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NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

APR 09 2018

Mr. John Murray
Environmental Manager
Johnson Controls Battery Group, Inc.
4722 Pear Street
St. Joseph, MO 64503

RE: New Source Review Permit Amendment – Permit Number: 062017-005A
Project Number: 2018-01-048; Installation Number: 021-0009

Dear Mr. Murray:

On January 29, 2018 the Air Pollution Control Program received your request to amend Construction Permit No. 062017-005. This permit authorized an increase in production of absorbent glass mat (AGM) batteries through the modification of existing facility processes and the installation of new equipment. Accompanying the new equipment were several baghouses and an oil mist filter, which controlled particulate matter and lead emissions. After completion of the project, Johnson Controls Battery Group, Inc. conducted a review of the expansion and identified two main differences between the construction permit plans and the as-built layout of the process equipment and control devices.

Per the requirements of Special Condition 6 of Construction Permit No. 062017-005, Johnson Controls Battery Group, Inc. has notified the Air Pollution Control Program of this modification to release parameters so that a review can be conducted to determine if the changes are significant with respect to the original Ambient Air Quality Impact Analysis for lead [*AAQIA for Johnson Controls Battery Group, Inc. – Absorbent Glass Mat Battery Production Increase Request (April 12, 2017)*]. The as-built differences are as follows:

Table 1 found in Special Condition 2 of Construction Permit No. 062017-005 shows that the equipment classified under EP-460 is controlled by Baghouse #13 and Baghouse #16. During the review of the expansion, it was discovered that the as-built construction of EP-460 also includes Baghouse #15 (which was previously associated with EP-462). Therefore, the equipment of EP-460 is separately controlled by Baghouse #13, Baghouse #15, and Baghouse #16, but all the baghouse outlets share a common exhaust point with a total flow rate equal to the sum of each baghouse (58,000 acfm).



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Special Condition 3 of Construction Permit No. 062017-005 states that Automated Post Builder 14 is controlled by Oil Mist Filter #14, which vents to EP-470. During the review of the expansion, it was discovered that the as-built construction did not include EP-470, but instead combines the outlets of Oil Mist Filter #14 and Oil Mist Filter #13 (which controls Automated Post Builder #13, as described in Construction Permit No. 052011-010). Therefore, each automated post builder is controlled by a separate oil mist filter, but the filter outlets share a common exhaust point (EP-453) with a total flow rate equal to the sum of each filter (150 acfm).

These layout differences caused a change in the release parameters that were part of the original Air Quality Impact Analysis in Construction Permit No. 062017-005. Because the changes were minimal, the original air quality analysis was updated in order to determine the ambient concentrations based on the information provided. The results show that all concentrations remain below the risk assessment levels for lead. Given this information, it was concluded that no further evaluation from an air quality analysis perspective is required. The updated Air Quality Impact Analysis was not included in a formal memorandum; however, the following table shows the results of the updated modeling analysis.

Table 1: Updated Modeling Summary

Pollutant	Modeled Impact ($\mu\text{g}/\text{m}^3$)	Risk Assessment Level ($\mu\text{g}/\text{m}^3$)	Time Period
Lead	0.6450	2	8-hour
Lead	0.3492	0.357	24-hour
Lead	0.0772	0.7	Annual

Special Conditions 2 and 3 of Construction Permit No. 062017-005 were updated to reflect the as-built layout of the process equipment and control devices. Special Condition 6 was also reinstated to include the new release parameters in the updated air quality analysis.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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.

Mr. John Murray
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If you have any questions regarding this amendment, please do not hesitate to contact Ryan Schott, at the department's 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

Kendall B. Hale

Kendall B. Hale
Permits Section Chief

KBH:rsj

Enclosures

c: Kansas City Regional Office
PAMS File: 2018-01-048

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SPECIAL CONDITIONS:

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

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Johnson Controls Battery Group, Inc.
Buchanan County (S25, T57N, R35W)

1. **Superseding Condition**
The conditions of this permit supersede Special Conditions 2, 3 & 6 found in Construction Permit 062017-005, previously issued by the Air Pollution Control Program.
2. **Control Device Requirement – Baghouse with Secondary HEPA Filter**
 - A. Johnson Controls Battery Group, Inc. shall control emissions from the equipment in the following table using baghouses with secondary HEPA filters, as specified in the permit application.

Table 1. Baghouses with Secondary HEPA Filters

Emission Point	Process Description	Control Device	Exhaust Stream
EP-425	Pasting Line & Mixer 6 Pasting Line 7 with Mixer & 1.2 MMBtu/hr oven	Baghouse 10 (36,000 acfm)	
EP-426	COS Line 11 COS Line 12 Stackers 32, 33, 34 & 35 Maintenance Shop	Baghouse 11 (42,500 acfm)	
EP-452	COS Line 13 AGM Stacker 29, 30 & 31 Central Vacuum System 2	Baghouse 12 (44,000 acfm)	
EP-460	Strip Casters 1 & 2 with Melt Pots Pellet Casters 1 & 2 with Melt Pots Dust Injection System Inspection Tables 1 & 2 Pellet Caster 3 with Melt Pot Ball Mills 10 & 11 Cooling Exhaust	Baghouse 13 (46,000 acfm)	Baghouses 13, 15 & 16 (58,000 acfm)
	Screeners 1, 2 & 3 Truck Unload	Baghouse 15 (6,000 acfm)	
	Silos 1-8	Baghouse 16 (6,000 acfm)	
EP-461	COS Line 10 AGM COS Line 14	Baghouse 14 (20,000 acfm)	
EP-475	Sovema Ball Mill 10	NF13000 Baghouse (4,500 acfm)	
EP-476	Sovema Ball Mill 11	NF13000 Baghouse (4,500 acfm)	

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SPECIAL CONDITIONS:

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

- B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouses 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 Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters 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. Johnson Controls Battery Group, Inc. shall monitor and record the operating pressure drop across the baghouses at least once per week while the plant is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Johnson Controls Battery Group, Inc. 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.
3. Control Device Requirement – Oil Mist Filter
- A. Johnson Controls Battery Group, Inc. shall control emissions from Automated Post Builder 14 using oil mist filter #14 at EP-453, as specified in the permit application.
 - B. The oil mist filter shall be operated and maintained in accordance with the manufacturer's specifications. The oil mist filter shall be equipped with a gauge or meter, which indicate the pressure drop across the control device. This gauge or meter shall be located such that Department of Natural Resources' employees may easily observe it.
 - C. Replacement oil mist 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).

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SPECIAL CONDITIONS:

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

- D. Johnson Controls Battery Group, Inc. shall monitor and record the operating pressure drop across the oil mist filter at least once every 24 hours while the plant is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Johnson Controls Battery Group, Inc. shall maintain an operating and maintenance log for the oil mist 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. Johnson Controls Battery Group, 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.
 - B. Johnson Controls Battery Group, Inc. 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 any record required by this permit shows an exceedance of a limitation imposed by this permit.
5. Modification to Release Parameters Requirement
- Johnson Controls Battery Group, Inc. shall notify the Air Pollution Control Program prior to making any modifications to the facility that impact the release parameters and/or emission rates listed in the memo, Ambient Air Quality Impact Analysis (AAQIA) for Johnson Controls Battery Group, Inc. – Absorbent Glass Mat Battery Production Increase Request (April 12, 2017) and/or the updates made in this amendment. In the event the Air Pollution Control Program determines the changes are significant, Johnson Controls Battery Group, Inc. shall submit an updated AAQIA indicating compliance with the lead RALs.