

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 032014-009

Project Number: 2013-02-031
Installation Number: 186-0035

Parent Company: Lhoist North America

Parent Company Address: P.O. Box 985004, Ft. Worth, TX 76185

Installation Name: Lhoist North America of Missouri, Inc.

Installation Address: 20947 White Sands Road, Ste. Genevieve, MO 63670

Location Information: Ste. Genevieve County, S17, T28N, R9W

Application for Authority to Construct was made for:

The ability to burn non-waste alternative fuels in their lime kilns in place of a portion of their traditional fossil fuels. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR 25 2014

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2013-02-031

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Lhoist North America of Missouri, Inc.
Ste. Genevieve County, S17, T28N, R9W

1. Annual Alternate Fuels Usage Restriction
 - A. Lhoist North America of Missouri, Inc. shall not combust more than [REDACTED] tons of non-waste alternate fuel in the lime kilns (EP-76 and EP-77) in any consecutive 12-month period.
 - B. Lhoist North America of Missouri, Inc. shall maintain an accurate record of the amount of alternate fuel combusted in the lime kilns (EP-76 and EP-77) and shall record the monthly and running 12-month totals of alternate fuel usage to demonstrate compliance with the limitations established in Special Condition 1.A.
2. Alternate Fuels Requirements
 - A. Lhoist North America of Missouri, Inc. shall not introduce any non-waste alternate fuel (excludes coal and coke) into their lime kilns (EP-76 and EP-77) which has less than a 5,000 Btu per pound heat content (as received).
 - B. Lhoist North America of Missouri, Inc. shall only accept and combust non-waste alternate fuels from any one or combination of the following non-hazardous secondary material groups:
 - 1) Group 1 – Commercial and Industrial By-Products and Waste: including, but not limited to, off-specification products, plastics, rubber components, tire manufacturing by products such as tire fluff and buffings, biomass (e.g. agricultural processing residues including but not limited to seed corn), paper, cardboard, waxed cardboard, fibers, textiles, polyurethane foam, and rubberized asphalt.
 - 2) Group 2 – Construction and Demolition Debris (C&D): including, but not limited to materials from C&D sites such as scrap wood, scrap tires, non-asbestos shingles, carpet, plastics void of PVCs, non-recyclable paper and plastics.

Page No.	4
Permit No.	
Project No.	2013-02-031

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- 3) Group 3 – Domestic Waste: the separated fraction of residential streams including, but not limited to, paper, cardboard, plastics, and fabrics.

- C. Lhoist North America of Missouri, Inc. shall not introduce any alternate fuel (excludes coal and coke) into the lime kilns (EP-76 and EP-77) which has constituent concentrations greater than the following:

Table 1: Alternate Fuel Constituent Concentration Limits

Item	Description	Limit
1	Ash	25%
2	Sulfur	2.08% by weight
3	Chlorides	992 parts per million (PPM)
Metal HAPs		
4	Antimony	10 PPM
5	Arsenic	174 PPM
6	Beryllium	206 PPM
7	Cadmium	19 PPM
8	Chromium	168 PPM
9	Cobalt	30 PPM
10	Lead	148 parts per million
11	Manganese	512 parts per million
12	Mercury	3.1 parts per million
13	Nickel	730 parts per million
14	Selenium	74.3 parts per million
Organic HAPs		
15	Benzene	38 PPM
16	Ethyl Benzene	5.4 PPM
17	Total PAH	2090 PPM
18	Styrene	26 PPM
19	Toluene	56 PPM
20	Xylenes	28 PPM

Note: The concentration limits listed above are the upper concentrations of the contaminants found in coal per EPA's "Contaminant Concentrations in Traditional Fuels: Tables for Comparison, November 29, 2011, Table 1.

- D. Lhoist North America of Missouri, Inc. shall test each individual non-waste alternate fuel from each supplier for heat content and each constituent concentration in Special Condition 1.C. to verify compliance with Special Condition 2.A. and 2.C.

Page No.	5
Permit No.	
Project No.	2013-02-031

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- E. In lieu of testing, Lhoist North America of Missouri, Inc. may obtain test results that demonstrate compliance with the constituents listed in Special Condition 1.C. from the supplier of the alternate fuel.
3. Compliance with Previously Established Emission Limitations
- A. When combusting any alternate fuels at this installation, Lhoist North America of Missouri, Inc. shall continue to remain in compliance with all of the limitations and/or requirements associated with the lime kilns that were established in the Special Conditions of Permit Number 1294-004.
{Note: The emission limitations established in the Special Conditions of Air Pollution Control Program Permit Number 1294-044 is provided below for reference purposes only.}

Special Condition Number	Basis of Limitation or Restriction	Permit Number 1294-004 Limitation/Restriction
2	BACT Limitation for NO _x	Emission rate shall not exceed: <ul style="list-style-type: none"> • 1.0 pound per ton of feed material excluding fuel or, • Demonstrating the exhaust exiting the kiln does not exceed 1% oxygen
3	BACT Limitation for PM ₁₀	Emission rate shall not exceed: <ul style="list-style-type: none"> • 0.015 gr/dscf at 7% oxygen, achieved by using a baghouse
4	BACT Limitation for SO ₂	Emission rate shall not exceed: <ul style="list-style-type: none"> • 90 pounds per hour, achieved using a low sulfur fuel blend
5	SO ₂ Limitation	Emission rate shall not exceed: <ul style="list-style-type: none"> • 1.6 pounds per ton of product, with a maximum percentage of sulfur in the fuel by weight being 2.08%
6	SO ₂ Limitation	Emission rate shall not exceed: <ul style="list-style-type: none"> • 1.40 pounds per ton of product based on a twelve month rolling average, with a maximum twelve month rolling average percentage of sulfur in the fuel by weight being 1.76%

Page No.	6
Permit No.	
Project No.	2013-02-031

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

If the above limitations and/or requirements are revised in another New Source Review permit/amendment or in the installation's Operating Permit, then Lhoist North America of Missouri, Inc. shall remain in compliance with these revised limitations and/or requirements.

4. Documented Haul Road Watering/Chemical Surfactant
 - A. Lhoist North America of Missouri, Inc. shall control dust from the unpaved alternate fuel delivery haul roads (EP-249) at this site using water or surfactant spray consistently and correctly at all times to prevent visible fugitive emissions from entering the ambient air beyond the property boundary. The following conditions apply to haul road watering and surfactant application:
 - 1) The water application rate shall be 100 gallons per 1000 square feet at least once every day.
 - 2) A quarter inch or more rainfall during the preceding 24 hours shall substitute for one daily water application.
 - 3) If using chemical surfactant spray Lhoist North America of Missouri, Inc. shall apply the surfactant spray per the manufacturer specifications.
 - 4) Water/surfactant application shall not be required when the ground is frozen or when there will be no traffic on the roads.
 - B. Lhoist North America of Missouri, Inc. shall keep the following records on file and available for inspection:
 - 1) A daily log, initialed by the responsible facility operator, of roads watered and quantity of water/chemical application used or a notation that there was a quarter inch or greater rainfall within the past 24 hours or that the facility was not in operation.
 - 2) Water tank size, total area of roads to be watered, and the resultant number of fills necessary to accomplish the required application rate.
 - 3) Records of watering equipment breakdowns and repairs.
5. Record Keeping and Reporting Requirements
 - A. Lhoist North America of Missouri, Inc. shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include MSDS for all materials used

Page No.	7
Permit No.	
Project No.	2013-02-031

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- B. Lhoist North America of Missouri, Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.
6. CEMS Monitoring
- A. Lhoist North America of Missouri, Inc. shall monitor and keep records of the 1-hour average emission factors being recorded by their SO₂, NO_x, and CO₂ CEMS on Kiln #1 and Kiln #2 while burning alternate fuel for five years following the initiation of burning alternate fuels as per 40 CFR 52.21.
 - B. Within the five year period mentioned in Special Condition 6.A. Lhoist North America of Missouri, Inc.'s recorded emission factors must demonstrate through PAE – COA – BAE calculation that the supplemental burning of alternate fuels in Kiln #1 and Kiln #2 does not result in a significant emissions increase.
 - C. After the five year period mentioned in Special Condition 6.A., Lhoist North America of Missouri, Inc. may cease the demonstration required in Special Condition 6.A. and 6.B. if the records demonstrate that no significant emissions increase has occurred as a result of supplemental burning of alternate fuels in Kiln #1 and Kiln #2.
 - D. In the event that Lhoist North America of Missouri, Inc finds there to be a significant emissions increase as a result of supplemental burning of alternate fuels, Lhoist North America of Missouri, Inc must cease burning alternate fuels immediately and submit an application for authority to construct with intent of undergoing PSD review.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2013-02-031
Installation ID Number: 186-0035
Permit Number:

Lhoist North America of Missouri, Inc.
20947 White Sands Road
Ste. Genevieve, MO 63670

Complete: March, 8 2013

Parent Company:
Lhoist North America
P.O. Box 985004
Ft. Worth, TX 76185

Ste. Genevieve County, S17, T28N, R9W

REVIEW SUMMARY

- Lhoist North America of Missouri, Inc. has applied for authority to burn non-waste fuels in their lime kilns in place of a portion of their traditional fossil fuels.
- HAP emissions are expected from the proposed equipment. The majority of the HAPs being emitted is Hydrogen Chloride. Other HAPs include heavy metal HAPs and organic HAPs.
- 40 CFR 60 Subpart HH, "Standards of Performance for Lime Manufacturing Plants" applies to the kilns being modified in this project.
- 40 CFR 63, Subpart AAAAA, "National Emission Standard for Hazardous Air Pollutants for Lime Manufacturing Plants", applies to this installation.
- Baghouses are being used to control the PM, PM₁₀ and PM_{2.5} emissions from the lime kilns in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all criteria pollutants are at de minimis levels.
- This installation is located in Ste. Genevieve County, an attainment area for all criteria pollutants.
- This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation is classified as item number 11. Lime plants. The installation's major source level is 100 tons per year and fugitive emissions are counted toward major source applicability.

- Ambient air quality modeling was not performed since potential emissions of the application are at de minimis levels.
- Emissions testing are required for the equipment.
- An application to amend your Part 70 Operating Permit is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Lhoist North America of Missouri, Inc. (formerly Chemical Lime Company) operates a 2,700 ton per day lime manufacturing plant near Ste. Genevieve. Raw limestone is transported to the site from a nearby quarry (Tower Rock Stone). The limestone is calcined in two solid fuel fired (supplemented with natural gas) rotary preheater kilns. Product lime is then transported to customers by barge, rail, and truck. Fuel in the form of coal and coke arrives at the plant via barge, rail, or truck and is stored in covered bins. Lhoist North America of Missouri, Inc. recently added a lime hydration plant to its facility.

Lhoist North America of Missouri, Inc. (Lhoist) is considered a major source under construction permits and a Part 70 source under operating permits. A Part 70 operating permit was issued February 5 of 2010 (OP2010-016). Table 2 lists the construction permits that have been issued to Lhoist from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
1294-004	Lime kiln
1298-023	Temporary Permit for transfer of iron ore
012000-021	Temporary Permit for coal hopper
012001-004	Temporary Permit for coal hopper
092001-005	Installation of emergency reject bin, modification of BN-809 system and increase feeding rate on BN-411 weigh feeder.
092010-111	Limestone Storage
092010-111A	Removal of baghouse requirement (EP-227) on transfer emission point from BC-363 to BC-365
122010-004	Temporary Permit for testing alternate fuel
122010-004A	Extension of alternate fuel testing temporary permit
112012-006	Lime Hydration

PROJECT DESCRIPTION

Lhoist has requested confidentiality for emission unit maximum hourly design rates and process information. This is the confidential permit. A public copy is available under project number 2013-02-031.

Lhoist intends to burn alternate non-waste fuels in their lime kilns (EU-76 and EU-77) in place of a portion of their traditional fossil fuels. No increase in maximum hourly design rate for the lime kilns is expected. The raw material entering the lime kilns and finished

product leaving the lime kiln will remain the same. The lime kilns are required to be controlled by baghouse and it will continue to be the case while burning the alternate fuels. The alternate fuel will be received in cube form by truck and directly unloaded into a new alternate fuel handling system that is connected to the kilns. The alternate fuel is transferred to a fuel mill via enclosed conveyor. The fuel mill shreds the cube and transfers the now shredded alternate fuel into the kiln. No storage piles of the alternate fuel are expected.

This project is being treated as a modification as it results in a physical change in, or change in the method of operation of, an existing major stationary source.

As a modification the analysis for this project was done in accordance with 40 CFR 52.21, which is the federal requirements for the PSD program. The first step in determining if this project is subject to the PSD program is to determine if there is a significant emission increase.

Lhoist stated in their application that the proposed project will not have a significant emission increase and demonstrated this using the hybrid test for the project involving existing, replacement, and new emission units.

The first step of hybrid test is to determine the baseline actual emission (BAE) for the existing equipment affected by this project. Lhoist calculated the BAE in accordance with 40 CFR 52.21(b)(48) by calculating their average annual emissions over a 24 consecutive month period within the past 10 years for each existing piece of equipment that is affected by this project. The baseline period was determined to be the years 2004 through 2005. All emissions from this project were calculated based on the annual lime production rate of the two existing lime kilns (EU-76 and EU-77).

The second step of the hybrid test is to determine the projected actual emissions (PAE) for the existing equipment affected by this project and to determine the full potential emissions of any new equipment or processes being installed. Lhoist calculated the PAE for the existing affected equipment in accordance with 40 CFR 52.21(b)(41) by taking the maximum annual lime production rate, in tons per year, at which each existing unit is projected to emit a regulated NSR pollutant in any one of the five years following the date the unit resumes regular operation after the project.

Demand growth (DG) was also considered for this project. DG is calculated by subtracting the BAE from the emissions the unit was capable of accommodating (COA) without the proposed project. The emissions that each unit was COA was determined by using past production numbers observed within the baseline period by Lhoist. A maximum three month total throughput scaled up to an annual production rate of lime and a demonstrated on stream time of 99.9 percent for Kiln 1 (EU-76) and a demonstrated on stream time of 100 percent for Kiln 2 (EU-77) was used in the COA determination. The emission that each unit was COA was calculated using the lime production rate of the existing kilns.

Based on the PAE of this project and demonstration through economic analysis, Lhoist has shown that the demand growth of its product is expected to reach what each unit

was COA in the past therefore allowing the demand growth calculation to be used.

This leads to the final step which is to determine the emissions increase (EI) of the project. The EI for the project is calculated by subtracting the DG and BAE from the PAE of the proposed project.

The calculation method for determining the EI of the project, while considering DG, is as follows: $EI = PAE - DG - BAE$. As stated previously DG is calculated using the following method: $DG = COA - BAE$. Using basic algebra the calculation method for determining the EI for the project can be stated as: $EI = PAE - COA$.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis of the lime kilns for NO_x , SO_x , and CO_2 were obtained from emissions data collected by Lhoist's CEMS currently installed on the two lime kilns. The emission factors for particulate matter were derived from the grain loading expected from the baghouses controlling the lime kilns which include both filterable and condensable particulate matter. The emission factors for CO were taken from a stack test performed by Lhoist on the kilns that will burn the alternate fuel. Greenhouse gas (GHG) emissions were calculated using the EPA emission model for GHG reporting. The emission factors for VOC were obtained from EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, (AP-42) Section 11.17 *Lime Manufacturing* (February 1998). The HAP emission factors were obtained from AP-42, Section 11.6 *Portland Cement Manufacturing* (January 1995). No HAP emission factors can be found in the Lime Manufacturing section of AP-42 therefore the Portland cement emission factors for the cement preheater kilns were deemed most representative.

Emissions from haul roads were calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," (November 2006) for unpaved roads and the predictive equation from AP-42 Section 13.2.1 "Paved Roads," (January 2011) for paved roads. A 90% control efficiency for PM and PM_{10} and a 40% control efficiency for $PM_{2.5}$ were applied to the unpaved haul road emission calculations for the use of documented chemical surfactant/watering.

Aside from the haul roads there are no expected emissions from the receiving or loading of the alternate fuel as in it is received in large cube form and then transferred to fuel mill via an enclosed conveyors system. Any emissions generated from the fuel mill enter into kiln with the shredded fuel and either burned or exhausted out the kiln stack.

No significant emission increase was calculated for any criteria pollutant for this project. The emissions from the alternate fuels are unknown and difficult to estimate. This construction permit was issued with limits on the amount of alternative fuel allowed and HAP concentrations of alternative fuels to ensure that no significant emissions increase will occur while burning the alternate fuels. Lhoist is required in Special Condition 6. of this permit to calculate if there is a significant increase as result of this project once actual CEMS data is recorded.

The following table provides an emissions summary for this project. Existing potential emissions were taken from previously issued construction permit amendment 112012-006. Existing actual emissions were taken from the installation's 2012 EIQ. Projected Actual Emission of the Application represent the maximum annual emission rate at which each existing emission unit is projected to emit a regulated NSR pollutant in any one of the five years following the date the unit resumes regular operation after the project as well as the potential annual emission rate of any new emission unit or process. Actual Emissions that were Capable of Accommodating Prior to Application represent the actual annual emission rate at which each existing emission unit was capable of emitting without the proposed project. Emission Increase of the Application represents the Actual Emissions that were Capable of Accommodating Prior to Application subtracted from the Projected Actual Emission of the Application.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2012 EIQ)	PAE of the Application	Actual Emissions that were COA Prior to Application	Emission Increase of the Application
PM	25.0	Major	N/D	92.06	87.74	4.32
PM ₁₀	15.0	Major	124.00	87.74	86.44	1.30
PM _{2.5}	10.0	Major	51.93	43.10	42.44	0.66
SO _x	40.0	Major	7.01	98.55	166.91	-68.36
NO _x	40.0	Major	1,419.03	1,598.97	1761.00	-162.03
VOC	40.0	Major	7.65	9.86	9.74	0.12
CO	100.0	Major	24.93	32.27	31.81	0.46
GHG (CO ₂ e)	75,000 / 100,000	Major	N/D	1.40E+06	1.34E+06	63,238
*GHG (mass)	0.0 / 100.0 / 250.0	Major	N/D	1.40E+06	1.34E+06	63,238
Total HAPs	25.0	Major	14.15	79.18	78.35	0.83

N/A = Not Applicable; N/D = Not Determined; PAE = Project Actual Emissions; COA = Capable of Accommodating

*GHG (mass) totals are not the same as GHG (CO₂e) however the difference in quantity is so small it does not appear different due the numerical representation in Table 3.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all criteria pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Lhoist North America of Missouri, Inc. shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
 - – *Standards of Performance for Lime Manufacturing Plants*, 40 CFR Part 60, Subpart HH
- *MACT Regulations*, 10 CSR 10-6.075
 - *National Emission Standard for Hazardous Air Pollutants for Lime Manufacturing Plants*, 40 CFR Part 63, Subpart AAAAA
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Gerad Fox
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 5, 2013, received February 11, 2013, designating Lhoist North America as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	tph	tons per hour
hr	hour	tpy	tons per year
hp	horsepower	VMT	vehicle miles traveled
lb	pound	VOC	Volatile Organic Compound
lbs/hr	pounds per hour		
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Schuyler T. Johnson
EHS Manager
Lhoist North America of Missouri, Inc.
P.O. Box 488
Ste. Genevieve, MO 63670

RE: New Source Review Permit - Project Number: 2013-02-031

Dear Mr. T. Johnson:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Gerad Fox, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:gfl

Enclosures

c: Southeast Regional Office
PAMS File: 2013-02-031

Permit Number: