November 30, 2001

Mr. David Wonnell
United States Gypsum Company
P.O. Box 1377
Shoals, Indiana 47581

Re: **101-14710-00001**
Significant Source Modification to:
Part 70 Operating Permit No.: **T 101-7691-00001**

Dear Mr. Wonnell:

United States Gypsum Company was issued Part 70 operating permit **T 101-7691-00001** on May 24, 1999 for a gypsum mining operation. An application to modify the source was received on July 30, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

(uu) One (1) tube mill feed bin, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

(vv) One (1) tube mill, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

The above lettering is based on the placement of the emission units as they will be incorporated into the existing Title V permit.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

The source may begin construction when the source modification has been issued. The source must comply with the requirements of 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12 before operation of any of the proposed emission units can begin.

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 contact Paula M. Cognitore, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

PMC/MES
cc: File - Martin County
Air Compliance Section Inspector - Gene Kelso
Compliance Data Section - Karen Nowak
Administrative and Development - Cynthia Bymaster
Technical Support and Modeling - Michele Boner

The following plaster production facilities:

(tt) A conveying system, consisting of screw and belt conveyors and bucket elevator, with particulate matter emissions controlled by four (4) baghouses, identified as emissions points 17, 25, 29 and 30, and exhausting to four (4) stacks, identified as S-17, S-25, S-29 and S-30, respectively. Some portions of the conveyor system are controlled by partial or total enclosure and exhaust to associated processes or inside the building.

(uu) One (1) tube mill feed bin, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

(vv) One (1) tube mill, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

(ww) One (1) stucco storage bin, with a maximum throughput of 20 tons per hour, with particulate matter emissions controlled by two (2) baghouses, identified as emissions points 18 and 19, and exhausting to two (2) stacks, identified as S-18 and S-19.

(xx) One (1) stucco storage bin, with a maximum throughput of 20 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 20, and exhausting to one (1) stack, identified as S-20.

(yy) One (1) sand bulk loading bin, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 51, and each exhausting to one (1) stack, identified as S-55.

(zz) One (1) lime bulk loading bin, with a maximum capacity of 35 tons, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 52, and exhausting to one (1) stack, identified as S-56.

(aaa) Two (2) perlite ore storage bins, each with a maximum capacity of 250 tons, with particulate matter emissions controlled by filters, and exhausting inside the building.

(bbb) One (1) natural gas or fuel oil-fired perlite ore expander, with a maximum throughput of 1.6 tons per hour, and a maximum heat input capacity of 16 million Btu per hour, with particulate matter emissions controlled by one (1) cyclone, identified as emissions point 43, and exhausting to one (1) stack, identified as S-47.

(ccc) One (1) plaster mixer, with a maximum throughput of 27 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 30, and exhausting to one (1) stack, identified as S-30.

(ddd) One (1) plaster packer, with a maximum throughput of 27 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 30, and exhausting to one (1) stack, identified as S-30.

The following stucco handling and storage facilities:

(eee) A conveying system, consisting of belt and pneumatic conveyors, with particulate matter emissions controlled by five (5) baghouses, identified as emissions points 16, 24, 28, 46,

SECTION D.7 FACILITY OPERATION CONDITIONS

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

The following plaster production facilities:

(tt) A conveying system, consisting of screw and belt conveyors and bucket elevator, with particulate matter emissions controlled by four (4) baghouses, identified as emissions points 17, 25, 29 and 30, and exhausting to four (4) stacks, identified as S-17, S-25, S-29 and S-30, respectively. Some portions of the conveyor system are controlled by partial or total enclosure and exhaust to associated processes or inside the building.

(uu) One (1) tube mill feed bin, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

(vv) One (1) tube mill, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

(ww) One (1) stucco storage bin, with a maximum throughput of 20 tons per hour, with particulate matter emissions controlled by two (2) baghouses, identified as emissions points 18 and 19, and exhausting to two (2) stacks, identified as S-18 and S-19.

(xx) One (1) stucco storage bin, with a maximum throughput of 20 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 20, and exhausting to one (1) stack, identified as S-20.

(yy) One (1) sand bulk loading bin, with a maximum capacity of 60 tons, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 51, and each exhausting to one (1) stack, identified as S-55.

(zz) One (1) lime bulk loading bin, with a maximum capacity of 35 tons, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 52, and exhausting to one (1) stack, identified as S-56.

(aaa) Two (2) perlite ore storage bins, each with a maximum capacity of 250 tons, with particulate matter emissions controlled by filters, and exhausting inside the building.

(bbb) One (1) natural gas or fuel oil-fired perlite ore expander, with a maximum throughput of 1.6 tons per hour, and a maximum heat input capacity of 16 million Btu per hour, with particulate matter emissions controlled by one (1) cyclone, identified as emissions point 43, and exhausting to one (1) stack, identified as S-47.

(ccc) One (1) plaster mixer, with a maximum throughput of 27 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 30, and exhausting to one (1) stack, identified as S-30.

(ddd) One (1) plaster packer, with a maximum throughput of 27 tons per hour, with particulate matter emissions controlled by one (1) baghouse, identified as emissions point 30, and exhausting to one (1) stack, identified as S-30.

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

D.7.1 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

(a) The particulate matter emissions from the plaster production facilities shall be limited as follows:

(1) PM emissions from tube mill/feed bin (S-14) shall not exceed 0.35 pounds per hour.

(2) PM emissions from conveyor points 17 and 25 (S-17 and S-25) shall each not exceed 0.10 pounds per hour.

(3) PM emissions from the stucco storage bins (S-18, S-19 and S-20) shall each not exceed 0.10 pounds per hour.

(4) PM emissions from the perlite ore conveyor point 29 (S-29) shall not exceed 0.47 pounds per hour.

(5) PM emissions from the perlite ore expander (S-47) shall not exceed 0.93 pounds per hour.

(6) PM emissions from the bulk sand bin (S-55) shall not exceed 0.23 pounds per hour.

(7) PM emissions from the bulk lime bin (S-56) shall not exceed 0.18 pounds per hour.

(8) PM emissions from the plaster mixer and packer (S-30) shall not exceed 2.10 pounds per hour.

Compliance with these limits make 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. Compliance with these limitations shall also satisfy the requirements of 326 IAC 6-3.

(b) Pursuant to CP 101-4068, issued on January 27, 1995, the fuel oil usage for all facilities at the gypsum processing plant, including the perlite ore furnace, shall not exceed 3,000,000 gallons per 12 consecutive month period. In addition, the fuel oil shall not exceed three-tenths (0.3%) sulfur content by weight. Compliance with these limits make 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable. Compliance with these limits shall also satisfy the requirements of 326 IAC 7-1.1.

D.7.2 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the plaster production facilities shall not exceed 37 pounds per hour when operating at a process weight rate of 27 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

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

D.7.3 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-2]

Pursuant to 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitation), the SO_2 emissions from the perlite ore expander shall not exceed five-tenths (0.5) pound per million Btu.

D.7.4 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 any control devices.

Compliance Determination Requirements

D.7.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM and SO_2 limits specified in Conditions D.7.1, D.7.2 and D.7.3 shall be determined by performance test(s) conducted in accordance with Section C - Performance Testing.

D.7.6 Sulfur Dioxide Emissions and Sulfur Content

Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the fuel oil sulfur content does not exceed three-tenths percent (0.3%) by weight by:

(a) Providing vendor analysis of fuel delivered, if accompanied by a certification; or

(b) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(1) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(2) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

D.7.7 Particulate Matter (PM)

Pursuant to OP 51-03-85-0025, issued on June 8, 1981, the baghouse for PM control shall be in operation at all times when the plaster production facilities are in operation.

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

D.7.8 Visible Emissions Notations

(a) Daily visible emission notations of the plaster production stack exhausts (S-14, S-17, S-18, S-19, S-20, S-25, S-29, S-30, S-47, S-55 and S-56) shall be performed during normal daylight operations while in operation. 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.

D.7.9 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse (Pt. 14, 17, 18, 19, 20, 25, 29, 30, 43, 51 and 52) used in conjunction with the plaster production facilities, at least once daily when the plaster production facilities are in operation. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 0.5 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit 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, OAM, and shall be calibrated at least once every six (6) months.

D.7.10 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the plaster production facilities. All defective bags shall be replaced.

D.7.11 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.7.12 Record Keeping Requirements

(a) To document compliance with Conditions D.7.1(b), D.7.3 and D.7.6, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the emission limit established in D.7.1(b) and D.7.3.

(1) Calendar dates covered in the compliance determination period;

(2) Actual fuel oil usage since last compliance determination period;

(3) Sulfur content and heat content;

(4) Sulfur dioxide emission rates.

(5) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance with the sulfur content limit, the following, as a minimum, shall be maintained:

(6) Fuel supplier certifications;

(7) The name of the fuel supplier; and

(8) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

(b) To document compliance with Condition D.7.8, the Permittee shall maintain records of daily visible emission notations of the plaster production stack exhausts.

(c) To document compliance with Condition D.7.9, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting 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.7.10, the Permittee shall maintain records of the results of the inspections required under Condition D.7.10.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.7.13 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.7.1(b) and D.7.3 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 its equivalent, within thirty (30) days after the end of the quarter being reported.

Mail to: Permit Administration & Development Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

United States Gypsum Company
P.O. Box 1377
Shoals, Indiana 47581

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____ , I have personal knowledge of the
(Company Name)
representations contained in this affidavit and am authorized to make these representations on behalf of _____ .
(Company Name)

4. I hereby certify that United States Gypsum Company, End of State Route 650,Shoals, Indiana 47581, completed construction of the 4000 CFM baghouse, 4.0 MMBtu burner, and increase in throughput to Emission Unit 14 on _____ in conformity with the requirements and intent of the Part 70 Operating Permit modification application received by the Office of Air Quality on July 30, 2001 and as permitted pursuant to **Part 70 Source Modification SSM 101-14710, Plant ID No. T 101-00001** issued on _____ .

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

_____
Signature

_____
Date

STATE OF INDIANA)
)SS
COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on this _____ day of _____, 20 _____ .

My Commission expires: _____ .

_____
Signature

_____
Name (typed or printed)

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source Modification

Source Background and Description

Source Name:	**United States Gypsum Company**
Source Location:	**End of State Route 650, Shoals, Indiana 47581**
County:	**Martin**
SIC Code:	**3275 and 1499**
Operation Permit No.:	**T 101-7691-0001**
Operation Permit Issuance Date:	**May 24, 1999**
Significant Source Modification No.:	**SSM 101-14710-00001**
Significant Permit Modification No.:	**SPM 101-14797-00001**
Permit Reviewer:	**Paula M. Cognitore**

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:

(uu) One (1) tube mill feed bin, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

(vv) One (1) tube mill, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

The above lettering is based on the placement of the emission units as they will be incorporated into the existing Title V permit.

History

On July 30, 2001, United States Gypsum Company submitted an application to the OAQ requesting to replace the existing 1250 cubic feet per minute baghouse controlling emission point 14 with a 4000 cubic feet per minute baghouse at their existing plant and an increase in capacity of emission point 14 from 9.1 tons per hour to 10.0 tons per hour. The United States Gypsum Company also requested the addition of a 4.0 million British thermal unit per hour natural gas burner (which will be classified as insignificant). United States Gypsum Company was issued a Part 70 permit on July 30, 2001. The First Significant Source Modification, 101-11204-0001 was issued on December 10, 1999 and the First Administrative Amendment 101-11293 was issued on March 27, 2000.

The increase in capacity of the tube mill bin and the tube mill will not increase the utilization of any other processes at this source.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
Stack 14	Tube Mill/Tube Mill Burner	45	0.67	4000	250-300

Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source 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 30, 2001.

Emission Calculations

See page 1 of 1 of Appendix A of this document for detailed emissions calculations.

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 based upon the outlet grain loading of the proposed baghouse with the emission units operating at the proposed throughput rate of 10.0 tons per hour. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	3154
PM_{10}	3154
SO_2	0.00
VOC	0.00
CO	0.00
NO_X	0.00

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 326 IAC 2-7.10.5(f)(4) because the potential to emit PM due to the proposed modification exceeds 25.0 tons per year. This is not a minor source modification pursuant to 326 IAC 2-7-10.5(d)(9) because the capacity of the emission unit

is being increased and the proposed baghouse has a flow rate that is triple the existing baghouse.

The Part 70 Operating Permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 326 IAC 2-7-12(d) because the potential to emit from the modification exceeds 25.0 tons per year. The proposed operating conditions shall be incorporated into the Part 70 Operating Permit as a Significant Permit Modification (SPM 101-14797-00001) in accordance with 326 IAC 2-7-12(d)(1). The Significant Permit Modification will give the source approval to operate the proposed emission unit.

County Attainment Status

The source is located in Martin County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Martin County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_X emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Martin County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	249
PM_{10}	249

Pollutant	Emissions (tons/year)
SO_2	64.5
VOC	3.26
CO	45.5
NO_X	167

Note: The source has an additional 71 tons per year of fugitive PM/PM_{10} that does not count toward major source definiton.

(a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.

(b) These emissions are based upon the existing Part 70 Operating Permit T 101-7691-00001 and the first SSM 101-11204-00001.

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.

	Potential to Emit (tons/year)						
Process/facility	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_X**	**HAPs**
Emission Point 14 with new baghouse	3.15	3.15	-	-	-	-	-
Entire Source (including this modification)	249	249	64.5	3.26	45.5	167	
PSD Threshold Level	250	250	250	250	250	250	-

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD threshold levels. In addition the existing 249 ton per year limit will still apply to the entire source, including the modification. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(a) This significant modification does not involve a pollutant-specific emissions unit with the potential to emit after control in an amount equal to or greater than 100 tons per year. Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable.

(b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part

60) applicable to this proposed modification.

(c) There 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)

Pursuant to T 101-7691-00001, issued on May 24, 1999, the PM emissions from the tube mill/feed bin (S-14) shall not exceed 0.35 pounds per hour. Compliance with this limitation along with the other existing limits in T 101-7691-00001 makes the requirements of 326 IAC 2-2 not applicable.

326 IAC 6-3 (Process Operations)

Pursuant to T 101-7691-00001, issued on May 24, 1999, the entire plaster production area (made up of several facilities including the tube mill bin and tube mill) was determined to be a single process and was given a single pound per hour limit. Therefore, the allowable particulate matter (PM) rate from the plaster production facilities remains unchanged and shall be limited to less than 37.0 pounds per hour when operating at a process weight rate of 27 tons per hour. The pounds per hour limitation was calculated with the following equation:

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

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

The baghouses shall be in operation at all times the plaster production facilities are in operation, in order to comply with this limit.

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:

Emission Unit 14 has applicable compliance monitoring conditions as specified below:

(a) Pursuant to T 101-7691-00001 visible emissions notations of the plaster production stack exhaust S-14 shall be performed during normal daylight operations. A trained employee will 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.

(b) Pursuant to T 101-7691-00001 the Permittee shall record the total static pressure drop across the baghouse controlling the Emission Unit 14, at least once daily when Emission Unit 14 is in operation. Unless operated under conditions for which the Preventive Maintenance Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 0.5 to 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

(c) An inspection shall be performed each calender quarter of all bags controlling the operations at this source when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

(d) In the event that bag failure has been observed:

(1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business 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) business hours of discovery of the failure and shall include a timetable for completion.

(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).

(e) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the baghouse for Emission Unit 14 of the plaster production facilities must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations), 326 IAC 2-2 (PSD) 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**):

The equipment list in Section A.2 and Section D.7 facility description have been revised to include the modified facilities:

(uu) One (1) tube mill feed bin, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

(vv) One (1) tube mill, with a maximum throughput of 10.0 tons per hour (an increase from 9.1 tons per hour), with particulate matter emissions controlled by (1) baghouse, S-14, identified as emissions point 14, and exhausting to one (1) stack, identified as S-14.

Conclusion

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 101-14710-00001 and Significant Permit Modification No. 101-14797-00001.

Appendix A: Emission Calculations
Baghouse Operations

Company Name: United States Gypsum Company
Address City IN Zip: End of State Route 650, Shoals, Indiana 47581
SSM: 101-14710
Plt ID: 101-00001
Reviewer: Paula M. Cognitore
Date: July 30, 2001

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	Emission Rate before Controls (lb/hr)	Emission Rate before Controls (tons/yr)	Emission Rate after Controls (lb/hr)	Emission Rate after Controls (tons/yr)
Emission Point							
14	99.9%	0.021	4000.0	720.0	3154	0.720	3.15

Methodology

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (sq. ft.) ((cub. ft./min.)/sq. ft.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)