SOUTH COAST AQMD
CLERK OF THE BOARDS
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IV 7/9/24
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PETITION FOR VARIANCE
BEFORE THE HEARING BOARD OF THE
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PETITIONER: *EMD Specialty Materials, LLC* CASE NO: 6260-1

FACILITY ID: *194343*

FACILITY ADDRESS: *9433 Hyssop Dr*
[location of equipment/site of violation; specify business/corporate address, if different, under Item 2, below]

City, State, Zip: *Rancho Cucamonga, CA 91730-6107*

1. TYPE OF VARIANCE REQUESTED (more than one box may be checked; see Attachment A, Item 1, before selecting)

☒ INTERIM ☐ SHORT ☒ REGULAR ☐ EMERGENCY ☐ EX PARTE EMERGENCY

2. CONTACT: Name, title, company (if different than Petitioner), address, and phone number of persons authorized to receive notices regarding this Petition (no more than two authorized persons).

Bruce Armbruster
Directing Consultant
ALL4 Environmental CA, LLC
12505 North Mainstreet Zip *91739*
☎ (*909*) *477 - 7103* Ext.
Fax ( )
E-mail *barmbruster@all4inc.com*

Richard Corrette
Technical Director
EMD Specialty Materials, LLC
9433 Hyssop Dr Zip *91730*
☎ (*909*) *987 - 9533* Ext. *2233*
Fax ( )
E-mail *richard.corrette@arlonemd.com*

3. RECLAIM Permit ☐ Yes ☒ No Title V Permit ☒ Yes ☐ No

Persons with disabilities may request this document in an alternative format by contacting the Clerk of the Board at 909-396-2500 or by e-mail at clerkofboard@aqmd.gov.

If you require disability-related accommodations to facilitate participating in the hearing, contact the Clerk of the Board at least five (5) calendar days prior to the hearing.

[ALL DOCUMENTS FILED WITH CLERK'S OFFICE BECOME PUBLIC RECORD]

4. **GOOD CAUSE:** Explain why your petition was not filed in sufficient time to issue the required public notice. (Required only for Emergency and Interim Variances; see Attachment A, Item 4)

This petition is being filed because of the unpredicted damage to the burners associated with the oven that is believed to result in increased emissions of oxides of nitrogen beyond what is allowed by Rule 1147 and existing permit conditions. At the time the damage was identified the oven was shut down and continues to be shut down; however, the oven is an essential component of the manufacturing operations and is critical to the Facility's ability to satisfy existing contractual obligations. Upon discovering the damage the facility commenced the preparation of this Variance Petition for consideration by the Hearing Board. The increased emissions projected by operating the oven in its current state is minimal. The Facility is requesting an Interim Variance to allow normal operations to resume as quickly as possible.

5. Briefly describe the type of business and processes at your facility.

Arlon is a major manufacturer of specialty high performance laminate and prepreg materials for use in a wide variety of printed circuit board applications. Glass fabric is impregnated with epoxy and polyimide resin. The cured impregnated glass fabric is laminated with copper sheets, cut to size, and shipped to customers.

The Fiberglass Cloth Impregnating System No. 1 consists of:

1. *Fabric Unwind Stand*
2. *Splicer, with Four 1,000 Watts Heating Elements*
3. *Accumulator Rolls, 70 Linear Feet Capacity, Air Operated*
4. *Impregnation Section*
5. *Oven with Six Heating Zones*
6. *Chill Roll Section*
7. *Rewind Section*

To minimize oxides of nitrogen (NOx) emissions from the Fiberglass Cloth Impregnating System, the Oven with Six Heating Zones is equipped with six Low NOx burners.

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

6. List the equipment and/or activity(s) that are the subject of this petition (see Attachment A, Item 6, Example #1). **Attach copies of the Permit(s) to Construct and/or Permit(s) to Operate for the subject equipment. For RECLAIM or Title V facilities, attach *only* the relevant sections of the Facility Permit showing the equipment or process and conditions that are subject to this petition. You must bring the entire Facility Permit to the hearing.**

Equipment/Activity	Application/ Permit No.	RECLAIM Device No.	Date Application/Plan Denied (if relevant)*
Fiberglass Cloth Impregnating System No. 1 Consisting of: • *Fabric Unwind Stand.* • *Splicer, with Four 1000 Watts Heating Elements.* • *Accumulator Rolls, 70 Linear Feet Capacity, Air Operated.* • *Impregnation Section Consisting of: Lower Total Enclosure 17'-8" W. x 18'-5" L. x 7'-0" H., with Three 3" Dia. Infeed Rolls, Two 2' Dia. Metering Rolls, One 30 Gallon Resin Dip Tank, and One 90 Gallon Resin Sump Tank. Upper Total Enclosure 17'-5" W. x 18'-0" L. x 11'-6" H., with Crossover Section.* • *Oven with Six Heating Zones, Each 6'-0" W. x 7'-6" W. x 7'-0" L. x 7'-6" H., with Six 540000 BTU/hr, Eclipse Linnox, Model No. ULE, Low NOX Direct Fired Natural Gas Burners, With Six 3 HP Recirculation Blowers and Three Combustion Blowers.* • *Chill Roll Section with Three 8" Dia. Rolls, with a 314 HP Drive.* • *Rewind Section with Two Collector Rolls, One 1/3 HP and One ½ HP Drive Motors.*	*A/N 628689 Permit No. G65300*	*N/A*	*N/A*

*Attach copy of denial letter

7. Briefly describe the activity or equipment, and why it is necessary to the operation of your business. A schematic or diagram may be attached, in addition to the descriptive text.

The oven is integral to the impregnation process to cure the resin impregnated fiberglass substrate. The impregnation line cannot operate without the ovens .

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

8. Is there a regular maintenance and/or inspection schedule for this equipment? Yes ☒ No ☐

If yes, how often: *Various periodic inspections are performed on the equipment.*

Date of last maintenance and/or inspection 6/18/24

Describe the maintenance and/or inspection that was performed.

The facility has implemented a preventive maintenance program intended to ensure proper maintenance and operation of the oven and associated equipment. The program includes various periodic inspections (daily, weekly, monthly, and annual) and checks. The procedure includes, but is not limited to, visual checks of the burners, gas valves, natural gas pressure gauges, gas train, combustion blower, ducts, flame, and related equipment to ensure that the natural gas-fired burners are operating properly.

9. List all District rules, and/or permit conditions [indicating the specific section(s) and subsection(s)] from which you are seeking variance relief (if requesting variance from Rule 401 or permit condition, see Attachment A). Briefly explain how you are or will be in violation of each rule or condition (see Attachment A, Item 9, Example #2).

Rule	Explanation
Rule 1147(d)(1)(a)	*An operator subject to Rule 1147(d)(1)(a) is required to meet the NOx and CO emission limits in Table 1 as demonstrated by a source test until required to comply with Table 2 limits. Based on preliminary source test results it appears that the damaged burner is prohibiting the oven from meeting the 30 ppm NOx emission limit in Table 1.*
Permit No. G65300, Condition 7	*Condition 7 requires that the NOx emissions not exceed 30 ppm.*
Rule 203	*Existing permit conditions require that the operation of the equipment be conducted in accordance with all data and specifications submitted with the application under which the permit has been issued. The permit application, as identified in condition 7 of the existing permit to operate, identifies the NOx emissions from the oven burner at 30 ppm corrected to 3 percent oxygen.*

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

10. Are the equipment or activities subject to this request currently under variance coverage? Yes ☐ No ☒

Case No.	Date of Action	Final Compliance Date	Explanation

11. Are any other equipment or activities at this location currently (or within the last six months) under variance coverage? Yes ☐ No ☒

Case No.	Date of Action	Final Compliance Date	Explanation

12. Were you issued any Notice(s) of Violation or Notice(s) to Comply concerning this equipment or activity within the past year? Yes ☐ No ☒

If yes, you must attach a copy of each notice.

13. Have you received any complaints from the public regarding the operation of the subject equipment or activity within the last six months? Yes ☐ No ☒

If yes, you should be prepared to present details at the hearing.

14. Explain why it is beyond your reasonable control to comply with the rule(s) and/or permit condition(s). Provide specific event(s) and date(s) of occurrence(s), if applicable.

The facility has implemented a preventive maintenance program to ensure that the equipment is properly maintained. During recent inspections and testing some potential anomalies related to the burner operation were noted, triggering additional inspections and evaluations. During the additional inspections and evaluations additional deformation of the burner cone and related parts, beyond what is typically expected as part of normal use, were identified.

The facility attempted to make repairs to the burner, but the initial attempts were not successful. Since then, the facility continues to work with the burner manufacturer and other third-party vendors to repair or replace the damaged burner. It is not clear if the burner can be repaired; however, if it cannot be repaired a new burner must be purchased and installed. Per the burner manufacturer, the lead time for a new burner can be up to 10 months. Although the facility is working diligently to repair or place an order for a new burner, the facility does not have control over when a new burner can be made available.

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

When and how did you first become aware that you would not be in compliance with the rule(s) and/or permit condition(s)? Provide specific event(s) and date(s) of occurrence(s).

During source testing intended to satisfy the requirements of Rule 1147 conducted in May 2024 some anomalies were noted with burner operation. The source test was completed; however, as a result of the noted anomalies the facility initiated additional inspections and evaluations of the system. After conducting some initial maintenance on the burners, a decision was made to remove the burners for a more detailed inspection. The equipment was shut down.

During the week of June 7th, additional repairs were needed to the burners. Following the repairs it was determined on June 8th that more substantial repairs or a complete replacement of the burner is required, at which point the facility made the decision to pursue a variance.

16. List date(s) and action(s) you have taken since that time to achieve compliance. That the Petition Form HB-V, and any related instructions, include requirement that the Petitioner include a timeline in suitable, chronological format to address the events, dates, and actions called for by Questions 15 and 16, including the dates of communication with the South Coast AQMD to notify them of the occurrence(s) giving rise to the requested variance.

June 2024

- *May 8th Tested burner by distributor.*
- *May 13th Ordered Differential Air/Actuator.*
- *June 3rd-5th Installed actuator and tested.*
- *June 7-8th Inspected and began burner repairs.*
- *June 11th: burner was tested by outside contractor.*
- *June 17th Unit was tuned and retested by burner distributor.*
- *June 18th-Current Continuing to perform additional burner repairs.*

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

17. What would be the harm to your business during **and/or after** the period of the variance if the variance were not granted?

Economic losses: $ *8,286,195 in revenue per year (estimated)*

Number of employees laid off (if any): *6*

Provide detailed information regarding economic losses, if any, (anticipated business closure, breach of contracts, hardship on customers, layoffs, and/or similar impacts).

Because the facility cannot operate the manufacturing line no. 1 without the low NOx burners, economic losses are estimated to be $8,286,195 per year. Additionally, an estimated 6 out of 90 employees would be affected by the losses.

If the facility was not able to operate, there could be a complete reduction or elimination of products produced, which could lead to potential breach of contracts and irreparable harm to client and consumer relationships. Current client and consumers include the United States Department of Defense, European Space Agency, and other industrial facilities.

18. Can you curtail or terminate operations in lieu of, or in addition to, obtaining a variance? Please explain.

The facility must operate the oven to complete the manufacturing processes. The line that the oven is associated with represents 50% of the total production at the facility. Curtailment would impact the facility's ability to fulfill DOD and related government contracts.

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

19. Estimate excess emissions, if any, on a daily basis, including, if applicable, excess opacity (the percentage of total opacity above 20% during the variance period). If the variance will result in no excess emissions, insert "N/A" here and skip to No. 20.

Pollutant	(A) Total Estimated Excess Emissions (lbs/day)	(B) Reduction Due to Mitigation (lbs/day)	(C)* Net Emissions After Mitigation (lbs/day)
NOx	*13.59*	*N/A*	*N/A*

* Column A minus Column B = Column C

Excess Opacity: N/A %

20. Show calculations used to estimate quantities in No. 19, **or** explain why there will be no excess emissions.

Emissions Basis NOx (ppm)	Emission Factor (ppm)	Emission Factor (lb/MMSCF)	Burner Rating (MMBtu/hr)	Number of Burners	Total Burner Rating (MMBtu/hr)	Maximum Hours per Day	MMBTU/day	NOx Emissions (lbs/day)
Estimated Max	44.38	56.64	5.40	6	32.40	24	778	41.94
Permitted Max	30	38.28			32.40		778	28.35
							Difference/Excess Emissions:	**13.59**

21. Explain how you plan to reduce (mitigate) excess emissions during the variance period to the maximum extent feasible, or why reductions are not feasible.

The facility will attempt to divert as much production as possible to line 2 during the variance period to reduce the amount of time that line 1 is operated.

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

22. How do you plan to monitor or quantify emission levels from the equipment or activity(s) during the variance period, and to make such records available to the District? **Any proposed monitoring does not relieve RECLAIM facilities from applicable missing data requirements.**

The facility will monitor and record fuel usage during the variance period. Emissions will be calculated based on actual fuel usage.

23. How do you intend to achieve compliance with the rule(s) and/or permit condition(s)? Include a detailed description of any equipment to be installed, modifications or process changes to be made, permit conditions to be amended, etc., dates by which the actions will be completed, and an estimate of total costs.

The facility is actively working with the burner company to determine if the existing burner can be repaired or must be replaced. Initial repairs are in progress; however, additional testing and tuning is required before being able to determine if additional repairs or complete replacement is required. Complete replacement will require an extended amount of time to come into full compliance with the 30 ppm NOx emissions limit due to the lead time. The manufacturer currently expects a 10-month lead time for the identical replacement 30 ppm low NOx burner.

24. State the date you are requesting the variance to begin: *June 26, 2024*; and the date by which you expect to achieve final compliance: *June 1, 2025*.

If the regular variance is to extend beyond one year, you **must** include a **Schedule of Increments of Progress**, specifying dates or time increments for steps needed to achieve compliance. See District Rule 102 for definition of Increments of Progress (see Attachment A, Item 24, Example #3).

List Increments of Progress here:

N/A

[YOU MAY ATTACH ADDITIONAL PAGES IF NECESSARY]

25. List the names of any District personnel with whom facility representatives have had contact concerning this variance petition or any related Notice of Violation or Notice to Comply.

_____ Ext._____

_____ Ext._____

_____ Ext._____

If the petition was completed by someone other than the petitioner, please provide their name and title below.

Bruce Armbruster	*ALL4 Environmental CA, LLC*	*Directing Consultant*
Name	Company	Title

The undersigned, under penalty of perjury, states that the above petition, including attachments and the items therein set forth, is true and correct.

Executed on 6/26/24, at Rancho Cucamonga, California

Richard Corvette

Signature

Richard Corvette

Print Name

Title: Technical Director

FACILITY PERMIT TO OPERATE
EMD SPECIALTY MATERIALS, LLC

PERMIT TO OPERATE

Permit No. G65300
A/N 628689

Equipment Description:

Fiberglass Cloth Impregnating System No. 1 Consisting of:

1. Fabric Unwind Stand.

2. Splicer, with Four 1,000 Watts Heating Elements.

3. Accumulator Rolls, 70 Linear Feet Capacity, Air Operated.

4. Impregnation Section Consisting of:
   A. Lower Total Enclosure 17'-8" W. x 18'-5" L. x 7'-0" H., with Three 3" Dia. Infeed Rolls, Two 2' Dia. Metering Rolls, One 30 Gallon Resin Dip Tank, and One 90 Gallon Resin Sump Tank.
   B. Upper Total Enclosure 17'-5" W. x 18'-0" L. x 11'-6" H., with Crossover Section.

7. Oven with Six Heating Zones, Each 6'-0" W. x 7'-0" L. x 7'-6" H., with Six 540,000 BTU/hr, Eclipse Linnox, Model No. ULE, Low NOx Direct Fired Natural Gas Burners, With Six 3 HP Recirculation Blowers and Three Combustion Blowers.

8. Chill Roll Section with Three 8" Dia. Rolls, with a 314 H P Drive.

9. Rewind Section with Two Collector Rolls, One 1/3 HP and One ½ HP Drive Motors.

Conditions:

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
   [Rule 204]

2. This equipment shall be properly maintained and kept in good operating condition at all times.
   [Rule 204]

3. This equipment shall not be operated unless it is vented to an air pollution control equipment which is in full use and has been issued a permit by the Executive Officer.
   [Rule 1128, 1303(a)(1)-BACT, 1303(b)(2)-Offset]

4. The impregnation section (both lower and upper enclosure) shall be operated as a permanent total enclosure pursuant to EPA Method 204.
   [Rule 1303(a)(1)-BACT, 1303(b)(2)-Offset]

FACILITY PERMIT TO OPERATE
EMD SPECIALTY MATERIALS, LLC

5. The operator shall install and maintain a visible alarm indicating when the oven exhaust diverter damper or the permanent total enclosure exhaust diverter damper are venting to the atmosphere. A visible alarm shall be in place to indicate when a malfunction to the exhaust system occurs. Records shall be kept and reported indicating the date and time of each malfunction in accordance with Section K of this permit.
[Rule 430]

6. In addition to the record keeping requirements of Rule 109, the operator shall keep adequate records for this equipment to verify the daily VOC emissions in pounds and the VOC content of each material as applied (including water and exempt compounds). These records shall be prepared in a format which is acceptable to the District.
[Rule 109, 1303(b)(2)-Offset]

7. The oxides of nitrogen (NOx) emissions discharged from the oven shall not exceed 30 ppm, calculated as NO_2 by volume on a dry basis @ 3% oxygen, averaged over 30 consecutive minutes.
[Rule 1147, 1303(a)(1)-BACT]

Emissions and Requirements:

8. This equipment is subject to the applicable requirements of the following Rules and Regulations:

VOC: Rule 1128, see Appendix B for emission limits
VOC: Rule 1171, see Appendix B for emission limits
VOC: Rule 109
PM: Rule 404, see Appendix B for emission limits
PM: 0.1 gr/scf, Rule 409
CO: 2000 ppmv, Rule 407
HAP(s): 40CFR63 Subpart JJJJ, see Section J for requirements
NOx: 30 ppmv, Rule 1147
NOx: 30 ppmv, Rule 1303(a)(1)-BACT

ATTACHMENT 2 -
LOW NO_X BURNER PHOTOS

Figure 1

Figure 2

Figure 3

Figure 4