

April 5, 2001

Mr. Dwight Taylor
ChemRex, Inc.
3401 McArthur Drive
Fort Wayne, Indiana 46809

Re: 003-13939-00163
First Minor Permit Revision to
MSOP 003-9709-00163

Dear Mr. Taylor:

ChemRex, Inc. was issued a Minor Source Operating Permit on February 15, 2001 a dry aggregate grout production plant. A letter requesting a revision to this permit was received on February 2, 2001. Pursuant to the provisions of 326 IAC 2-6.1-6 a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of the construction and operation of the following new facilities:

- (a) One (1) grout mixer, identified as EU20 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001; and
- (b) One (1) grout mixer, identified as EU21 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001.

The following conditions are applicable to the proposed project:

Construction Conditions

1. The data and information supplied with the application shall be considered part of this permit revision 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. Pursuant to IC 13-15-5-3, this approval to construct becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 (Revocation), 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.

Operation Conditions

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
2. Pursuant to 326 IAC 6-3 (Process Operations), the PM emissions from the following facilities shall be limited as follows:

Facility	Process Weight (tons/hr)	PM Emissions (lbs/hr)
Grout Mixer, EU20	2.5	7.6
Grout Mixer, EU21	2.5	7.6

The above PM emission limits shall be determined using the following equation:

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

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

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

The MSOP 003-9709-00163, issued on February 15, 2001, is revised to incorporate the above applicable requirements for the new grout mixers. Revision is as follows (changes are bolded and deletions are struck-through for emphasis):

1. Section A.2 Emissions Units and Pollution Control Equipment Summary on Page 6 of 25 was revised to add the new grout mixers:
 - (i) One (1) grout mixer, identified as EU20 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001; and

- (j) One (1) grout mixer, identified as EU21 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001.

The new mixers were also added in Section D.1 project description table, Page 19 of 25.

- 2. Condition D.1.1 was revised to add the PM allowable emissions for the new mixers. Revision is as follows:

Emission Unit	Process Weight Rate (tons/hour)	Allowable PM Emission Rate (pounds/hour)
1 - 8	33.3 each	40.9 each
11	12.5	22.3
14	1.10	4.37
16 - 2,500 gal	5.00	12.1
16 - 1,000 gal, each	2.86 each	8.3 each
16 - 250 gal, each	5.00 each	12.1 each
17 - 300 gal each	0.600 each	2.91 each
17 - 300 gal	0.380	2.13
17 - 150 gal	0.300	1.83
17 - 400 gal	0.800	3.53
17 - 50 gal	1.00	4.10
18	0.870	3.72
20	2.5	7.6
21	2.5	7.6

Pursuant to 326 IAC 2-6.1-6, the minor source operating permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this permit revision which includes this letter, the attached operating conditions applicable to these emission units, and 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 Aida De Guzman, at OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,
Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

APD

cc: File -Allen County
U.S. EPA, Region V
Allen County Health Department
Air Compliance Section Inspector - Jennifer Dorn
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

**NEW SOURCE CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY**

**ChemRex Inc.
3401 McArthur Drive
Fort Wayne, Indiana 46809**

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, (326 IAC 2-5.1), 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-2, 40 CFR 52.21, and 40 CFR 52.124 (Prevention of Significant Deterioration), with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-3 (Emission Offset), with conditions listed on the attached pages

Operation Permit No.: MSOP 003-9709-00163	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: February 15, 2001
1 st Minor Permit Revision No.: 003-13939-00163	Pages Affected: 6, 19, 20

ChemRex Inc.
Fort Wayne, Indiana
Permit Reviewer: MLK/MES

Page 2 of 6
MSOP 003-9709-00163

<p>Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality <i>Original signed by Paul Dubenetzky</i></p>	<p>Issuance Date: April 5, 2001</p>
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tanks (Emission Unit 16) can produce.

- (h) Two (2) mixing tanks for coatings, also known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer to be installed in 2000 and one (1) 150 gallon mixer to be installed in 2000. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300 gallon mixer and 600 pounds of powders, water and solvent per hour for the 150 gallon mixer.
- (i) One (1) grout mixer, identified as EU20 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001; and
- (j) One (1) grout mixer, identified as EU21 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001.

Emissions Unit Description:

- (c) One (1) supersack small packaging operation, known as Emission Unit 14, equipped with a baghouse, known as CE002, installed in March 1990, exhausted through Stack SV002, capacity: 2,200 pounds of grout per hour.
- (d) Five (5) mixing tanks for coatings, known as Emission Unit 16, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: 2,500 gallon mixer installed in 1998, 1,000 gallon mixer installed in 1992, 1,000 gallon mixer installed in 1999, and two (2) 250 gallon each, pre-mix tanks installed in 1998. Throughput capacity: 10,000 pounds of powders, water and solvents per hour for the 2,500-gallon mixing tank, 5,714 pounds of powders, water and solvents per hour for each of the 1,000 gallon mixing tanks, and 10,000 pounds of powders, water and solvent per hour for each of the 250 gallon pre-mix tanks.
- (e) Four (4) mixing tanks for coatings, known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer, installed prior to 1986, one (1) 300 gallon mixer, installed in 1996, one (1) 400 gallon mixer, installed prior to 1986, and one (1) 50 gallon pre-mixer, installed prior to 1986. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300-gallon mixer, 750 pounds of powders, water and solvents per hour for the 300 gallon mixer tank, 1,600 pounds of powders, water and solvents per hour for the 400 gallon mixer, and 2,000 pounds of powders, water and solvents per hour for the 50 gallon pre-mixer.
- (f) One (1) Sonoprep grout mixing and packaging line, known as Emission Unit 18, equipped with a baghouse, known as CE002, installed in 1999, exhausted through Stack SV002, throughput capacity: 1,733 pounds of powder and resin per hour total.
- (g) Eight (8) above ground storage tanks, known as Emission Unit 19, installed in 1997, located inside in the coatings area, storage capacity: 8,000 gallons each. Throughput to the tanks is limited to 362,909,280 pounds per year, the total maximum amount of coatings the mixing tanks (Emission Unit 16) can produce.
- (h) Two (2) mixing tanks for coatings, also known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer to be installed in 2000 and one (1) 150 gallon mixer to be installed in 2000. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300 gallon mixer and 600 pounds of powders, water and solvent per hour for the 150 gallon mixer.
- (i) One (1) grout mixer, identified as EU20 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001; and
- (j) One (1) grout mixer, identified as EU21 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001.

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

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate shall not exceed the following pounds per hour rates when operating at the indicated process weight rates.

Emission Unit	Process Weight Rate (tons/hour)	Allowable PM Emission Rate (pounds/hour)
1 - 8	33.3 each	40.9 each
11	12.5	22.3
14	1.10	4.37
16 - 2,500 gal	5.00	12.1
16 - 1,000 gal, each	2.86 each	8.3 each
16 - 250 gal, each	5.00 each	12.1 each
17 - 300 gal each	0.600 each	2.91 each
17 - 300 gal	0.380	2.13
17 - 150 gal	0.300	1.83
17 - 400 gal	0.800	3.53
17 - 50 gal	1.00	4.10
18	0.870	3.72
20	2.5	7.6
21	2.5	7.6

The pounds per hour limitations were calculated with the following equations:

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

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

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where: } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

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

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the silos #1 - 8, known as Emission Units 1 - 8, as well as the grout plant, Emission Unit 11, 2,500-gallon mixer, known as Emission Unit 16 and the two (2) 250-gallon mixers and their control devices.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.1.3 Particulate Matter (PM)

- (a) In order to comply with Condition D.1.1, the baghouses for PM control shall be in operation at all times when the Emission Units 1 - 8, 11, 14, 16, 17 and 18 are in operation.

- (b) The requirement from CP (02) 1870, issued on August 14, 1990, Operation Conditions 5 & 6 requiring overall control efficiencies of 99.9% for the central dust collector and the conveying system baghouse is not applicable because the specific control efficiencies are not

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Minor Permit (MSOP) Revision

Source Background and Description

Source Name:	ChemRex, Inc.
Source Location:	3401 McArthur Drive, Fort Wayne, Indiana 46809
County:	Allen
SIC Code:	3241
Operation Permit No.:	MSOP 003-9709-00163
Operation Permit Issuance Date:	February 15, 2001
Permit Revision No.:	003-13939-00163
Permit Reviewer:	Aida de Guzman

The Office of Air Quality (OAQ) has reviewed a revision application from ChemRex, Inc. relating to the construction operation of the following facilities used in the dry aggregate grout production.

- (a) One (1) grout mixer, identified as EU20 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001; and
- (b) One (1) grout mixer, identified as EU21 with a capacity of 30,000 pounds per day. PM emission is controlled by baghouse CE001.

History

On February 20, 2001, ChemRex, Inc. submitted an application to the OAQ requesting to add additional grout mixers to their existing plant. ChemRex, Inc. was issued a Minor Source Operating (MSOP) permit on February 15, 2001.

Existing Approvals

The source was issued a Minor Source Operating Permit on February 15, 2001. This is the First Minor Permit Revision that will be issued to the source.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
SV001	3500 Marion Mixer	40	2	19,650	70
SV001	5000 Marion Mixer	40	2	19650	70

Recommendation

The staff recommends to the Commissioner that the Minor Permit Revision 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.

A complete application for the purposes of this review was received on February 20, 2001.

Emission Calculations

The PM emissions in mg/m³, and air flow rate were determined based on air monitoring during normal operations, mass balance and related AP-42 emission factors. The same procedure was utilized in determining the PM and PM10 emissions in the Minor Source Operating Permit 003-9709-00163, issued on February 15, 2001.

Operating Time Per Batch (minutes) - 8.4 minutes
 Maximum Batches Per Hour - 6.250 batches/hr

Facility	PM Emissions (mg/m ³)	Airflow rate (ft ³ /min)	PM Emission (Pound/hr)	PM Emissions Before Control (tons/yr)	Percent (%) Control Efficiency	PM Emissions After Control (tons/yr)
Grout Mixer, EU20	388.0	500	0.64	2.8	99.9	0.003
Grout Mixer, EU21	388.0	500	0.64	2.8	99.9	0.003
TOTAL				5.6		0.003

Methodology:
 mg/m³ * Airflow rate, ft³/min * 0.0283m³/ft³ * min/batch * batches/hr * 8760 hrs/yr * lb/453,590 mg * ton/2000 lb = tons/yr

Potential To Emit Before MSOP Revision

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.”

Pollutant	Potential To Emit (tons/year)
PM	5.6
PM-10	5.6
SO ₂	0.0
VOC	0.0
CO	0.0
NO _x	0.0

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

- (a) The MSOP is being revised based on 326 IAC 2-6.1-6(g), minor permit revision because the construction of the source’s modification will have potential to emit particulate matter (PM)

or particulate matter less than ten microns (PM10) greater than five (5) tons per year but less than twenty-five (25) tons per year.

Potential to Emit After the Revision

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Grout Mixer, EU20	2.8	2.8	0.0	0.0	0.0	0.0	0.0
Grout Mixer, EU21	2.8	2.8	0.0	0.0	0.0	0.0	0.0
Total Emissions	5.6	5.6	0.0	0.0	0.0	0.0	0.0

County Attainment Status

The source is located in Allen County.

Pollutant	Status (attainment, maintenance attainment, or unclassifiable; severe, moderate, or marginal nonattainment)
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) 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. Allen County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

- (a) New Source Performance Standards (NSPS):
 There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) National Emission Standards for Hazardous Air Pollutants (NESHAPs):
 There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

- (a) 326 IAC 2-6 (Emission Reporting)
 This source is located in Allen County and the potential to emit PM10 are less than 100 tons per year, therefore, 326 IAC 2-6 does not apply.

- (b) 326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (c) 326 IAC 6-4 (Fugitive Dust Emissions)
This rule applies to all sources of fugitive dust. The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

State Rule Applicability - Individual Facilities

- (a) 326 IAC 6-3-2 (Process Operations)
Pursuant to 326 IAC 6-3, the PM emissions from the following facilities shall be limited as follows:

Facility	Process Weight (tons/hr)	PM Emissions (lbs/hr)
Grout Mixer, EU20	2.5	7.6
Grout Mixer, EU21	2.5	7.6

The above PM emission limits were determined using the following equation:

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

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

The new mixers are in compliance with the rule because their potential emissions before control are less than their allowable PM emissions.

Conclusion

The new grout mixers shall be subject to the conditions of the attached **Minor Permit (MSOP) Revision 003-13939-00163**.