PERMIT BOOK

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: 102012-013

Project Number: 2012-06-018
Installation Number: 047-0191

Parent Company:	Magna
Parent Company Address:	19700 Haggerty Road, Livonia, MI 48152
Installation Name:	Excelsior Springs Seating Systems
Installation Address:	301 S. McCleary Road, Excelsior Springs, MO 64024
Location Information:	Clay County, S10, T5N, R30W

Application for Authority to Construct was made for:
A molded flexible polyurethane foam automobile seat cushion facility. This review was conducted in accordance with Section (6) 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.

OCT 23 2012

EFFECTIVE DATE

Kyra L Moore

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if the permittee fails 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.

The permittee will be in violation of 10 CSR 10-6.060 if the permittee fails to adhere to the specifications and conditions listed in the 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.

The permittee shall notify the Air Pollution Control Program of the anticipated date of startup of these air contaminant sources. The information shall be made available within 30 days of actual startup. Also, the permittee shall notify the Department of Natural Resources Kansas City Regional Office within 15 days after the actual startup 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.

The permittee 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 the permittee chooses to appeal, the permittee shall 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 the permittee chooses not to appeal, this certificate, the project review, and the application and associated correspondence constitutes the permit to construct. The permit allows the permittee to construct and operate the air contaminant sources(s), but in no way relieves the permittee of the 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."

Excelsior Springs Seating Systems
Clay County, S10, T5N, R30W

1. Production Limitation
   A. The permittee shall limit their production of seat cushions (pads) to 1,650,000 pads in any consecutive 12-month period.

   B. The permittee shall limit their production of headrests and armrests to 500,000 in any consecutive 12-month period.

   C. The permittee shall record the number of pads, headrests, and armrests produced each month and shall also calculate the 12-month rolling total number of pads, headrests, and armrests produced each month using Attachment A.

2. Paved Haul Road (HR-1)
   A. The permittee shall pave the haul road (HR-1) with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement shall be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.

   B. Maintenance and/or repair of the road surface shall be conducted as necessary according to ASTM standards to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from the paved haul road while the plant is operating. The permittee shall document which ASTM standards the installation is complying with.

   C. The permittee shall periodically water, wash, and/or otherwise clean all of the paved portions of the haul road as necessary to achieve control of fugitive emissions from the paved haul road while the plant is operating.

SPECIAL CONDITIONS:

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

3. Operational Requirement – Chemical Storage
   The permittee shall keep the mold preparation, antisqueak, foam fabrication, and mold release solutions in sealed containers whenever the materials are not in use. The permittee shall provide and maintain suitable, easily read, and permanent markings on each cleaning solution container.

4. Emergency Generator (EP-05).
   A. The permittee shall install a nonresettable meter on the Emergency Generator (EP-05).

   B. The permittee shall limit the operation of Emergency Generator (EP-05) to 500 hours in any consecutive 12-month period.

5. Recordkeeping and Reporting Requirements
   The permittee shall retain 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

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW
Project Number: 2012-06-018
Installation ID Number: 047-0191
Permit Number:

Excelsior Spring Seating Systems
301 S. McCleary Road
Excelsior Springs, MO 64024

Complete: August 3, 2012

Parent Company:
Magna
19700 Haggerty Road
Livonia, MI 48152

Clay County, S10, T5N, R30W

REVIEW SUMMARY

- The permittee has applied for authority to install a molded flexible polyurethane foam automobile seat cushion facility in Excelsior Springs, MO.

- HAP emissions are expected from the proposed equipment. Emissions of MDI (101-68-8), Ethylene Oxide (75-21-8), Propylene Oxide (75-56-9), 1,4-Dioxane (123-91-1), Acetaldehyde (75-07-0) and Formaldehyde (50-00-0) will occur during the fabrication of the molded flexible polyurethane foam seats. HAP will also be emitted from natural gas combustion at the installation.

- 40 CFR Part 60, Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* is not applicable to the installation. Emergency Generator (EP-05) is a 1993 model year engine and predates the engine model year requirements of this regulation.

- 40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* is applicable to Emergency Generator (EP-05).

- 40 CFR Part 63, Subpart OOOOOO – *National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources* is applicable to Mold Preparation (EP-01), Polyurethane Foam Production (EP-02), Mold Release Operations (EP-03), Foam Crushing (EP-04), Suprasec 7320 Tanks (ST-01 and ST-02), and MagnaFlex Bio 40 Tanks (ST-03 and ST-04). The permittee is in compliance with this regulation as none of the materials used at the installation contain Methylene Chloride (75-09-2).

- No air pollution control equipment is being used in association with the new equipment.

- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060 *Construction Permits Required*. Potential emissions of VOC are above the de minimis levels, but are below the major source levels.

- This installation is located in Clay 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 for this review. No model is currently available which can accurately predict ambient ozone concentrations caused by this installation’s VOC emissions.

- Emissions testing are not required for the proposed equipment.

- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Excelsior Springs Seating Systems is proposing to construct a new molded flexible polyurethane foam automobile seat cushion facility in Excelsior Springs, MO. This is a new installation; therefore, no permits have been issued to the permittee by the Air Pollution Control Program. The installation will require a Basic Operating Permit within 30 days of equipment startup.

PROJECT DESCRIPTION

The permittee has applied for authority to construct a new molded flexible polyurethane foam facility. As a new installation the facility could not provide data to calculate the maximum production rate of flexible polyurethane foam; therefore, the installation is being permitted to produce a maximum of 1,650,000 automobile seat cushions and 500,000 armrests and headrests per year, as limited by Special Condition 1. They installation may apply for additional construction permits to increase production as necessary. Raw materials consist of Suprasec 7320 (MDI), MagnaFlex Bio 40 (Polyol), ChemTrend Pura 11166 (Mold Release Spray), ChemTrend CT-1007 (Mold Release Paste), and ACMOS 23-9020 (Antisqueak Spray).

MDI will be stored in two 9,000 gallon vertical fixed roof tanks (ST-01 and ST-02). Each tank will handle approximately 700,000 gallons of MDI annually for a plantwide handling capacity of 1,400,000 gallons of MDI.

Polyol will be stored in two 9,000 gallon vertical fixed roof tanks (ST-03 and ST-04). Each tank will handle approximately 700,000 gallons of Polyol annually for a plantwide handling capacity of 1,400,000 gallons of Polyol.

The molds are prepped with Mold Release Spray and/or Mold Release Paste prior to foam fabrication to ease fabricated foam removal. Emissions from the Mold Release Spray and Mold Release Paste will be reported under EP-01 Mold Preparation. The maximum usages of Mold Release Spray and Mold Release Paste of 0.012348 gallons/pad and 0.000314 gallons/pad, respectively, were obtained by taking the maximum monthly usage (gallons/pad) from actual usage data at Shelby Foam Systems – an existing similar facility also owned and operated by the parent company, Magna.

After mold preparation metal attachments/clips or other components may be inserted into the mold to meet customer specifications. Polyol and MDI are then injected into the mold using robotic spray heads. The foam cures in the mold. Emissions from foam fabrication and curing will be reported under EP-02 Polyurethane Foam Production. The installation will use molds with different sizes and shapes to meet customer specifications. The maximum mold volume for a seat will be 2.1238 ft^3, while the maximum mold volume for each headrest will be 3.0533×10^{-4} ft^3. Maximum MDI and Polyol usage is 1.1 lb/pad and 1.81 lb/pad, respectively. Maximum MDI and Polyol usage were obtained by taking the maximum monthly usage (gallons/pad) from actual usage data at Shelby Foam Systems – an existing similar facility also owned and operated by the parent company, Magna.

After the foam is cured, the foam is removed from the mold and crushed to remove any open cells. Antisqueak Spray is applied to finished molded flexible polyurethane foam automobile seat cushion. Emissions from the Antisqueak Spray will be reported under EP-04 Foam Crushing. Maximum Antisqueak Spray usage is 0.0018165 gallons/pad. Maximum Antisqueak Spray usage was obtained by taking the maximum monthly usage (gallons/pad) from actual usage data at Shelby Foam Systems – an existing similar facility also owned and operated by the parent company, Magna.

The project also includes two 0.25 mile long paved Haul Roads (HR-1 and HR-2), a model year 1993 2,145.6 HP diesel Emergency Generator (EP-05), and three new 1.6 MMBtu/hr natural gas fired Space Heaters (EP-06).

EMISSIONS/CONTROLS EVALUATION

MDI emissions from the installation were calculated using the American Chemistry Council's MDI Emissions Estimator available online at: http://polyurethane.americanchemistry.com/Health-Safety-and-Product-Stewardship/Emissions . MDI emissions from MDI Tanks (ST-01 and ST-02) were calculated using the M1 Tank worksheet from the MDI Emissions Estimator and 60 percent MDI as documented by the Suprasec 7320 MSDS. MDI emissions from Polyurethane Foam Production (EP-02) were calculated using the M4 Enclosed Process – Cavity Size worksheet from the MDI Emissions Estimator.

VOC and HAP emissions from the Mold Release Spray, Mold Release Paste, Antisqueak Spray, and Polyol were calculated using a mass balance and assuming that the foam retains none of the VOC and HAP from these chemicals. MSDS for the chemicals indicated the following VOC and HAP contents:

Chemical	VOC Content	HAP Content
Mold Release Spray	100%	N/A
Mold Release Paste	70%	N/A
Antisqueak Spray	0.017 lb/gal	N/A
Polyol	35 ppm	35 ppm[1]

[1]10 ppm Ethylene Oxide (75-21-8), 10 ppm Propylene Oxide (75-56-9), 5 ppm 1,4-Dioxane (123-91-1), 5 ppm Acetaldehyde (75-07-0), and 5 ppm Formaldehyde (50-00-0).

Fugitive particulate emissions from Haul Roads (HR-1 and HR-2) were calculated using emission factors obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 13.2.1 "Paved Haul Roads" (January 2011).

Emissions from EP-05 Emergency Generator were calculated using emission factors obtained from AP-42's Section 3.4 "Large Stationary Diesel and All Stationary Dual-fuel Engines" (October 1996) for process SCC 20200401 and 40 CFR Part 98 – *Mandatory Greenhouse Gas Reporting.* Potential emissions from Emergency Generator (EP-05) were evaluated at 500 hours of annual operation due to its emergency status per EPA guidance document *Calculating Potential to Emit (PTE) for Emergency Generators* (September 6, 1995).

Emissions from EP-06 Space Heaters were calculated using emission factors obtained from AP-42's Section 1.4 "Natural Gas Combustion" (July 1998) for process SCC 10100602 and 40 CFR Part 98 – *Mandatory Greenhouse Gas Reporting.*

The following table provides an emissions summary for this project. As a new installation, the facility has no existing potential emissions or existing actual emissions. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year), unless otherwise noted above.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory *De Minimis* Levels	Existing Potential Emissions	Existing Actual Emissions	Uncontrolled Potential Installation Emissions	Conditioned Potential Installation Emissions
PM	25.0	N/A	N/A	0.26	0.26
PM_{10}	15.0	N/A	N/A	0.23	0.23
$PM_{2.5}$	10.0	N/A	N/A	0.23	0.23
SOx	40.0	N/A	N/A	0.02	0.02
NOx	40.0	N/A	N/A	14.88	14.88
VOC	40.0	N/A	N/A	65.55	65.55
CO	100.0	N/A	N/A	4.63	4.63
GHG[1]	100,000	N/A	N/A	2,631.47	2,631.47
HAPs	25.0	N/A	N/A	0.09	0.09
Hexane (110-54-3)	10.0[2]	N/A	N/A	0.06	0.06
Propylene Oxide (75-56-9)	5.0[2]	N/A	N/A	0.01	0.01
Ethylene Oxide (75-21-8)	0.10[2]	N/A	N/A	0.01	0.01
Formaldehyde (50-00-0)	2.0[2]	N/A	N/A	0.01	0.01
Acetaldehyde (75-07-0)	9.0[2]	N/A	N/A	0.01	0.01
1,4-Dioxane (123-91-1)	6.0[2]	N/A	N/A	0.01	0.01
MDI (101-68-8)	0.10[2]	N/A	N/A	0.01	0.01

N/A = Not Applicable
[1]The GHG values within this table are expressed as CO_2e.
[2]This value represents the SMAL for the HAP as contained within the Missouri Air Pollution Control Program's *Table of Hazardous Air Pollutants and Screening Model Action Levels*, Revision 10 (May 3, 2012).

Uncontrolled potential installation emissions of Hexane (110-54-3), Propylene Oxide (75-56-9), Ethylene Oxide (75-21-8), Formaldehyde (50-00-0), Acetaldehyde (75-07-0), 1,4-Dioxane (123-91-1), and MDI (101-68-8) are below the SMAL; therefore, modeling was not required.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060 *Construction Permits Required*. Potential emissions of VOC are above the de minimis levels.

APPLICABLE REQUIREMENTS

The permittee 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*
- 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 10-6.075 *Maximum Achievable Control Technology Regulations*
    - 40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*
    - 40 CFR Part 63, Subpart OOOOOO – *National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources*
- 10 CSR 10-6.260 *Restriction of Emission of Sulfur Compounds*

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060 *Construction Permits Required*, I recommend this permit be granted with special conditions.

_____ _____

Alana L. Rugen, EIT Date
Environmental Engineer II

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 20, 2012 received June 6, 2012, designating Magna as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment A – Pad Production Compliance Worksheet

Excelsior Springs Seating Systems
Clay County, S10, T5N, R30W
Project Number: 2012-06-018
Installation ID Number: 047-0191
Permit Number: _____

This sheet covers the period from _____ to _____.
(month, year) (month, year)

Date (Month/Year)	Monthly Pad Production	12-Month Rolling Total Pad Production[1]	Monthly Armrest/Headrest Production	12-Month Rolling Total Armrest/Headrest Production[2]

[1]12-Month Rolling Total Pad Production = This month's Monthly Pad Production + the sum of the previous 11 month's Monthly Pad Production. **The permittee is in compliance with Special Condition 1.A if 12-Month Rolling Total Pad Production is less than or equal to 1,650,000.**

[2]12-Month Rolling Total Armrest/Headrest Production = This month's Monthly Armrest/Headrest Production + the sum of the previous 11 month's Monthly Armrest/Headrest Production. **The permittee is in compliance with Special Condition 1.B if 12-Month Rolling Total Armrest/Headrest Production is less than or equal to 500,000.**

APPENDIX A

Abbreviations and Acronyms

% ..... percent
ºF ..... degrees Fahrenheit
acfm ..... actual cubic feet per minute
BACT ..... Best Available Control Technology
BMPs ..... Best Management Practices
Btu..... British thermal unit
CAM ..... Compliance Assurance Monitoring
CAS..... Chemical Abstracts Service
CEMS ..... Continuous Emission Monitor System
CFR ..... Code of Federal Regulations
CO ..... carbon monoxide
CO_2..... carbon dioxide
CO_2e..... carbon dioxide equivalent
COMS..... Continuous Opacity Monitoring System
CSR..... Code of State Regulations
dscf ..... dry standard cubic feet
EIQ ..... Emission Inventory Questionnaire
EP..... Emission Point
EPA ..... Environmental Protection Agency
EU..... Emission Unit
fps ..... feet per second
ft ..... feet
GACT ..... Generally Available Control Technology
GHG ..... Greenhouse Gas
gpm..... gallons per minute
gr..... grains
GWP..... Global Warming Potential
HAP..... Hazardous Air Pollutant
hr..... hour
hp ..... horsepower
lb ..... pound
lbs/hr..... pounds per hour
MACT ..... Maximum Achievable Control Technology
µg/m^3..... micrograms per cubic meter
m/s ..... meters per second
Mgal ..... 1,000 gallons
MW ..... megawatt
MHDR..... maximum hourly design rate
MMBtu.... Million British thermal units
MMCF..... million cubic feet
MSDS ..... Material Safety Data Sheets
NAAQS... National Ambient Air Quality Standards
NESHAPs ..... National Emissions Standards for Hazardous Air Pollutants
NO_x..... nitrogen oxides
NSPS..... New Source Performance Standards
NSR..... New Source Review
PM ..... particulate matter
$PM_{2.5}$..... particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10}..... particulate matter less than 10 microns in aerodynamic diameter
ppm ..... parts per million
PSD ..... Prevention of Significant Deterioration
PTE..... potential to emit
RACT..... Reasonable Available Control Technology
RAL ..... Risk Assessment Level
SCC..... Source Classification Code
scfm ..... standard cubic feet per minute
SIC..... Standard Industrial Classification
SIP..... State Implementation Plan
SMAL ..... Screening Model Action Levels
SO_x..... sulfur oxides
SO_2..... sulfur dioxide
tpy ..... tons per hour
tpy ..... tons per year
VMT..... vehicle miles traveled
VOC..... Volatile Organic Compound

Mr. John Tarpley
General Manager
Excelsior Springs Seating Systems
301 S. McCleary Road
Excelsior Springs, MO 64024

RE: New Source Review Permit - Project Number: 2012-06-018

Dear Mr. Tarpley:

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 submittal of a Basic Operating Permit application 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 Alana Rugen, 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:arl

Enclosures

c: Kansas City Regional Office
PAMS File: 2012-06-018

Permit Number: