

Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

SEP 25 2019

Mr. Mark Childs
Plant Manager
EnerSys Energy Products, Inc.
617 N. Ridgeview Dr.
Warrensburg, MO 64093

RE: New Source Review Permit - Project Number: 2019-04-055

Dear Mr. Childs:

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 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

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, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.



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Mr. Mark Childs
Page Two

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. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM



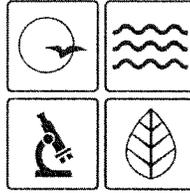
Susan Heckenkamp
New Source Review Unit Chief

SH:ahj

Enclosures

c: Kansas City Regional Office
PAMS File: 2019-04-055

Permit Number:



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: **092019-011**

Project Number: 2019-04-055
Installation Number: 101-0023

Parent Company: EnerSys Energy Products, Inc.

Parent Company Address: 2366 Bernville 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:
Installation of a pneumatic lead oxide truck unloading system to EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo at Plant #2. 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.

Director or Designee
Department of Natural Resources

SEP 25 2019

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. Permittee should notify the Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this air contaminant source. The information must be made available within 30 days of actual startup. Also, you must notify the Department's Kansas City Regional Office within 15 days after the actual start up of this air contaminant source.

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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, 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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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 to 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(3)(E). "Conditions required by permitting authority."

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

1. EP38 and EP39 Limitations
 - A. EnerSys Energy Products, Inc. shall transfer all lead oxide produced by Lead Oxide Mills 1 – 3 (EP81, EP102, and EP103) and all lead oxide received by the new lead oxide truck unloading pneumatic transfer system at Plant #2 to EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo.
 - B. EnerSys Energy Products, Inc. shall not transfer more than 60,000 pounds (30 tons) of lead oxide to EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo combined in any 8-hr period.
 - C. EnerSys Energy Products, Inc. shall limit lead emissions from EP38 Positive Oxide Transfer/Silo to less than or equal to $4.17E-4$ lb/hr.
 - D. EnerSys Energy Products, Inc. shall limit lead emissions from EP39 Negative Oxide Transfer/Silo to less than or equal to $1.86E-4$ lb/hr.
 - E. EnerSys Energy Products, Inc. shall comply with the lead emission limitations in §60.372 applicable to EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo.
 - F. EnerSys Energy Products, Inc. shall comply with the requirements in §63.11423 applicable to CD17 HEPA Filter which controls EP38 Positive Oxide Transfer/Silo.
 - G. EnerSys Energy Products, Inc. shall comply with the requirements in §63.11423 applicable to CD18 HEPA Filter which controls EP39 Negative Oxide Transfer/Silo.
 - H. Replacement filters 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). Replacement filters shall have the same or greater MERV ratings than those currently in use.

SPECIAL CONDITIONS:

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

- I. To demonstrate compliance with Special Condition 1.B, EnerSys Energy Products, Inc. shall maintain records of the lead oxide transferred to EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo using Attachment A.
2. Practically Enforceable Control Device Requirements
 - A. EnerSys Energy Products, Inc. shall control emissions from the existing emission sources in Table 1 using the specified control devices.

Table 1: Control Device Listing

Emission Source	Control Device
EP37.8 Wirtz Continuous-Caster #2	CD16A Baghouse
EP37.9 Reclaim Furnace - Lead	CD16B Baghouse
EP42.10 Line #0 COS, Melting Pot, and Support Processes COS	Internally Venting Dust Collector
EP82(COS2) Line #4 COS #2	CD82 HEPA Filter
EP82-NC4-08 Line #4 Encapsulator #8	
EP082S1 Submarine COS	CD82S Internally Venting HEPA Filter
EP082S2 Submarine Encapsulator	
EP96.1 Chill Cast Furnace - Lead	CD96 Dust Collector
EP96.2 PbSn Primary Furnace	
EP96.3 Pb Primary Furnace	
EP96.4 PbSn Reclaim Furnace	
EP96.5 Pb Reclaim Furnace	
EP96.6 Multi-alloy Strip Caster	
EP96.7 Lead Melting Pot & Lead Oxide Mills 2 & 3 Nugget Caster	
EP96.8 EMP COS	
EP101 (6) Cooling Silos and (2) Off Specification Silos	CD101 HEPA Filter
EP112.1 Positive Paster/Cutter/Stacker (Group 2)	CD112 Dust Collector
EP112.2 Negative Paster/Cutter/Stacker (Group 2)	
EP123 Line #5 COS (New Expansion, East)	CD123 Dust Collector
EP123a Line #5 (3) Encapsulators (New Expansion, East)	

- B. EnerSys Energy Products, Inc. shall comply with the lead emission limitations in §60.372 applicable to each emission source in Table 1.
- C. EnerSys Energy Products, Inc. shall comply with the requirements in §63.11423 applicable to each control device in Table 1.

SPECIAL CONDITIONS:

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

- D. Replacement filters 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). Replacement filters shall have the same or greater MERV ratings than those currently in use.
3. 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 to Missouri Department of Natural Resources' personnel upon request.
 - B. EnerSys Energy Products, Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, no later than 10 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.
4. Performance Testing
 - A. EnerSys Energy Products, Inc. shall conduct performance testing on EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo to demonstrate compliance with the lead emission limitations in Special Conditions 1.C and 1.D and §60.372.
 - B. Testing shall be performed no later than 180 days after startup of the new lead oxide truck unloading pneumatic transfer system at Plant #2.
 - C. Testing shall be conducted using EPA Test Methods 12 or 29.
 - D. Testing shall occur at a minimum lead oxide transfer/receiving rate of 6,750 lb/hr (3.375 tph).
 - E. A completed Proposed Test Plan Form shall be submitted to the Air Pollution Control Program 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.

SPECIAL CONDITIONS:

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

- F. One electronic copy of a written report of the performance test results shall be submitted to StackTesting@dnr.mo.gov within 60 days of completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.

- G. The test report is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations, specifically:
 - 1) During each performance test run EnerSys Energy Products, Inc. shall document:
 - a) For EP38:
 - (i) The lead oxide transfer/receiving rate to EP38.
 - (ii) The MERV rating of the filters in CD17.
 - (iii) The differential pressure across CD17.
 - b) For EP39:
 - (i) The lead oxide transfer/receiving rate to EP39.
 - (ii) The MERV rating of the filters on CD18.
 - (iii) The differential pressure across CD18.

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

Project Number: 2019-04-055
Installation ID Number: 101-0023
Permit Number: 092019-011

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

Parent Company:
EnerSys Energy Products, Inc.
2366 Bernville Rd.
Reading, PA 19605

Johnson County, S19, T46N, R25W

REVIEW SUMMARY

- EnerSys Energy Products, Inc. has applied for authority to install a pneumatic lead oxide truck unloading system to EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo at Plant #2
- The application was deemed complete on June 4, 2019.
- HAP emissions are expected from the proposed equipment. Lead compounds will be emitted from EP38 and EP39.
- 40 CFR Part 60, Subpart KK – *Standards of Performance for Lead-Acid Battery Manufacturing Plants* applies to EP38 and EP39. EP38 and EP39 both meet the definition of *paste mixing facility* at §60.371 and are subject to the lead emission standard at §60.372(a)(2).
- 40 CFR Part 63, Subpart P – *National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources* applies to CD17 and CD18.
- CD17 HEPA Filter is being used to control the emissions from EP38 as required by Special Condition 2.A of Construction Permit 032006-008A. CD18 HEPA Filter is being used to control the emissions from EP39 as required by Special Condition 2.A of Construction Permit 032006-008A.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060 *Construction Permits Required*. Potential project emissions of all pollutants are conditioned below the de minimis levels by Special Condition 1.
- This installation is located in Johnson County, an attainment/unclassifiable 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 Item #27 “Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act”, specifically NSPS KK. The installation's major source level is 250 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 the de minimis levels and the SMALs.
- Emissions testing is required for EP38 and EP39 as a part of this permit. Testing may also be required as part of other state, federal or applicable rules.
- The installation of the pneumatic lead oxide truck unloading system is considered an off-permit change to the installation’s Intermediate Operating Permit OP2017-057. The permittee must provide contemporaneous written notice of the off-permit change to the Air Pollution Control Program’s Compliance and Enforcement Section at P.O. Box 176, Jefferson City, MO 65102 or AirComplianceReporting@dnr.mo.gov, as well as EPA Region VII’s Enforcement and Compliance Assurance Division at 11201 Renner Blvd., Lenexa, KS 66219.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

EnerSys Energy Products, Inc. manufactures specialty lead-acid batteries for various commercial and industrial applications in Warrensburg, MO. The installation consists of two plants (Plants 1 and 2) located at the same site in an industrial park on the east side of Warrensburg, MO.

Plant 1

Lead oxide is received by truck and unloaded into either EP1 Positive Oxide Silo (North Dock) or EP2 Negative Oxide Silo (North Dock). EP1 is controlled by CD1 HEPA Filter¹. EP2 is controlled by CD2 HEPA Filter¹.

Material from EP1 is transferred to EP3 Positive Oxide Silo. EP3 is controlled by CD3 HEPA Filter¹. Material from EP2 is transferred to EP4 Negative Oxide Silo. EP4 is controlled by CD4 HEPA Filter¹.

Material from EP3 and EP4 are combined with sulfuric acid from EP10 Bulk Sulfuric Acid Tank at EP7 Dry Oxide Mixing. EP7 is controlled by CD7 Baghouse¹. EP10 is controlled by CD8 Fume Filter².

¹ Made practically enforceable by Special Condition 2 of Construction Permit 032006-008A.

² Made practically enforceable by Special Condition 3 of Construction Permit 032006-008A.

Lead ingots and lead scrap produced onsite are melted and cast into sheets by EP11 Reclaim Furnace and Chill Caster. EP11 has an MHDR of 1.05 MMBtu/hr natural gas. Process emissions from EP11 are controlled by CD6 Baghouse¹. Combustion emissions are uncontrolled.

The lead sheets are perforated by EP16, EP17, and EP18 Grid Perforators.

Pasters apply the material from EP7 to the perforated grids, which are then wound into a coil. The pasters and winders vent to EP13 Central Vacuum System, which is controlled by CD5 HEPA Filter¹.

The cells are then dried in EP19, EP20, EP21, and EP22 Drying Ovens. The drying ovens are uncontrolled emission sources. Natural gas combustion emissions from EP19 and EP20 are reported under EP25. EP25 has an MHDR of 2 MMBtu/hr. Natural gas combustion emissions from EP21 and EP22 are reported under EP30. EP30 has an MHDR of 2 MMBtu/hr.

Plant 1 also contains EP73 Central Vacuum System, which is controlled by CD23 HEPA Filter¹.

Plant 1 is capable of producing 92 batteries/hr, with each battery containing an average of 20 pounds of lead.

Plant 1 also contains the following natural gas-fired water heaters and space heaters:

Table 2: Plant 1 Natural Gas Combustion Emission Sources

Emission Source	MHDR (MMBtu/hr)
EP25 Drying Oven #1 (Gas Heater)	2
EP26 (2) Water Heaters	0.52 total
EP27 Space Heater	3.125
EP28 Space Heater	0.6
EP29 Space Heater	0.4
EP30 Drying Oven #2 (Gas Heater)	2
EP31 (5) Water Heaters	1.39 total
EP32.1 Water Heater	0.1326
EP33 Space Heater (East)	12.5
EP34 Space Heater (SE)	0.68
EP35 Space Heater (NE)	2.115

Plant 2

Plant 2's process flow is considered confidential. A process flow diagram is available in confidential project 2013-05-005. The following emission sources are associated with Plant 2:

Table 3: Plant 2 Process Emission Sources

Emission Source	Control Device
EP10 Bulk Sulfuric Acid Tank ³	CD8 Fume Filter ²
EP37.7 Wirtz Continuous-Caster #1	CD16A Baghouse ⁴
EP37.8 Wirtz Continuous-Caster #2	
EP37.9 Reclaim Furnace - Lead	CD16B Baghouse ⁴
EP38 Positive Oxide Transfer/Silo	CD17 HEPA Filter ¹
EP39 Negative Oxide Transfer/Silo	CD18 HEPA Filter ¹
EP42.7 Line #1 COS	CD21 HEPA Filter ¹
EP42.7.1 Line #1 Encapsulator #1	
EP42.7.2 Line #1 Encapsulator #2	
EP42.7.3 Line #1 Encapsulator #3	
EP42.7.4 Line #1 Encapsulator #4	
EP42.8 Line #2 COS	
EP42.8.1 Line #2 Encapsulator #1	
EP42.8.2 Line #2 Encapsulator #2	
EP42.8.3 Line #2 Encapsulator #3	
EP42.8.4 Line #2 Encapsulator #4	
EP42.9 Line #3 COS	
EP42.9.1 Line #3 Encapsulator #1	
EP42.9.2 Line #3 Encapsulator #2	
EP42.9.3 Line #3 Encapsulator #3	
EP42.9.4 Line #3 Encapsulator #4	
EP42.10 Line #0 COS, Melting Pot, and Support Processes COS	
EP42.10.1 Line #0 Encapsulator #1	CD42 HEPA Filter ¹
EP42.10.2 Line #0 Encapsulator #2	
EP42.10.3 Line #0 Encapsulator #3	
EP42.10.4 Line #0 Encapsulator #4	
EP42.10.5 Line #0 Encapsulator #5	CD21 HEPA Filter ¹
EP42.10.6 Line #0 Encapsulator #6	
EP42.10.7 Line #0 Encapsulator #7	
EP42.10.8 Line #0 Encapsulator #8	
EP43 Genesis Drying Oven #1	None
EP44 Genesis Drying Oven #2	
EP46 Central Vacuum System A	CD22 HEPA Filter ¹
EP47 Central Vacuum System B	CD23 HEPA Filter ¹
EP48 Grid Perforator #1 - VOC's (Naphtha)	None
EP49 Grid Perforator #1 - VOC's (Naphtha)	
EP50 Grid Perforator #1 - VOC's (Naphtha)	
EP74.1 Gen Drying Oven #3	
EP75.1 Gen Drying Oven #4	CD79 HEPA Filter ¹
EP79 Paste Mixing Oxide Silo 2 (Gray Oxide)	
EP81 Lead Oxide Mill #1	CD81 HEPA Filter ¹
EP82(COS1) Line #4 COS #1	CD82 HEPA Filter ¹
EP82(COS2) Line #4 COS #2	CD82 HEPA Filter ⁴
EP82-NC4-01 Line #4 Encapsulator #1	CD82 HEPA Filter ¹

³ Also used by Plant 1.

⁴ This control device was not previously practically enforceable, but is being made practically enforceable

Emission Source	Control Device
EP82-NC4-02 Line #4 Encapsulator #2	
EP82-NC4-03 Line #4 Encapsulator #3	
EP82-NC4-04 Line #4 Encapsulator #4	
EP82-NC4-05 Line #4 Encapsulator #5	
EP82-NC4-06 Line #4 Encapsulator #6	
EP82-NC4-07 Line #4 Encapsulator #7	
EP82-NC4-08 Line #4 Encapsulator #8	
EP82(OxidM) Lead Melting Pot & Lead Oxide Mill 1 Nugget Caster	CD82 HEPA Filter ¹
EP082S1 Submarine COS	CD82S Internally Venting HEPA Filter ⁴
EP082S2 Submarine Encapsulator	
EP83 Positive Mix Hopper	CD83 HEPA Filter ¹
EP84 Negative Mix Hopper	CD84 HEPA Filter ¹
EP85 Positive Mixing System	CD85 Wet Scrubber ²
EP86 Negative Mixing System	CD86 Wet Scrubber ²
EP87.1 8" Positive Paster/Cutter/Stacker	CD87 HEPA Filter ¹
EP87.2 24" Positive Paster/Cutter/Stacker	
EP87.3 8" Negative Paster/Cutter/Stacker	
EP87.4 24" Negative Paster/Cutter/Stacker	
EP94 Grid Perforator Large VRLA - VOC's (Naphtha)	None
EP95 Grid Perforator Large VRLA - VOC's (Naphtha)	
EP96.1 Chill Cast Furnace - Lead	CD96 Dust Collector ⁴
EP96.2 PbSn Primary Furnace	
EP96.3 Pb Primary Furnace	
EP96.4 PbSn Reclaim Furnace	
EP96.5 Pb Reclaim Furnace	
EP96.6 Multi-alloy Strip Caster	
EP96.7 Lead Melting Pot & Lead Oxide Mills 2 & 3 Nugget Caster	
EP96.8 EMP COS	
EP97 Grid Perforator #1 - VOC's (Naphtha)	None
EP98 Grid Perforator #7 - VOC's (Naphtha)	
EP99 Grid Perforator #5 - VOC's (Naphtha)	
EP100 Grid Perforator #6 - VOC's (Naphtha)	
EP101 (6) Cooling Silos and (2) Off Specification Silos	CD101 HEPA Filter ⁴
EP102 Lead Oxide Mill #2	CD102 Baghouse ⁵
EP103 Lead Oxide Mill #3	CD103 Baghouse ⁵
EP104 Positive Gray Lead Oxide Silo	CD104 Baghouse ⁵
EP105 Positive Gray Lead Oxide Silo	CD105 Baghouse ⁵
EP106 Central Vacuum System (South Expansion)	CD106 HEPA Filter ⁵
EP107 Central Vacuum System (East Expansion)	CD107 HEPA Filter ⁵
EP108 Positive Mix Hopper (Group 2)	CD108 Baghouse ⁵
EP109 Negative Mix Hopper (Group 2)	CD109 Baghouse ⁵
EP110 Positive Mixing System (Group 2)	CD110 Scrubber ⁶
EP111 Negative Mixing System (Group 2)	CD111 Scrubber ⁶

⁵ Made practically enforceable by Special Condition 3 of Construction Permit 122008-008

⁶ Made practically enforceable by Special Condition 5 of Construction Permit 122008-008

Emission Source	Control Device
EP112.1 Positive Paster/Cutter/Stacker (Group 2)	CD112 Dust Collector ⁴
EP112.2 Negative Paster/Cutter/Stacker (Group 2)	
EP113a Genesis Drying Oven #11 (Expansion)	None
EP114a Genesis Drying Oven #12 (Expansion)	
EP115a Genesis Drying Oven #13 (Expansion)	
EP116a Genesis Drying Oven #14 (Expansion)	
EP117a Genesis Drying Oven #15 (Expansion)	
EP118a Genesis Drying Oven #16 (Expansion)	
EP119a Genesis Drying Oven #17 (Expansion)	
EP120a Genesis Drying Oven #18 (Expansion)	
EP121a Genesis Drying Oven #19 (Expansion)	None
EP122a Genesis Drying Oven #20 (Expansion)	
EP123 Line #5 COS (New Expansion, East)	CD123 Dust Collector ⁴
EP123a Line #5 (3) Encapsulators (New Expansion, East)	
EP125a Genesis Drying Oven #21 (Expansion)	None
EP126a Genesis Drying Oven #22 (Expansion)	

Plant 2 also includes the following natural gas combustion sources, all of which are uncontrolled:

Table 4: Plant 2 Natural Gas Combustion Emission Sources

Emission Source	MHDR (MMBtu/hr)
EP36 Space Heater (SW)	4.375
EP37.7 Wirtz Continuous-Caster #1 (Melting Pot)	1
EP37.8 Wirtz Continuous-Caster #2 (Melting Pot)	1
EP37.9 Wirtz Continuous-Caster Reclaim Furnace (Lead Pot #2)	1
EP45.3 Melting Pot	1.75
EP52 Space Heater (Warehouse Expansion)	6.3
EP53 Space Heater	15
EP54 Drying Oven #1	6.8
EP55 Drying Oven #2	6.8
EP60 Water Heaters (Women's Locker Room)	0.6759
EP61 Heater #RT1 (Meeting Room East)	0.5
EP62 Heater #RT2 (Meeting Room West)	0.163
EP63 Heater #RT3 (Café East)	0.163
EP64 Heater #RT4 (Café West)	0.204
EP65 Heater #RT5 (Women's Locker Room East)	0.1
EP66 Heater #RT6 (Women's Locker West)	0.1
EP67 Heater #RT7 (MRO North)	0.75
EP68 Heater #RT8 (MRO North)	0.1
EP71 Air Make-up Unit #1	3.575
EP72 Air Make-up Unit #2	3.575
EP74.2 Genesis Drying Oven #3	1.7
EP75.2 Genesis Drying Oven #4	1.7
EP90 Space Heater (New Expansion)	0.632
EP91 Space Heater (New Expansion)	0.632
EP93 Plate Storage Heater	2.721
EP96.2a Pb Reclaim Furnace	0.75

Emission Source	MHDR (MMBtu/hr)
EP96.3a Pb Primary Furnace	1.5
EP96.4a PbSn Reclaim Furnace	0.75
EP96.5a PbSn Primary Furnace	1.5
EP96.7 Melting Pot	1.75
EP113 Genesis Drying Oven #11	1.7
EP114 Genesis Drying Oven #12	1.7
EP115 Genesis Drying Oven #13	1.7
EP116 Genesis Drying Oven #14	1.7
EP117 Genesis Drying Oven #15	1.7
EP118 Genesis Drying Oven #16	1.7
EP119 Genesis Drying Oven #17	1.7
EP120 Genesis Drying Oven #18	1.7
EP121 Genesis Drying Oven #19	1.7
EP122 Genesis Drying Oven #20	1.7
EP124 Space Heaters - (4) East Expansion and (3) South Expansion	1.05
EP125 Genesis Drying Oven #21	1.7
EP126 Genesis Drying Oven #22	1.7
EPXX Hot-Water Pressure Washers	1.065
EPXXX Make-up Air Unit (South of Maintenance Shop)	0.75

The installation currently operates under Intermediate Operating Permit OP2017-057, which expires August 2, 2022. The following New Source Review permits have been issued to EnerSys Energy Products, Inc. by the Air Pollution Control Program:

Table 5: Installation NSR 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
062013-001	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
042014-001	Installation of a new electric cross melting pot
092018-004	Installation of HSL

The installation has accepted an installation-wide lead compounds limit of 0.6 tpy to avoid NAAQS modeling. This limit also serves to make the installation a synthetic area source of the individual HAP aggregate group – lead compounds (except elemental lead) and to make the installation a synthetic minor Title V source of PM₁₀ and PM_{2.5} emissions.

The installation is also a synthetic minor Title V source of VOC.

PROJECT DESCRIPTION

EnerSys Energy Products, Inc. has applied for authority to install a pneumatic lead oxide truck unloading system to EP38 Positive Oxide Transfer/Silo and EP39 Negative Oxide Transfer/Silo at Plant #2. The pneumatic lead oxide truck unloading system will vent to the existing HEPA Filters (CD17 and CD18) on EP38 and EP39. EP38 and EP9 will continue to be subject to the plantwide 0.6 tpy lead emission limitation in Construction Permit 092018-004 after this project.

The lead oxide unloaded from trucks by the new pneumatic system will supplement the lead oxide produced by EP81, EP102, and EP103 Lead Oxide Mills. The lead oxide mills can each produce 1.25 tph of lead oxide and bottleneck Plant #2 battery production. In order to ensure that the new pneumatic lead oxide truck unloading system does not debottleneck Plant #2, the installation has accepted Special Condition 1.

The installation has previously undergone lead modeling to demonstrate compliance with Missouri's Lead RALs. The installation modeled very close to the 2 µg/m³ 8-hr lead RAL. In order to ensure that the new pneumatic lead oxide truck unloading system does not cause modeled lead emissions from EP38 and EP39 to increase, EP38 and EP39 are being limited to their previously modeled lead emission rates. Stack testing is being required to ensure that EP38 and EP39 demonstrate compliance with their lead emission rate limits after the installation of the new pneumatic lead oxide truck unloading system.

During the review of the installation's permit history, it was noted that some of the installation's existing control equipment are not practically enforceable. Special Condition 2 contains a practically enforceable requirement for the operation of the existing control equipment.

EMISSIONS/CONTROLS EVALUATION

There may be an increase in lead emissions on an hourly basis; however, the limits in Special Condition 1 ensure that there is no increase in lead emissions on an 8-hr or annual basis. This permit was required to make the limits in Special Condition 1 practically enforceable. These limits were taken to ensure debottlenecking of other equipment does not occur and to ensure the most recent lead RAL modeling remains valid. As a result of these limits, the PTE from EP38 and EP39 is expected to be the same regardless of whether the emissions are occurring due to truck unloading or transfer.

The following table provides an emissions summary for this project. Existing potential emissions of PM, PM₁₀, and PM_{2.5} were calculated based on the installation's existing 0.6 tpy lead limit. Existing actual emissions were taken from the installation's 2018 EIQ. Potential emissions of the application represent the potential emissions increase of the new equipment, assuming continuous operation (8760 hours per year).

Table 6: Emissions Summary (tpy)

Pollutant	Regulatory De Minimis Levels	Installation Existing Potential Emissions⁷	Existing Actual Emissions (2018 EIQ)	Conditioned Potential Emissions of the Project
PM	25.0	6.42	N/A	0
PM ₁₀	15.0	8.77	1.08	0
PM _{2.5}	10.0	8.34	0.99	0
SO _x	40.0	2.76	0.36	0
NO _x	40.0	50.90	4.84	0
VOC	40.0	<100 ⁸	44.31	0
CO	100.0	42.76	1.45	0
Combined HAPs	25.0	1.56	0.01	0
Hexane	10.0	0.92	N/D	0
Lead Compounds	10.0	<0.6	0.01	0

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

⁷ The existing installation PTE does not include haul roads. Fugitive emissions from haul roads do count towards major source applicability for the installation and should be determined for all future projects.

⁸ As limited by the installation's current operating permit, OP2017-057.

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 project emissions of all pollutants are conditioned below the de minimis levels by Special Condition 1.

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

- 10 CSR 10-6.050 *Start-Up, Shutdown, and Malfunction Conditions*
- 10 CSR 10-6.065 *Operating Permits*
- 10 CSR 10-6.070 *New Source Performance Regulations*
 - 40 CFR Part 60, Subpart KK – *Standards of Performance for Lead-Acid Battery Manufacturing Plants* applies to EP38 and EP39.
- 10 CSR 10-6.075 *MACT Regulations*
 - 40 CFR Part 63, Subpart P – *National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources* applies to CD17 and CD18.
- 10 CSR 10-6.110 *Submission of Emission Data, Emission Fees and Process Information*
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- 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*

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*, it is recommended that 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 April 18, 2019, received April 26, 2019, designating EnerSys Energy Products, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	Mgal	1,000 gallons
°F	degrees Fahrenheit	MW	megawatt
acfm	actual cubic feet per minute	MHDR	maximum hourly design rate
BACT	Best Available Control Technology	MMBtu	Million British thermal units
BMPs	Best Management Practices	MMCF	million cubic feet
Btu	British thermal unit	MSDS	Material Safety Data Sheet
CAM	Compliance Assurance Monitoring	NAAQS	National Ambient Air Quality Standards
CAS	Chemical Abstracts Service	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CEMS	Continuous Emission Monitor System	NO_x	nitrogen oxides
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	carbon monoxide	NSR	New Source Review
CO₂	carbon dioxide	PM	particulate matter
CO_{2e}	carbon dioxide equivalent	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
COMS	Continuous Opacity Monitoring System	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
CSR	Code of State Regulations	ppm	parts per million
dscf	dry standard cubic feet	PSD	Prevention of Significant Deterioration
EIQ	Emission Inventory Questionnaire	PTE	potential to emit
EP	Emission Point	RACT	Reasonable Available Control Technology
EPA	Environmental Protection Agency	RAL	Risk Assessment Level
EU	Emission Unit	SCC	Source Classification Code
fps	feet per second	scfm	standard cubic feet per minute
ft	feet	SDS	Safety Data Sheet
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	SSM	Startup, Shutdown & Malfunction
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		
m/s	meters per second		