



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: 092010-001 Project Number: 2010-07-031

Parent Company: Dyno Nobel Inc.

Parent Company Address: 2795 East Cottonwood Parkway, Suite 500, Salt Lake City, UT 84121

Installation Name: Dyno Nobel Inc. - LOMO Plant

Installation Number: 163-0031

Installation Address: 11025 Highway D, Louisiana, MO 63353

Location Information: Pike County, S28, T54N, R1W

Application for Authority to Construct was made for:
Construction of a 99.0 MMBtu per hour natural gas-fired boiler. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

SEP - 1 2010

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 Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). 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 this (these) air contaminant source(s).

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 source(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.

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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."

Dyno Nobel Inc. - LOMO Plant
Pike County, S28, T54N, R1W

1. Control Device Requirement
 - A. Dyno Nobel Inc. - LOMO Plant shall control emissions from the boiler using low NO_x burners and flue gas recirculation as specified in the permit application. The low NO_x burners and flue gas recirculation shall be operated and maintained in accordance with the manufacturer's specifications.
 - B. Dyno Nobel Inc. - LOMO Plant shall maintain an operating and maintenance log for the low NO_x burners and flue gas recirculation which shall include the following:
 - 1 Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2 Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

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

Project Number: 2010-07-031
Installation ID Number: 163-0031
Permit Number:

Dyno Nobel Inc. - LOMO Plant
11025 Highway D
Louisiana, MO 63353

Complete: July 14, 2010

Parent Company:
Dyno Nobel Inc.
2795 East Cottonwood Parkway, Suite 500
Salt Lake City, UT 84121

Pike County, S28, T54N, R1W

REVIEW SUMMARY

- Dyno Nobel Inc. - LOMO Plant has applied for authority to construct a 99.0 MMBtu per hour natural gas-fired boiler.
- A small amount of Hazardous Air Pollutant (HAP) emissions are expected from the combustion of natural gas in the boiler.
- 40 CFR 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, applies to the equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed boiler.
- Low NO_x and flue gas recirculation are being used to control NO_x and other emissions from the equipment 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 pollutants are below de minimis levels.
- This installation is located in Pike 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, Category 20, *Chemical Process Plant*. 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 below de minimis levels.
- The boiler may be subject to testing as required by NSPS, Subpart Dc. Additional emissions testing is not required for the new boiler as a part of this permit.
- A Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Dyno Nobel, Inc. – LOMO plant (Dyno Nobel) operates an ammonium nitrate and nitric acid production plant located in Louisiana, Missouri. The installation is considered a major source of NO_x and PM₁₀. Dyno Nobel submitted a Part 70 Operating permit renewal application in August 2003 and this application is currently under review.

The following permits have been issued to Dyno Nobel from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0792-005	A pilot scale ammonium nitrate prilling plant.
0893-003	Addition of a new 7,000 gallon stainless steel tank for the storage of an ammonium nitrite solution.
1294-029	Construction of a new non-sensitized emulsion processing facility.
0898-017	Addition of a new 145,000 gallon nitric acid storage and blending tank.

Please note that Table 1 does not include temporary permits. Since 1996, Dyno Nobel has received several temporary permits for temporary diesel generators or boilers. The permitting of the new boiler as described below will replace the need for temporary permits.

PROJECT DESCRIPTION

Dyno Nobel is seeking authority in install a package boiler in order to gain steam independence from the neighboring Hercules/Ashland coal-fired power plant. The new boiler is natural gas-fired and has a design capacity of 99.0 million Btus per hour (MMBtu/hr). Low NO_x burners and flue gas recirculation are incorporated into the boiler design to minimize emissions.

The boiler will be used primarily to supply startup steam for the existing Nitric Acid Plant. When the Nitric Acid Plant is not operating, this boiler will provide process steam for the Ammonium Nitrate Prill Plant, the Nitric Acid Concentrator and steam tracing to prevent freezing during the winter months. When the Nitric Acid Plant is operating, the excess heat from exothermic reactions occurring within the Plant will be used to generate steam for the site and the boiler will be placed in standby.

The addition of the boiler will not result in increase in either nitric acid or ammonium nitrate production from the operation of this boiler and therefore the addition of the boiler is not considered as a modification to the plant.

EMISSIONS/CONTROLS EVALUATION

The emission factors for PM₁₀, NO_x, CO and VOC were obtained from the manufacturer's guarantee. The emissions factors for SO_x and HAPs were obtained from Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4, Natural Gas Combustion (July 1998).

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit Number 102007-009. Existing actual emissions were taken from the installation's 2009 Emission Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year).

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2009 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	Major	141.67	2.17	N/A
SO _x	40.0	N/A	0.00	0.26	N/A
NO _x	40.0	Major	647.87	15.61	N/A
VOC	40.0	N/A	0.00	1.73	N/A
CO	100.0	N/A	0.00	16.26	N/A
HAPs	10.0/25.0	N/A	0.00	0.80	N/A

N/A = Not Applicable

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 pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Dyno Nobel Inc. - LOMO Plant 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
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *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 Odors*, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 CFR Part 60, Subpart Dc

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.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 9, 2010, received July 4, 2010, designating Dyno Nobel Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, dated July 22, 2010.