period.~~

~~\_\_\_\_\_The documents submitted pursuant to this condition do not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).~~

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204
- (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) 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 the “responsible official” as defined by 326 IAC 2-7-1(34).
- (e) 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.
- (f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any “project” (as defined 326 IAC 2-3-1 (II)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
  - (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and
  - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(ii).
- (g) The report for a project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

- (1) **The name, address, and telephone number of the major stationary source.**
- (2) **The annual emissions calculated in accordance with (c)(2) and (3) in Section C- General Record Keeping Requirements.**
- (3) **The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-3-2(c)(3).**
- (4) **Any other information that the Permittee deems fit to include in this report,**

**Reports required in this part shall be submitted to:**

**Indiana Department of Environmental Management  
Air Compliance Section, Office of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204**

- (h) **The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C - General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.**

### SECTION D.3 FACILITY OPERATION CONDITIONS

#### Facility Description [326 IAC 2-7-5(15)]

A stucco production process, consisting of the following equipment:

- (a) Two (2) kettle feed bins, known as kettle feed bin #1 and kettle feed bin #2, each with a maximum capacity of 60 tons, with particulate matter emissions controlled by two (2) baghouses. Emissions from kettle feed bin #1 will be controlled by one (1) baghouse, known as MBH-25, and exhausting through one (1) stack, identified as M-25. Emissions from kettle feed bin #2 will be controlled by one (1) baghouse, known as MBH-27, and exhausting through one (1) stack, identified as M-27.
- (b) One (1) calcining kettle, known as calcining kettle #1, with a maximum throughput of 11.5 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-22, and exhausting through one (1) stack, identified as M-22.
- (c) One (1) calcining kettle, known as calcining kettle #1B, with a maximum throughput of 12.0 tons per hour, with particulate emissions controlled by one (1) baghouse, identified as MBH-26, and exhausting through one (1) stack, identified as M-22B.**
- (d e) One (1) calcining kettle, known as calcining kettle #2, with a maximum throughput of 45 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-16, and exhausting through one (1) stack, identified as M-16.
- (e d) One (1) natural gas-fired burner for calcining kettle #1, with a heat input capacity of 7.5 MMBtu per hour, and exhausting through one (1) stack, identified as M-22.
- (f) One (1) natural gas-fired burner for calcining kettle #1B, with a heat input capacity of 7.5 million British thermal units per hour, and exhausting through one (1) stack, identified as M-22B.**
- (g e) Six (6) natural gas-fired burners for the calcining kettle #2, each with a heat input capacity of 5 MMBtu per hour, and exhausting through one (1) stack, identified as M-14.
- (h f) One (1) kettle feed bin, known as kettle feed bin #3, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-28, and exhausting through one (1) stack, identified as M-28.
- (l g) One (1) calcining kettle, known as calcining kettle #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.
- (j h) One (1) natural-gas fired burner for the calcining kettle #3, with a heat input capacity of 15 MMBtu per hour, and exhausting through one (1) stack, identified as M-6.
- (k t) One (1) hot pit, known as hot pit #3, with a maximum throughput of 30 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as MBH-1, and exhausting through one (1) stack, identified as M-1.

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

A stucco production process, consisting of the following equipment: (continued)

- (l j) Miscellaneous stucco handling equipment, including one (1) #4 stucco elevator, one (1) #17 screw and one (1) #17A screw, with a maximum throughput of 70 tons per hour, with particulate matter emissions controlled by partial or total enclosure, and exhausting to associated processes or directly to the atmosphere. Some portions of the stucco handling system are controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.
- (m k) Stucco storage equipment, including one (1) #49 screw, and one (1) #47 screw, with a maximum capacity of seventy (70) tons per hour, and three stucco storage bins, known as #1, #2 and #3, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-24, and exhausting through one (1) stack, identified as M-23.
- (n t) Stucco storage equipment, including one (1) #1 elevator and one (1) #27 screw, with a maximum capacity of seventy (70) tons per hour, and three (3) stucco storage bins, known as #4, #5 and #6, each with a capacity of 175 tons, with particulate emissions controlled by one (1) baghouse, identified as MBH-23, and exhausting through one (1) stack, identified as M-23.
- (o m) One (1) stucco storage bin, with a maximum capacity of 50 tons, with particulate matter controlled by one (1) baghouse, identified as MBH-2, and exhausting through one (1) stack, identified as M-2.

(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 2-7-5(1)]

#### D.3.1 Nonattainment Area Particulate Limitation [326 IAC 6.8] ~~[326 IAC 6-1-2]~~

Pursuant to **326 IAC 6.8-1-2 (formerly 326 IAC 6-1-2)** (Nonattainment Area Particulate Limitations), the PM emissions from the stucco production process shall be limited as follows:

- (a) PM emissions from kettle feed bins #1, #2 and #3 exhausting to stacks M-25, M-27 and M-28 shall each not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (b) PM emissions from calcining kettle #1 exhausting to stack M-22 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (c) **PM emissions from calcining kettle #1B exhausting to stack M-22B shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).**
- (de) PM emissions from calcining kettle #2 exhausting to stack M-16 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (ed) PM emissions from the natural gas-fired burner for kettle #1 exhausting to stack M-22 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (fe) PM emissions from the natural gas-fired burners for kettle #2 exhausting to stack M-14 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (gf) PM emissions from the natural gas-fired burner for kettle #3 exhausting to stack M-6 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (hg) PM emissions from hot pit #3 exhausting to stack M-1 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).

- (ih) PM emissions from the stucco storage bin exhausting to stack M-2 shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).
- (ji) PM emissions from the stucco storage bins #1 through #6, exhausting to stack M-23, shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf).

**D.3.2 Lake County PM<sub>10</sub> Emission Requirements [326 IAC 6.8-2-37] ~~[326 IAC 6-1-10.1]~~**

Pursuant to **326 IAC 6.8-2-37 (formerly 326 IAC 6-1-10.1)** (Lake County PM<sub>10</sub> Emission Requirements), the PM<sub>10</sub> emissions shall be limited as follows:

- (a) The PM<sub>10</sub> emissions from kettle #3 exhausting to stack M-1 shall not exceed 0.012 grains per dry standard cubic foot and 3.210 pounds per hour.
- (b) The PM<sub>10</sub> emissions from the stucco handling system exhausting to stack M-2 shall not exceed 0.015 grains per dry standard cubic foot and 2.210 pounds per hour.

**D.3.3 Emission Offset Minor PM Limit [326 IAC 2-3]**

Pursuant to CP 089-8657-00333, issued on January 8, 1998, the PM emissions shall be limited as follows:

- (a) PM emissions from kettle #2 exhausting to stack M-16 shall not exceed 0.010 grains per dry standard cubic foot.
- (b) PM emissions from kettle feed bin #2 exhausting to stack M-27 shall not exceed 0.008 grains per dry standard cubic foot.

Compliance with these limits make 326 IAC 2-3 (Emission Offset) not applicable. Compliance with these limits also will satisfy the requirements of 326 IAC 6-1-2 (Nonattainment Area Particulate Limitations) for these facilities.

**D.3.4 Emission Offset Minor NO<sub>x</sub> Limit [326 IAC 2-3]**

Pursuant to CP-089-8657-00333, issued on January 8, 1998, natural gas throughput to the six (6) natural gas fired burners for calcining kettle #2 shall not exceed 338.4 million cubic feet per consecutive twelve (12) month period, including natural gas throughput to the wet and dry end seal natural gas burners, and the gauging water heater, which are found in Section D.4.

Compliance with this limit will assure that the NO<sub>x</sub> emissions from the facilities permitted under CP-089-8657-00333, issued on January 8, 1998 shall remain less than twenty-five (25) tons per year and that the requirements of 326 IAC 2-3 (Emission Offset) are not applicable.

**D.3.5 PSD and Emission Offset [326 IAC 2-2] [326 IAC 2-3]**

**The Permittee shall demonstrate that a significant emissions increase of any regulated pollutant will not occur as a result of the construction and operation of kettle #1B, as follows:**

- (a) **Before beginning actual construction of the calcining kettle #1B, the Permittee shall document and maintain the following records:**
  - (1) **A description of the project;**
  - (2) **Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project;**

- (3) **A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:**
- (i) **Baseline actual emissions;**
  - (ii) **Projected actual emissions;**
  - (iii) **Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) or 326 IAC 2-3-1(mm)(2)(A)(3); and**
  - (iv) **An explanation for why the amount was excluded, and any netting calculations, if applicable.**
- (b) **The Permittee shall monitor the emissions of any regulated NSR pollutant that could increase as a result of the construction and operation of kettle #1B, and that is emitted by any existing emissions unit identified in (a)(2) above; and**
- (c) **The Permittee shall calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.**

**D.3.65 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart UUU]**

Pursuant to 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), PM emissions from kettle #1 exhausting to stack M-22, **kettle #1B exhausting to stack M-22B**, and kettle #2 exhausting to stack M-16, shall not exceed 0.092 grams per dry standard cubic meter (g/dscm) **[0.040 grain per dry standard cubic foot (gr/dscf)]** and ten percent (10%) opacity.

**D.3.76 New Source Performance Standard [326 IAC 12] [40 CFR 60, Subpart OOO]**

Pursuant to 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants), PM emissions from kettle feed bin #1, exhausting through stack M-25, and kettle feed bin #2, exhausting through stack M-27, as well as all stucco storage and handling equipment exhausting through stacks M-2 and M-23, shall not exceed 0.05 grams per dry standard cubic meter (g/dscm) and seven percent (7%) opacity.

**D.3.87 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

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

**Compliance Determination Requirements**

**D.3.98 Testing Requirements [326 IAC 2-7-6(1),(6)]**

- (a) To demonstrate compliance with 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), and Condition D.3.65, the Permittee shall perform compliance testing for PM and opacity from calcining kettle #1 exhausting through stack M-22 and calcining kettle #2, exhausting through stack M-16, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.
- (b) **To demonstrate compliance with 40 CFR 60, Subpart UUU (Calciners and Dryers in Mineral Industries), and Condition D.3.6, the Permittee shall perform compliance testing for PM and opacity from calcining kettle #1B exhausting through stack M-22B, within**

**60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.736.**

- (cb) To demonstrate compliance with 40 CFR 60, Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants), and Condition D.3.76, the Permittee shall perform compliance testing for PM and opacity from kettle feed bin #1, exhausting through stack M-25, and kettle feed bin #2, exhausting through stack M-27, and the stucco storage and handling equipment exhausting through stacks M-2 and M-23, within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up. The tests shall be performed in accordance with Section C - Performance Testing and 40 CFR 60.675.
- (de) The Permittee is not required to test the remaining stucco production facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the limits specified in Conditions D.3.1 and D.3.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

#### D.3.109Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times when the associated facilities are in operation.

### **Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR Part 64]**

#### D.3.110Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts M-1, M-2, M-16, M-22, **M-22B**, M-23, M-25, M-27 and M-28 shall be performed once per shift during normal daylight operations when exhausting directly to the atmosphere. 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) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. **Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.**

#### D.3.124Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the stucco production process, at least once per shift when the associated facilities are in operation when venting directly to the atmosphere.

- ~~(a) Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouses MBH-1, MBH-2, MBH-16, MBH-22, MBH-23,~~

~~MBH-24, MBH-27 and MBH-28, shall be maintained within the range of 0.5 and 6.0 inches of water, or a range established during the latest stack test.~~

- (a) **When for any one reading, the pressure drop across the baghouses MBH-1, MBH-2, MBH-16, MBH-22, MBH-22B, MBH-23, MBH-24, MBH-27 and MBH-28 is outside the normal range of 0.5 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.**
- ~~(b) Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across baghouse MBH-25 shall be maintained within the range of 2.0 and 8.0 inches of water, or a range established during the latest stack test.~~
- (b) **When for any one reading, the pressure drop across the baghouses MBH-25 and MBH-26 is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.**

~~The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.~~

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

#### D.3.132 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the stucco production process. All defective bags shall be replaced.

#### D.3.143 Broken or Failed Bag Detection

In the event that bag failure has been observed.

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. 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 single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have 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).

## Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

### D.3.154 Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain records of natural gas throughput to the six (6) natural gas fired burners for calcining kettle #2.
- (b) To document compliance with Condition D.3.110, the Permittee shall maintain records of visible emission notations of the stack exhausts M-1, M-2, M-16, M-22, **M-22B**, M-23, M-25, M-27 and M-28, once per shift.
- (c) To document compliance with Condition D.3.124, the Permittee shall maintain the following:
  - (1) Records of the following operational parameters taken once per shift during normal operation when venting directly to the atmosphere:
    - (A) Inlet and outlet differential static pressure; and
    - (B) Cleaning cycle: frequency and differential pressure.
  - (2) Documentation of all response steps implemented, per event.
  - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
  - (4) Quality Assurance/Quality Control (QA/QC) procedures.
  - (5) Operator standard operating procedures (SOP).
  - (6) Manufacturer's specifications or its equivalent.
  - (7) Equipment "troubleshooting" contingency plan.
  - (8) Documentation of the dates vents are redirected.
- (d) To document compliance with Condition D.3.132, the Permittee shall maintain records of the results of the inspections required under Condition D.3.132.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

### D.3.165 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or an equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## **Conclusion**

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 089-19642-00333 and Significant Permit Modification No. 089-19551-00333.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100  
Burner for Kettle #1B**

**Company Name: United States Gypsum Company**  
**Address City IN Zip: 301 Riley Road, East Chicago, Indiana 46312**  
**Permit Number: MSM 089-19642**  
**Pit ID: 089-00333**  
**Reviewer: Edward A. Longenberger**  
**Application Date: July 6, 2004**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

7.50

65.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		
Potential Emission in tons/yr	0.062	0.250	0.020	3.29	0.181	2.76

\*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

**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

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM BTU/HR <100  
 Small Industrial Boiler  
 HAPs Emissions**

**Company Name: United States Gypsum Company**  
**Address City IN Zip: 301 Riley Road, East Chicago, Indiana 46312**  
**Permit Number: MSM 089-19642**  
**Pit ID: 089-00333**  
**Reviewer: Edward A. Longenberger**  
**Application Date: July 6, 2004**

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 0.00210	Dichlorobenzene 0.00120	Formaldehyde 0.07500	Hexane 1.80000	Toluene 0.00340
Potential Emission in tons/yr	0.000069	0.000039	0.002464	0.059130	0.000112

HAPs - Metals						
Emission Factor in lb/MMcf	Lead 0.0005	Cadmium 0.0011	Chromium 0.0014	Manganese 0.0004	Nickel 0.0021	<b>Total</b>
Potential Emission in tons/yr	0.00002	0.00004	0.00005	0.00001	0.00007	<b>0.062</b>

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.