

STATE OF MISSOURI

PERMIT BOOK



PERMIT BOOK

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: 082015-017

Project Number: 2015-03-097
Installation Number: 077-0260

Parent Company: NorthStar Battery Company, LLC

Parent Company Address: 4000 Continental Way, Springfield, MO 65803

Installation Name: NorthStar Battery Company, LLC - Plant #2

Installation Address: 1320 North Alliance, Springfield, MO 65802

Location Information: Greene County, S7, T29N, R22W

Application for Authority to Construct was made for:
Installation of a post burner. This review was conducted in accordance with Section (5) of 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.

Alana L. Hess

Prepared by
Alana Hess
New Source Review Unit

Kyra L. Moore

Director or Designee
Department of Natural Resources

AUG 29 2015

Effective Date

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. The 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' Southwest Regional Office 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.

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(12)(A)10. "Conditions required by permitting authority."

NorthStar Battery Company, LLC – Plant #2
Greene County, S7, T29N, R22W

1. Control Device Requirement - Baghouse
 - A. NorthStar Battery Company, LLC – Plant #2 shall control emissions from 3I Post Burner using Baghouse #3 as specified in the permit application.
 - B. The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. The gauge or meter shall be located such that Department of Natural Resources' employees may easily observe it.
 - C. Replacement filters for the baghouse shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. NorthStar Battery Company, LLC – Plant #2 shall ensure the proper operation of Baghouse #3 by complying with §63.11423(b)(2)(i) and (ii).
 - E. NorthStar Battery Company, LLC – Plant #2 shall maintain an operating and maintenance log for the baghouses 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.
2. Production Limit
 - A. NorthStar Battery Company, LLC – Plant #2 shall limit the number of batteries post burned by 3I Post Burner to 136,986 batteries per consecutive 12-month period.
 - B. NorthStar Battery Company, LLC – Plant #2 shall maintain records of monthly and 12-monthly rolling total number of batteries post burned by 3I Post Burner using Attachment A or an equivalent form approved by the Air Pollution Control Program.

SPECIAL CONDITIONS:

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

3. Record Keeping and Reporting Requirements
 - A. NorthStar Battery Company, LLC – Plant #2 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.
 - B. NorthStar Battery Company, LLC – Plant #2 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 Attachment A documents an exceedance of the production limit.

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

Project Number: 2015-03-097
Installation ID Number: 077-0260
Permit Number:

Installation Address:
NorthStar Battery Company, LLC – Plant #2
1320 North Alliance
Springfield, MO 65802

Parent Company:
NorthStar Battery Company, LLC
4000 Continental Way
Springfield, MO 65803

Greene County, S7, T29N, R22W

REVIEW SUMMARY

- NorthStar Battery Company, LLC has applied for authority to install 3I Post Burner at Plant #2.
- The application was deemed complete on February 18, 2015.
- HAP emissions are expected from the proposed equipment. Lead emissions will occur from the welding of posts onto the battery work cell. Lead emissions will be controlled by Baghouse #3 and are limited to below the lead SMAL. HAP emissions will also occur from the combustion of natural gas by the burner. Individual HAP emissions from the combustion of natural gas are below each individual HAPs' respective SMAL.
- 40 CFR Part 60, Subpart KK – *Standards of Performance for Lead-Acid Battery Manufacturing Plants* is applicable to 3I Post Burner. The post burner meets the definition of three-process operation facility at §60.371 and is required to meet a limit of 0.000437 gr of lead/dscf by §60.372(a)(3). As multiple lead emitting facilities are being vented to Baghouse #3, NorthStar Battery Company, LLC – Plant #2 will comply with the equivalent standard for the total exhaust stream from Baghouse #3 which was calculated according to §60.372(b) to be 0.000188 gr/dscf.
- 40 CFR Part 63, Subpart P – *National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources* is applicable to 3I Post Burner.
- Baghouse #3 is being used to control lead and other particulate emissions from 3I Post Burner.
- 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 the de minimis levels and SMALs. A permit was required to institute a federally enforceable control device requirement and to limit battery production so that the lead SMAL is not exceeded.

- This installation is located in Greene County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are below the de minimis levels and the SMALs.
- Emissions testing is not required.
- NorthStar Battery Company, LLC – Plant #2 will remain a basic state installation. The installation of 3I Post Burner constitutes an off-permit change. The issuance of this permit is considered contemporaneous notice; therefore, no further notice is necessary. NorthStar Battery Company, LLC – Plant #2 shall include the special conditions of this permit in all subsequent operating permit renewals.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

NorthStar Battery Company, LLC operates two lead acid battery production plants in Springfield, MO. The two plants are considered separate installations as they are not located on one or more contiguous or adjacent properties. Plant #2 was designed as a 150 battery per hour plant and began construction under Permit 102010-011. Due to a down turn in the economy not all of the permitted equipment was installed. The as-built maximum capacity of the plant is 80 batteries per hour.

The following New Source Review permits have been issued to NorthStar Battery Company, LLC – Plant #2 by the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
102010-011	Install lead acid battery plant
102010-011A	Amendment to update modeling with as-built parameters

PROJECT DESCRIPTION

NorthStar Battery Company, LLC has requested to install 3I Post Burner at Plant #2. The post burner will be located at the end of the production process to weld posts onto the battery work cells to meet the design specifications of a new product. The plant is bottlenecked by their drying/curing capacity; therefore, the post burner will not increase the production rate of Plant #2. The post burner will emit pollutants from the welding process and from the combustion of natural gas in the burner.

EMISSIONS/CONTROLS EVALUATION

Process emissions were calculated using emission factors for three-process operations in AP-42 Table 12.15-2. Special Condition 1 requires emissions from 3I Post Burner be controlled by Baghouse #3; therefore, emissions from the welding process were given 99% control efficiency. Although, the installation can produce 80 batteries per hour, the post burner will only be used to create a certain battery; therefore, the installation has accepted a post burner limit of 136,986 batteries per year to remain below the lead SMAL.

The natural gas burner has an MHDR of 0.112 MMBtu/hr. Emission factors for the combustion of natural gas used in this analysis were obtained from the 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 NSR Permit 102010-011A. Existing actual emissions were taken from the installation's most recent full EIQ, 2010. Potential emissions of the application represent the potential of the post burner, assuming continuous operation (8760 hours per year).

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application
PM	25.0	N/D	N/A	0.06
PM ₁₀	15.0	8.59	0.54	0.06
PM _{2.5}	10.0	N/D	0.54	0.06
SO _x	40.0	0.38	N/D	0.0003
NO _x	40.0	27.57	3.29	0.05
VOC	40.0	2.12	0.18	0.003
CO	100.0	15.70	2.77	0.04
HAPs	25.0	0.11	0.06	0.01
Lead	0.6 ¹	0.11	0.06	<0.01
Hexane	10.0 ²	N/D	N/D	0.001

N/A = Not Applicable; N/D = Not Determined

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 the de minimis levels and the SMALs. A permit was required to institute a federally enforceable control device requirement and to limit battery production so that the lead SMAL is not exceeded.

¹ The lead SMAL is 0.01 tons per year.

² The hexane SMAL is 10 tons per year.

APPLICABLE REQUIREMENTS

NorthStar Battery Company, LLC – Plant #2 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.

GENERAL REQUIREMENTS

- 10 CSR 10-6.065 *Operating Permits*
- 10 CSR 10-6.110 *Submission of Emission Data, Emission Fees and Process Information*
 - NorthStar Battery Company, LLC – Plant #2 shall submit a full EIQ for the 2015 calendar year.
- 10 CSR 10-6.165 *Restriction of Emission of Odors*
- 10 CSR 10-6.170 *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*
- 10 CSR 10-6.220 *Restriction of Emission of Visible Air Contaminants*

SPECIFIC REQUIREMENTS

- 10 CSR 10-6.070 *New Source Performance Regulations*
 - 40 CFR Part 60, Subpart KK – *Standards of Performance for Lead-Acid Battery Manufacturing Plants* is applicable to 3I Post Burner.
- 10 CSR 10-6.075 *Maximum Achievable Control Technology Regulations*
 - 40 CFR Part 63, Subpart P – *National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources* is applicable to 3I Post Burner.
- 10 CSR 10-6.400 *Restriction of Emission of Particulate Matter From Industrial Processes* is not applicable to 3I Post Burner as Special Condition 1 is a federally enforceable requirement for a baghouse. Baghouses achieves greater than 90% particulate control; therefore, 3I Post Burner is exempt from this regulation per 10 CSR 10-6.400(1)(B)15.

STAFF RECOMMENDATION

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

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 13, 2015, received February 18, 2015, designating NorthStar Battery Company, LLC as the owner and operator of the installation.

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	SDS	Safety Data Sheet
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Carlos Estrada
General Manager
NorthStar Battery Company, LLC – Plant #2
1320 North Alliance
Springfield, MO 65802

RE: New Source Review Permit - Project Number: 2015-03-097

Dear Mr. Estrada:

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 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 basic 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to §§621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission 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 Administrative Hearing Commission, Truman State Office Building, P.O. Box 1557, Jefferson City, Missouri 65102, website: www.oa.mo.gov/ahc.

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

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:ahl

Enclosures

c: Southwest Regional Office
PAMS File: 2015-03-097

Permit Number: