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: 062013-001

Project Number: 2012-12-027
Installation Number: 101-0023

Parent Company: EnerSys, Inc.

Parent Company Address: 2366 Bernvillle Rd., Reading, PA 19605

Installation Name: EnerSys Energy Products Inc.

Installation Address: 617 N. Ridgeview Dr., Warrensburg, MO 64093

Location Information: Johnson County, S19, T46N, R25W

Application for Authority to Construct was made for:
Replacement of an existing COS on Line #4, installation of a new COS on Line #4, and installation of four new encapsulators on Line #4. 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.

JUN 4 2013
EFFECTIVE DATE

Kyra L Moore
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.

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."

EnerSys Energy Products Inc.
Johnson County, S19, T46N, R25W

1. Superseding Condition
   The conditions of this permit supersede Special Condition 2.A found in the previously issued Construction Permit 122008-008 issued by the Air Pollution Control Program.

2. Lead Emission Limitation
   A. EnerSys Energy Products Inc. shall emit less than 0.6 tons of lead in any consecutive 12-month period from the entire installation .

   B. Attachment A or an equivalent form, such as an electronic form, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 2.A.

3. Control Device Requirement – HEPA Filter
   A. EnerSys Energy Products Inc. shall control emissions from the two COS and four encapsulators using the existing HEPA Filter CD82 as specified in the permit application.

   B. The HEPA Filter shall be operated and maintained in accordance with the manufacturer's specifications. The HEPA Filter shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them.

   C. Replacement filters for the HEPA Filter shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

SPECIAL CONDITIONS:

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

D. EnerSys Energy Products Inc. shall monitor and record the operating pressure drop across the HEPA Filter at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance specifications.

E. EnerSys Energy Products Inc. shall maintain a copy of the HEPA Filter manufacturer's performance specifications on site.

F. EnerSys Energy Products Inc. shall maintain an operating and maintenance log for the HEPA Filter 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.

4. Record Keeping and Reporting Requirements

A. EnerSys Energy Products 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.

B. EnerSys Energy Products Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project Number: 2012-12-027
Installation ID Number: 101-0023
Permit Number:

EnerSys Energy Products Inc.
617 N. Ridgeview Dr.
Warrensburg, MO 64093

Complete: May 2, 2013

Parent Company:
EnerSys, Inc.
2366 Bernvillle Rd.
Reading, PA 19605

Johnson County, S19, T46N, R25W

REVIEW SUMMARY

- EnerSys Energy Products Inc. has applied for authority to replace an existing COS on Line #4, install a second new COS on Line #4, and install four new encapsulators on Line #4.

- HAP emissions are expected from the proposed equipment. Lead compounds (20-11-1) will be emitted by the proposed equipment.

- 40 CFR Part 60, Subpart KK – *Standards of Performance for Lead-Acid Battery Manufacturing Plants* applies to the proposed equipment. The equipment would be considered three-process operations under this regulation.

- 40 CFR Part 63, Subpart PPPPPP – *National Emission Standards for HAP for Lead Acid Battery Manufacturing Area Sources* applies to the proposed equipment. The equipment would be considered three-process operations under this regulation.

- A HEPA Filter (CD82) is being used to control lead and particulate 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 particulates are conditioned below de minimis levels.

- This installation is located in Johnson 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 de minimis levels.

- Emissions testing is not required for the equipment. HEPA Filter (CD82) is an internally venting filter. As emissions are not vented to the atmosphere, no performance testing is required.

- An Intermediate Operating Permit renewal application or a Part 70 Operating Permit initial application is required for this installation by no later than August 17, 2013. The permittee shall include the new equipment in their operating permit application.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

EnerSys Energy Products, Inc. is engaged in the manufacture of specialty lead-acid batteries for various commercial and industrial applications. The facility consists of two plants, Plants 1 and 2, located at the same site in an industrial park on the east side of Warrensburg, Missouri. Some of the lead oxide used at the installation is manufactured onsite while the remainder is purchased.

The following permits have been issued to EnerSys Energy Products Inc. by the Air Pollution Control Program:

Table 1: Permit History

Permit Number	Description
0284-011A-018A	Lead acid battery plant
0885-008-009	Lead smelting furnace
0590-013	Central vacuum cleaner system, battery core drying, melting pot and filters
1090-008	New continuous grid casting process
0791-002	Lead oxide transfer from two storage silos and mixing room
1292-001	Replacement of electric melting pot (lead melting pot)
1193-001	Modify plate perforation lube system from kerosene to a "vanishing oil"
1294-012	Installation of three new grid perforators, replacement of a continuous grid caster with a continuous chill caster, and construction of a new lead manufacturing facility at the same site
0495-017	New drying oven
0196-014	Installation of additional equipment in facility permitted by 1294-012
0896-020	Transfer of existing natural gas fired COS from Plant 1 to Plant 2
092000-004	New lead acid battery manufacturing line
052001-019	Temporary permit for testing a COS machine
092000-004A	Modification of performance testing requirements
112003-012	New lead oxide manufacturing process line and replacement of an existing weight hopper within the existing paste mixing process
122004-010	Phase I of the Large VRLA Cell Assembly Line
032006-008	Phase II of the VRLA Cell Assembly Line
122008-008	Installation of new lead acid battery line
122008-008A	EP-37 burner replacement and moving Line #1 from one location to another
032006-008A	True-up of control device information

PROJECT DESCRIPTION

The permittee has requested to replace an existing COS with a new COS and install a second new COS. Both of the COSs have an MHDR of 1.1 tph. The permittee has also requested to install four new encapsulators each having an MHDR of 2.35 tph. All of the new equipment will be added to existing Line #4 and emissions will be routed to the existing internally-vented HEPA Filter (CD82).

Installation of the new equipment does not debottleneck the installation. Information contained in the confidential file, project 2013-05-005, clearly demonstrates that the encapsultor/COS lines are not the bottleneck at the installation. An exact bottleneck could not be identified, but is most likely the oxide mills, curing ovens, or formation processes.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 12.15 "Storage Battery Production" (January 1995) Background Document Table 2.3-1 for three-process operations. No emission factors were listed for PM_{10} or $PM_{2.5}$; therefore, it was conservatively assumed that all PM was $PM_{2.5}$ (and PM_{10}).

The control efficiency of the existing HEPA Filter (CD82) was taken from Permit 032006-008A to be 99.9 percent.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit 122008-008. Existing actual emissions were taken from the installation's 2012 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory *De Minimis* Levels	Existing Potential Emissions	Existing Actual Emissions (2012 EIQ)	Uncontrolled Project Potential Emissions	Controlled Project Potential Emissions
PM	25.0	N/D	N/A	557.40	0.56
PM_{10}	15.0	8.49	0.90	557.40	0.56
$PM_{2.5}$	10.0	N/D	0.08	557.40	0.56
SO_x	40.0	0.30	0.31	N/A	N/A
NO_x	40.0	54.08	3.99	N/A	N/A
VOC	40.0	179.12	43.65	N/A	N/A
CO	100.0	34.85	3.32	N/A	N/A
GHG (CO_2e)	100,000	N/D	N/A	N/A	N/A
HAP	25.0	2.27	0.01	1.10	0.001
Lead Compounds	0.6[1]	<0.6	0.01	1.10	0.001

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

[1]The SMAL for Lead Compounds (20-11-1) is 0.01 tpy. Controlled Project Potential Emissions are below the SMAL; therefore, modeling was not required.

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 particulates are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

EnerSys Energy Products 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.

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 10-6.070 *New Source Performance Regulations*
  - 40 CFR Part 60, Subpart KK – *Standards of Performance for Lead-Acid Battery Manufacturing Plants*

- 10 CSR 10-6.075 *Maximum Achievable Control Technology Regulations*
  - 40 CFR Part 63, Subpart PPPPPP – *National Emission Standards for HAP for Lead Acid Battery Manufacturing Area Sources*

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.

_____ _____

Alana L. Rugen, EIT Date
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated December 11, 2012, received December 13, 2012, designating EnerSys, Inc. as the owner and operator of the installation.

- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment A - Lead Compliance Worksheet

EnerSys Energy Products Inc.
Johnson County, S19, T46N, R25W
Project Number: 2012-12-027
Installation ID Number: 101-0023
Permit Number: _______

This sheet covers the month of ______________ .
(month, year)

Date	Emission Point	Emission Point Description	Amount of Lead Processed (tons)	Pb Emission Factor[1] (lb/ton)	Control Efficiency[2] (%)	Pb Emissions[3] (tons)

Monthly Pb Emissions[4] (tons):	
12-Month Rolling Total Pb Emissions (tons) From Previous Month's Attachment A:	
Monthly Pb Emissions (tons) from Previous Year's Attachment A:	
12-Month Rolling Total Pb Emissions[5] (tons):	

[1]Obtained from either AP-42 or stack testing.
[2]As listed within an Air Pollution Control Program issued construction permit.
[3]Pb Emissions (tons) = Amount of Lead Processed (tons) x Pb Emission Factor (lb/ton) x (1 – Control Efficiency (%)/100) x 0.0005 (ton/lb)
[4]The sum of each emission point's Pb Emissions (tons).
[5]12-Month Rolling Total Pb Emissions (tons) = 12-Month Rolling Total Pb Emissions (tons) from previous month's Attachment A – Monthly Pb Emissions (tons) from previous year's Attachment A + Monthly Pb Emissions (tons).

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 Sheet
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
tph..... tons per hour
tpy ..... tons per year
VMT..... vehicle miles traveled
VOC..... Volatile Organic Compound

Mr. Abdel Shilbaya
Environmental Specialist
EnerSys Energy Products Inc.
617 N. Ridgeview Dr.
Warrensburg, MO 64093

RE: New Source Review Permit - Project Number: 2012-12-027

Dear Mr. Shilbaya:

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 an operating permit renewal 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: 2012-12-027

Permit Number: