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August 18, 2017

Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

RE: East Penn Manufacturing Co., Inc. –
Comments on Proposed Rule 25 Pa. Code §129.63a –
Control of Volatile Organic Compound (VOC) Emissions from Industrial Cleaning Solvents

To Whom It May Concern:

East Penn Manufacturing Company, Inc. (EPM) is submitting comments to the Environmental Quality Board (EQB) in response to Proposed Rule 25 Pa. Code §129.63a – Control of Volatile Organic Compound (VOC) Emissions from Industrial Cleaning Solvents Rule (Proposed Rule). The Proposed Rule was published in the Pennsylvania Bulletin (Volume 47, Number 24, 47 Pa.B. 3356) on Saturday, June 17, 2017 to adopt Reasonably Available Control Technology (RACT) requirements and RACT emissions limitations for stationary sources of VOC emissions from industrial cleaning solvents that are not regulated elsewhere in 25 Pa. Code §§129 or 130. Public comments are due by August 21, 2017. EPM is submitting these comments prior to August 21, 2017. EPM has a vested interest in the final form of the Proposed Rule due to the use of industrial cleaning solvents at the Lead-Acid Battery Manufacturing Facility (i.e., Battery Facility) and because EPM recently addressed RACT for operations that use industrial cleaning solvents at the Battery Facility in response to 25 Pa. Code §§129.96 through 100 (i.e., the RACT 2 Rule) in October 2016.

Background

The Proposed Rule would establish control measures to reduce VOC emissions from industrial cleaning solvents used or applied during a cleaning activity. EQB has proposed 25 Pa. Code §129.63a to adopt VOC emissions limitations and other requirements consistent with the RACT recommendations in the U.S. EPA 2006 Control Technique Guideline (CTG) for Industrial Cleaning Solvents.

As defined by the Proposed Rule:

An industrial cleaning solvent is any solvent used or applied in a cleaning activity that is formulated with one or more regulated VOC.

A cleaning activity is the use or application of an industrial cleaning solvent to remove a contaminant, such as an adhesive, ink, paint, dirt, soil, oil or grease, by wiping, flushing, brushing, soaking, spraying or a similar effort.

Under the Proposed Rule, facilities with total combined actual VOC emissions from applicable cleaning activities equal to or greater than 2.7 tons per 12-month rolling period, before consideration of controls, must use one of the following compliance options:

- (1) Utilize compliant solvent(s): As defined in the Proposed Rule, a compliant solvent exhibits a VOC content of less than or equal to 0.42 pound of VOC per gallon of solvent (lb VOC/gal solvent) or a VOC composite vapor pressure of less than or equal to 8 millimeters of mercury (mm of Hg) at 68°F.
- (2) Install a VOC emissions capture system and add-on air pollution control device.

The EPM Battery Facility is located near the Borough of Lyons approximately 20 miles east of Reading in Berks County, Pennsylvania. The Facility consists of six battery manufacturing facilities and is the largest employer in Berks County with over 7,600 full-time employees. EPM has an established history of environmental stewardship, proactively investing in state-of-the-art air pollution capture and control systems and methods to reduce emissions to the atmosphere. Finishing Operations at the Battery Facility (i.e., TVOP No. 06-05069, Source ID 605, Battery Finishing Operations) is an important part of the manufacturing process prior to the batteries being shipped to customers. Finishing operations include battery washing, cleaning, labeling, and packaging. Battery cleaning operations at the Battery Facility (i.e., wiping the battery, as needed, with a solvent wiping solution prior to finishing and packaging) are potentially subject to the Proposed Rule.

EPM is classified as a major NO_x and VOC emitting facility, as defined in 25 Pa. Code §121.1, because facility-wide potential emissions exceed 100 tpy of NO_x and 50 tpy of VOC. On April 23, 2016, PADEP published 25 Pa. Code §§129.96 – 129.100, Additional RACT Requirements for Major Sources of NO_x and VOC, also known as the RACT 2 Rule. In October 2016 and in response to the RACT 2 Rule, EPM submitted an application for a Significant Operating Permit Modification that included an Alternative RACT and Compliance Proposal (Alternative RACT Application) to the Pennsylvania Department of Environmental Protection (PADEP). The Alternative RACT Application identified methods proposed by EPM to demonstrate compliance with RACT for emissions sources with the potential to emit more than 5.0 tons tpy of NO_x and 2.7 tpy of VOC that were not otherwise subject to a presumptive RACT 2 requirement pursuant to 25 Pa. Code §129.97. An analysis summarizing case-by-case RACT for Battery Finishing Operations at the Battery Facility was provided as part of the Alternative RACT Application. The case-by-case RACT analysis was performed in accordance with the “five-step, top-down” methodology outlined in the United States Environmental Protection Agency (U.S. EPA) Draft “New Source Review Workshop Manual”¹ and demonstrated the following:

- (1) An alternative non-VOC or low-VOC industrial cleaning solvent is technically infeasible, and
- (2) The installation of a VOC emissions capture system and add-on air pollution control device is economically infeasible.

Therefore, RACT for battery cleaning operations at the Battery Facility for emissions sources that use solvent wiping solutions (i.e., Source ID 605) was demonstrated by EPM to be good air pollution control practices. Good air pollution control practices for Source ID 605 may include but not be limited to the following:

- Strict adherence to good management procedures and standard operating procedures
- Employee training detailing good work practices to control solvent usage for minimizing emissions
- Controlled distribution of VOC containing cleaners
- Periodic evaluation of alternative solvents (i.e., low-VOC or non-VOC materials)
- Good housekeeping procedures for the storage, use, and disposal of solvents and rags
- Periodic inspection of solvents activities
- Keeping solvent containers closed when not in use
- Monitoring, recordkeeping, and reporting of solvents usage rates

The Proposed Rule includes RACT-driven requirements and RACT-equivalent emissions limitations for emissions sources that use industrial cleaning solvents and would adopt VOC emissions limitations and other requirements consistent with the RACT recommendations in the U.S. EPA 2006 CTG for Industrial Cleaning Solvents. However, by submitting the Alternative RACT Application in response to the RACT 2 Rule in 2016, EPM has already demonstrated what constitutes RACT for Source ID 605 in accordance with 25 Pa. Code §§129.96 – 100. Therefore, the EQB should revise the Proposed Rule to address

¹ U.S. EPA, “New Source Review Workshop Manual,” Oct. 1990.

emissions sources for which RACT has been proposed or demonstrated in accordance with 25 Pa. Code §§129.96 – 100. Thus, EPM is providing comments on two specific portions of the Proposed Rule as follows:

Comment No. 1: The regulation should include a specific categorical exemption to 25 Pa. Code §129.63a(c) to exclude emissions sources that have previously proposed or established RACT pursuant to the alternative RACT requirements of 25 Pa. Code §§129.96 – 100.

As currently written, the Proposed Rule includes two compliance options: (1) utilize a compliant solvent or (2) install a VOC emissions capture system and add-on air pollution control device. In the Alternative RACT Application submitted in October 2016, EPM demonstrated that the two available compliance options presented by the Proposed Rule were technically and economically infeasible for Source ID 605.

a. It is technically infeasible for EPM to use an alternative solvent wiping solution for battery cleaning operations.

EPM has investigated the availability of alternative low-VOC and/or non-VOC solvent wiping solutions. The alternative solvent wiping solutions that are currently available and have been evaluated by EPM are not technically feasible for the following reasons.

1. Alternative solvent wiping solutions can contribute to customer safety and product liability concerns.

EPM produces batteries in a variety of sizes and shapes for multiple customers with widely varying product specifications pertaining to appearance and surface cleanliness of new batteries. Source ID 605 – Battery Finishing Operations is the last step of the battery manufacturing process prior to shipment to customers. Finishing operations include battery washing, cleaning, labeling, and packaging. EPM washes and wipes each battery to remove dirt, oil, other contaminants and scuffs to meet customer specifications. Product identification and product safety/instruction labels are placed on most batteries following wiping and prior to packaging. The labels include warnings and instructions related to the proper and safe use of lead-acid batteries. The labels are applied to the batteries immediately after cleaning with the solvent wiping solution. The solvent mixture must evaporate or “flash” immediately after wiping to ensure that the labels are applied to a clean, dry surface that is free of film or residue to ensure proper adhesion. Because lead-acid batteries contain a sulfuric acid electrolyte, it is imperative that safety/instruction labels remain adhered to the surface of the battery for customer reference. Alternative solvent wiping solutions include lower volatility solvent or solvent/water mixtures resulting in reduced efficiency (i.e., more solution required) and extended battery case drying time. Labels that are applied to a wet or otherwise compromised polypropylene battery case are at risk of removal during handling or transport. Without such a label, personal injury, property damage, or environmental damage could result from mishandling or mis-use and EPM could be held liable for such damages. Such vulnerability to product liability is greatly mitigated by the use of the current solvent wiping solution that ensures proper adhesion of product labels.

2. Alternative solvent wiping solutions cannot meet stringent internal and external product cleanliness and appearance specifications.

During the battery cleaning portion of the finishing operations, each battery case is automatically washed with a detergent solution, dried, and then wiped with a solvent based cleaning solution to ensure that the finish of the final batteries meet stringent customer specifications for cleanliness and appearance. EPM uses a specific, non-abrasive, solvent wiping solution that has been carefully selected to ensure that customer specifications are continually achieved. Assuming that the solvent wiping portion of the battery cleaning operations meets the definition of cleaning activity, as defined by the

Proposed Rule, the current solvent wiping solution used by EPM cannot comply with the "compliant solvent" option of the Proposed Rule within 25 Pa. Code §§129.63a(e)(1)(i) and (ii). The battery wiping solvent solution used by EPM in Source ID 605 operations includes solvents with a low flash point. EPM uses this specific solvent wiping solution because of its unique ability to remove various cosmetic blemishes and residue from the polypropylene battery cases without leaving a residual film thereby ensuring compliance with customer specifications for cleanliness and appearance of final products.

3. *Alternative solvent wiping solutions can result in industrial hygiene and workplace safety concerns.*

The battery cleaning operations are performed manually by finishing line employees and the low-VOC and/or non-VOC alternatives that were considered by EPM present various industrial hygiene concerns. Due to the inherently lower volatility of alternative solvent wiping solutions, EPM employees involved in battery cleaning activities may be exposed to vapors over a longer time period with resulting employee exposure, discomfort, and odors. The current solvent wiping solution used by EPM is an effective, high volatility mixture that evaporates and is quickly dispersed resulting in reduced exposure. The available low-VOC and/or non-VOC alternatives also require increased application pressure and/or additional wiping to remove surface dirt and blemishes. The additional pressure and/or wiping required for the alternative solvent wiping solutions contributes to "repetitive use" ergonomic related injuries to employees. The current solvent wiping solution removes dirt and blemishes from battery surfaces quickly and efficiently with minimal exertion by employees.

b. *The use of emissions capture system and add-on air pollution control device to abate VOC emissions from battery cleaning operation is not cost effective.*

The Alternative RACT Application evaluated the economic impact incurred by EPM to install a VOC emissions capture system and add-on air pollution control device to reduce emissions associated with the use of solvent wiping solution within Source ID 605. In the Alternative RACT Application, EPM analyzed two technically feasible capture and add-on air pollution control devices (1) regenerative thermal oxidizer (RTO) and (2) RTO with an adsorption concentrator. Both of the control technologies were determined to be economically infeasible based on the direct and indirect costs of installing and operating each control technology. As submitted in the Alternative RACT Analysis, the cost of controlling emissions from Source ID 605 using an RTO was \$23,911 per ton of VOC reduced and the cost of controlling emissions from Source ID 605 using an RTO with adsorption concentration was \$21,507 per ton of VOC reduced. The cost effectiveness values developed by EPM for the two technically feasible control systems were significantly greater than the \$7,000/ton RACT value that was identified by PADEP in the comment response document for the RACT 2 Rule.

It is further noted that when considered alone, the battery finishing operation at each individual battery plant at the Battery Facility would be exempt from the Proposed Rule because VOC would be less than the 2.7 tpy applicability threshold.

The Alternative RACT Application included a case-by-case RACT analysis for battery cleaning operations and demonstrated that good air pollution control practices was RACT for Source ID 605. Therefore, the regulation should include a specific categorical exemption to 25 Pa. Code §129.63a(c) to exclude emissions sources that have previously proposed or demonstrated RACT pursuant to the alternative RACT requirements of 25 Pa. Code §§129.96 – 100.

Comment No. 2 – The proposed regulation should include an alternative compliance option under 25 Pa. Code §129.63a(e) to allow facilities to propose alternative RACT conditions to PADEP in accordance with the provisions of 25 Pa. Code §§129.96 – 100.

The CTGs developed by U.S. EPA are generally targeted towards select operations or industries as a group. There are typically instances where, because of the generic nature of RACT requirements identified in a CTG, operations or industries may have been missed in the evaluation. In this instance, the battery cleaning operations at EPM (and similar operations) were missed. By way of the Alternative RACT Application, EPM has already demonstrated that it is technically infeasible to use alternative solvent wiping solutions in battery cleaning operations and that the installation of a VOC emissions capture system and add-on air pollution control device is not cost effective. Under the Proposed Rule, the only compliance options are use of a "compliant" solvent wiping solution or installation and operation of a VOC emissions capture system and add-on air pollution control device, neither of which represent RACT for the EPM battery cleaning operations. The additional proposed compliance option will provide affected facilities, that do not "fit" the model facility addressed in the CTG, the opportunity to propose alternative RACT conditions in accordance with the alternative RACT provisions of 25 Pa. Code §§129.99 – 100.

The Alternative RACT Application included a case-by-case RACT analysis for industrial cleaning solvent operations and demonstrated that good air pollution control practices are RACT for Source ID 605. Therefore, the regulation should include a third compliance option to allow a "case-by-case" compliance option for facilities that cannot meet the available compliance options under the rule due to technical infeasibility of alternative materials and/or cost infeasibility of add-on capture/control systems.

Conclusion

Based on the information provided herein, the revisions to the exemptions and compliance options provided by EPM are warranted and EPM urges the EQB to ensure that the revisions are reflected in the final rule. EPM looks forward to continued dialog in the development of the Proposed Rule.

EPM appreciates EQB's consideration of this matter. Should you have any questions related to this submittal or require additional information please contact Mr. Troy Greiss or myself at (610) 682-6361.

Sincerely;



East Penn Manufacturing Co.
Eric G. Peffel
Senior Engineer, Air Quality

cc: Ron Harding – All4 Inc.
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