



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

## CERTIFIED

November 28, 2012

Mr. Troy Kajfasz  
Materion Brush, Inc.  
14710 West Portage River South Road  
Elmore, OH 43416

**Re: Final Director Initiated Permit Modification  
Materion Brush, Inc.  
OHD 004 212 999**

Dear Mr. Marek:

On November 28 2012, Ohio EPA issued a Director Initiated Permit Modification (Permit) to Materion Brush, Inc. (Materion) for its facility at 14710 West Portage River South Road, Elmore, Ohio 43416. The EPA Identification number for the facility is OHD 004 212 999. The Permit authorizes Materion to conduct certain remedies (implement approved corrective measures) to address contaminated soil and residual sludge at the Central Magnesium Fluoride Lagoon (Unit 4). The Ohio EPA received written comments concerning this Permit and those comments were addressed in the enclosed responsiveness summary. The final modified Permit is also enclosed. Please note that this Permit remains in effect until it is renewed, withdrawn, suspended or revoked.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Mr. Troy Kajfasz  
Materion Brush, Inc.  
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Environmental Review Appeals Commission  
77 South High Street, 17<sup>th</sup> Floor  
Columbus, OH 43215

If you have any questions, please contact Amber Hicks in our Northwest District Office at (419) 352-8461.

Sincerely,



Georgia Frakes, Management Analyst  
Materials and Waste Management

Enclosure

cc: Dustin Tschudy, DMWM, CO  
Scott Hester, DMWM, CO  
Amber Hicks, DMWM, NWDO  
Ralph McGinnis, DMWM, CO  
Todd Anderson, Legal  
Ed Lim, DERR, CO  
Darla Peelle, PIC, CO  
Colleen Weaver, DMWM, NWDO  
Gary Deutschman, DMWM, NWDO  
Mike Terpinski, DERR, NWDO



ITS Programming

# PUBLIC NOTICE RECORD

Notification Type: HAZARDOUS WASTE FACILITY PERMIT ACTION

## Entity Info

Name: Materion Brush, Inc.

Address: 14710 West Portage River South Road

City/Township/Zip: Elmore, OH 43416

County: Ottawa

Description: Hazardous Waste

## Notice Info

Weekly Review

Public Notice

Date Of Action: 11/28/2012

Notification Number: OHD004212999

Receiving Waters:

Meeting Details:

Standard Remark:

## Other Remark:

On November 28, 2012, the director of Ohio EPA issued a director initiated permit modification to Materion Brush, Inc.'s (Materion) hazardous waste facility installation and operation permit (Permit) for its facility at 14710 West Portage River South Road, Elmore, Ohio 43416. The EPA ID number for this facility is OHD004212999. Materion converts beryllium hydroxide powder from the company's mill in Delta, Utah into beryllium metal, beryllium alloys, and high-purity beryllium oxide powders. This modification authorizes Materion to conduct certain remedies (implement approved corrective measures) to address contaminated soil and residual sludge at the Central Magnesium Fluoride Lagoon (Unit 4).

OHIO E.P.A.

OHIO ENVIRONMENTAL PROTECTION AGENCY

NOV 28 2012

**MODIFIED OHIO HAZARDOUS WASTE FACILITY  
INSTALLATION AND OPERATION PERMIT**

ENTERED DIRECTOR'S JOURNAL

Date of Issuance: November 28, 2012

Effective Date: November 28, 2012

U.S. EPA ID No.: OHD 004 212 999

Ohio Permit No.: 3-62-0042

**Name of Permittee:** Materion Brush Inc.

**Mailing Address:** 14710 West Portage River South Road  
Elmore, Ohio 43416

**Facility Location:** 14710 West Portage River South Road  
Near State Routes 105 and 590  
Elmore, Ohio 43416

**Person to Contact:** Troy Kajfasz

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This Modified Ohio Hazardous Waste Facility Installation and Operation Permit is issued pursuant and subject to Section 3734.05(I) of the Ohio Revised Code and Rule 3745-50-51(J) of the Ohio Administrative Code.

The Ohio Hazardous Waste Facility Installation and Operation Permit with the above-referenced permit number, as issued by the Ohio Environmental Protection Agency and journalized on September 20, 2011, is hereby incorporated by reference in its entirety, except as it may be modified herein.

This modification of the permit shall remain in effect until such time as the Ohio Hazardous Waste Facility Installation and Operation Permit is renewed, modified, withdrawn, suspended or revoked.

The modified Terms and Conditions of this permit are attached and are incorporated herein by reference. The modified Terms and Conditions supersede and replace the corresponding pages found in the September 20, 2011, renewal permit.



Scott J. Nally  
Director

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.



Date: 11.28.2012

Ohio EPA DMWM NOV 28 2012

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## MODULE E - CORRECTIVE ACTION REQUIREMENTS

### E. CORRECTIVE ACTION SUMMARY

The Permittee began corrective action under the authority of U.S. EPA. A Visual Site Inspection (VSI) was conducted in August, 1987 and identified 37 Waste Management Units (WMUs). Of the original 37 WMUs, U.S. EPA determined that 24 WMUs should be included for further action during the RCRA Facility Investigation (RFI).

After further consideration, U.S. EPA ultimately determined that only 19 WMUs and one Area of Concern (AOC) must be included in the RCRA Facility Investigation (RFI). However, three additional WMUs were later added to the RFI, for a total of 22. These 22 WMUs and the AOC are listed in Permit Condition E.3(a) and can be found in Exhibit B-4, Volume 3 of the permit application.

Conditional approval of the RFI Workplan was provided by U.S. EPA on September 29, 1994. The Permittee submitted the final RFI Workplan on November 3, 1994. The facility investigation was conducted in two phases. Phase I was implemented between November 1994 and September 1995. The primary focus of Phase I was release verification at individual WMUs and the collection of data characterizing the environmental setting. Approximately 240 soil, sediment, sludge, groundwater, and surface water samples were collected. As a result, the facility's Interim RFI Report was submitted to U.S. EPA in September 1995. Based on the Phase I results, the Permittee elected to implement Interim Stabilization Measures (ISM) for the PCE AOC (release area) to minimize the further spread of contamination in soil and ground water and to reduce the potential threat to human health and the environment. More information concerning these actions can be found in the Final RFI Report dated August 8, 2000.

Ohio EPA DMWM NOV 28 2012

The Phase II Scope of Work (SOW) was submitted to U.S. EPA in September 1995. The primary focus of Phase II was to determine the extent of contamination and to collect data necessary to support a baseline risk assessment. The Phase II field activities began in June 1996 and ended in December 1996. Over 200 soil, sediment, sludge, groundwater, and surface water samples were collected and analyzed. Aquifer testing, sludge depth determination, ground water modeling, ecological reconnaissance inventory, and a baseline risk assessment were part of Phase II. The Permittee submitted the Final RFI Report on August 27, 1997. U.S. EPA approved the Phase II Continuation Scope of Work on October 15, 1999. The results of the Ground Water Quality Assessment Report submitted on February 16, 2000, and subsequent amendments were included in a Revised RFI Report which was submitted by the Permittee on August 25, 2000.

Upon issuance of an Ohio Hazardous Waste Facility Installation and Operation Permit Renewal (renewal permit) on June 14, 2001, Ohio EPA assumed corrective action oversight at the facility. Therefore, the Permittee must follow the work schedule in this permit and submit all required reports to Ohio EPA.

The RFI Final Report was approved by US EPA on January 19, 2001 and was approved by Ohio EPA on February 2, 2005. This report concluded that 3 waste management units must be addressed in the Corrective Measures Study (CMS) phase of the project. A fourth waste management unit, WMU No. 28, the Oil Separator Pond, was also investigated and it was subsequently determined it that it should not be included in the CMS phase. Another WMU was added in 2009 at Ohio EPA's request.

The CMS workplan was approved by Ohio EPA on May 23, 2006. The CMS workplan and implementation schedule required submittal of a Vapor Intrusion Investigation Workplan, Unit 4 Supplemental Investigation Workplan and Project Management Plan. These plans were submitted on November 13, 2006, November 20, 2006 and May 11, 2006 respectively.

On May 26, 2009, the CMS workplan was revised to incorporate an evaluation of Lagoon 5 (WMU No. 9). This revision was necessary as a condition of the SWMU No. 9 interim measures approval letter of March 4, 2009. This CMS revision was approved by Ohio EPA on September 15, 2009.

Ohio EPA approved the Unit 4 Supplemental Investigation workplan on September 13, 2007. The Supplemental Investigation Report was approved by Ohio EPA on October 29, 2010. The facility submitted the corrective measures study report for unit 4 to Ohio EPA on February 25, 2011. A second revision to the Unit 4 CMS was received November 2, 2011.

The Vapor Intrusion Investigation workplan for non-residential buildings located above a ground water plume containing volatile organic compounds (VOCs) was submitted to Ohio EPA on October 18, 2006 and was approved by Ohio EPA on August 23, 2007. Phase I and Phase II investigations were completed between August 2007 and September 2008. The facility submitted results of sub-slab soil gas sampling on August 30, 2010. Ohio EPA approved the sub-slab soil gas sampling results in a letter dated October 26, 2010.

In addition to the waste management units investigated during the RFI, Materion Brush has identified waste management units (WMU) not previously identified. These WMUs are listed in Permit Condition E.3(b). In accordance with Permit Condition E.10, information pertaining to these new WMUs has been submitted. Ohio EPA has also identified a WMU listed in Permit Condition E.3(c). Ohio EPA will review the information provided by Materion Brush for the WMUs in Permit Condition E.3, paragraphs (b) and (c). Based on the results of this review, a RCRA Facility Investigation (RFI) may be required for these new WMUs. In accordance with Permit Condition E.5 of this permit, Ohio EPA will notify Materion Brush, in writing, of the need to submit an RFI workplan or additional information for the WMUs identified in Permit Conditions E.3(b) and E.3(c).

E.1 Corrective Action at the Facility  
OAC Rules 3745-50-10 & 3745-54-101

In accordance with OAC Rule 3745-50-10 waste management unit means any discernible unit at which solid waste, hazardous waste, infectious waste (as those terms are defined in ORC Chapter 3734), constructions and demolition debris (as defined in ORC Chapter 3714) industrial waste, or other waste (as those terms are defined in ORC Chapter 6111), has been placed at any time, irrespective of whether the unit was intended for the management of waste or hazardous waste. Such units include any area at a facility at which wastes have been routinely and systematically released. For the purpose of Corrective Action, facility is defined as all contiguous property under the control of the owner or operator seeking a permit under Subtitle

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C of RCRA. The terms Interim Measure (IM), RCRA Facility Investigation (RFI), Corrective Measures Study (CMS) and Corrective Measure Implementation (CMI) are defined in U.S. EPA's Corrective Action Plan (CAP) (OSWER Directive 9902.3-2A, May 1994).

The Permittee must institute Corrective Action as necessary to protect human health and the environment for all releases of hazardous wastes or hazardous constituents from any waste management units (WMUs) at the Facility, regardless of the time at which waste was placed in such units.

E.2 Corrective Action Beyond the Facility Boundary  
OAC Rule 3745-54-101

The Permittee must implement Corrective Action beyond the Facility property boundary, where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of Ohio EPA that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such actions. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the Facility boundary where off-site access is denied. On-site measures to address such releases will be addressed under the RFI, CMS, and CMI phases, as determined to be necessary on a case-by-case basis.

E.3 Identification of WMUs  
OAC Rules 3745-50-44(D) and 3745-54-101

(a) U.S. EPA and the Permittee has identified the following WMUs (SWMUs) which have undergone investigation during the RFI:

1. North Tailings Lagoon No.1
2. North Tailings Lagoon No. 3
3. North Tailings Lagoon No. 5 / Landfill
4. Central Magnesium Fluoride Lagoon
5. South Landfill
6. Inactive Settling Lagoon No. 2 (Closed)
7. Copper Lagoon No. 3 (RCRA Closed)
8. Inactive Settling Lagoon No. 4 (Closed)
9. Active Settling Lagoon No. 5
10. Waste Lagoon No. 6 (RCRA Closed)
11. Lagoon No. 5 Storage Tank
12. Triangular Lagoon (RCRA Closed)
13. South Hyde Run Ditch
14. Oil Separator Pond
15. Alloy Make-up Pond

16. North Hyde Run Ditch
17. Alloy Cooling Pond Sludge Fill Area
18. Fluoride Furnace Rebuild Storage Pad
19. Cast Shop Skimmer Pond
20. Beryllium-Compound Contaminated Waste Drum Storage Area
21. Metallic Beryllium Contaminated Waste Drum Storage Area
22. Old Decontamination Building Solids Settling Tank
23. PCE AOC

Section 5 of the Final RFI Report lists all the WMUs presently evaluated. Exhibit B-4 is a topographical drawing which locates the WMUs. This figure can be found in Volume 3 of the Permit Application.

(b) The Permittee has also identified the following WMUs, which may undergo investigation:

1. Hazardous Waste Container Storage Building
2. Former Pad C
3. New Decontamination Building and Sump
4. Redruming in Oxide Area
5. Redruming in Whiting Area
6. Alloy By-Product Storage Pad
7. Waste Oil Drum Storage Area
8. Basins 7A, 7B, 7C
9. Basins 8A, 8B, 8C
10. Industrial Sewers
11. IWTP Sludge Staging Area
12. Trash Hopper
13. Used Graphite Storage Area
14. Used Fluorescent Bulb Satellite Accumulation Area
15. Landfill Office Septic Tank and Leach Field
16. Perchloroethylene Still Bottoms Satellite Accumulation Area at Scrap Reclamation
17. Perchloroethylene-contaminated Groundwater Satellite Accumulation Area at Perchloroethylene Spill Area
18. MEK/Collodion Waste Satellite Accumulation Area South of Sintering Airlock
19. Laboratory Solvents Satellite Accumulation Area at Analytical Laboratory
20. By-Product Storage Area West of Whiting and Alloy Offices
21. By-Product Storage Area Between Casting & ICC
22. By-Product Storage Area East of Whiting & West of W. Administration

23. By-Product Storage Area Between Resource Recovery & Outside Services
24. By-Product Storage Area Southwest of Sintering
25. By-Product Storage Area West of W. Butler Building
26. Electrical Substation No. 2

(c) Ohio EPA has identified the following WMUs, which may undergo investigation:

1. The Source Area for the Lead Waste Pile;

(d) The following WMUs are included in the IGWMP:

1. Inactive Settling Lagoon No. 2 (WMU #6) (Closed)
2. Copper Lagoon No. 3 (WMU #7) (RCRA Closed)
3. Inactive Settling Lagoon No. 4 (WMU #8) (Closed)
4. Active Settling Lagoon No. 5 (WMU #9)
5. Waste Lagoon No. 6 (WMU #10) (RCRA Closed)
6. Triangular Lagoon (WMU #17) (RCRA Closed)
7. PCE AOC (PCE Release Area)

#### E.4 Progress Reporting

Beginning the month after permit journalization, the Permittee shall submit a quarterly progress report for all corrective action activities. The report shall be due every three months by the 15th day of the month following the reporting period.

#### E.5 RCRA Facility Investigation (RFI) OAC Rule 3745-54-101

The purpose of conducting an RFI is to evaluate the nature and extent of releases of hazardous wastes and hazardous constituents from all applicable WMUs. Materion has conducted an RFI to address releases from WMUs identified in Permit Condition E.3 (a) above. Ohio EPA will notify Materion, in writing, of the need to submit an RFI workplan or additional information for the WMUs identified in Permit Conditions E.3(b) and E.3(c). In accordance with Permit Conditions E.10 and E.11, Ohio EPA will determine if an RFI is required for any newly identified WMUs. The major tasks and required submittal dates for any potential forthcoming RFIs are shown below. The scope of work for each of the tasks is found in U.S. EPA's CAP.

(a) RFI Workplan

The Permittee must submit a written RFI Workplan for any newly discovered unit(s) to Ohio EPA on a time frame established by Ohio EPA.

- (i) Within sixty (60) days of receipt of any Ohio EPA comments on the RFI Workplan, the Permittee must submit either an amended or new RFI Workplan that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Workplan. The RFI Workplan, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Workplan must be authorized by Ohio EPA.

(b) RFI Implementation

The Permittee must implement the RFI Workplan according to the terms and schedule in the approved RFI Workplan.

(c) RFI Final Report

Within sixty (60) days after the completion of the RFI, the Permittee must submit an RFI Final Report to Ohio EPA. The RFI Final Report must describe the procedures, methods, and results of the RFI. The Final Report must contain adequate information to support further decisions concerning Corrective Action at the Facility.

- (i) Within sixty (60) days of receipt of any Ohio EPA comments on the RFI Final Report, the Permittee must submit either an amended or new RFI Final Report that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new RFI Final Report. The RFI Final Report, as approved or as modified and approved, shall be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved RFI Final Report must be authorized by Ohio EPA.

E.6 Interim Measure (IM)

The following specific IM(s) have been identified by Ohio EPA:

Settling Lagoon No. 5 was identified as Unit 9 during the RFI. Lagoon No. 5 is an active settling lagoon that receives process waste water and storm water. During the week of August 4, 2008, a confirmed air release of beryllium occurred from this unit and was later attributed to dust from mowing activities along the sides of the lagoon walls. The facility has implemented a series of interim measures to prevent recurrence of beryllium releases from the lagoon. These actions include suspension of all mowing activities inside the lagoon dike walls; installation of a non-

woven geotextile and an approximately 12-inch soil layer to cover sediments along the western wall of the lagoon; and maintenance of water levels within the lagoon above the level of the sediments. These interim measures are to be maintained at Lagoon No. 5, at a minimum, until completion of the evaluation of the interim measures is complete (to be conducted subsequent to the CMS for Units 26 and 38).

Per the March 4, 2009 Interim Measures approval letter, Materion Brush is required to perform monthly inspections of the above-referenced interim measures to ensure that the geotextile/soil layer and water level within the lagoon are adequate to prevent sludge from becoming exposed along the dike wall.

In the event the RFI Final Report or other information documenting a release of hazardous waste or constituents to the environment, Ohio EPA may require (or the Permittee may propose) the development and implementation of additional IM(s) (this may include an IM Workplan) at any time during the life of the permit to mitigate or eliminate a threat to human health or the environment. The Permittee must implement the IM upon a time frame established by Ohio EPA.

#### E.7 Determination of No Further Action

##### (a) Permit Modification

Based on the results of the completed RFI or other relevant information, the Permittee may submit an application to Ohio EPA for a permit modification under OAC Rule 3745-50-51 to terminate Corrective Action tasks which are enumerated throughout Section E of the permit. Other Corrective Action tasks identified in Section E shall remain in effect. This permit modification application must conclusively demonstrate that there are no releases of hazardous waste or constituents from WMUs at the Facility that pose an unacceptable risk to human health and the environment.

If, based upon review of the Permittee's request for a permit modification, the results of the completed RFI, and other information, Ohio EPA determines that releases or suspected releases which were investigated either are nonexistent or do not pose an unacceptable risk to human health and the environment, Ohio EPA will approve the requested modification. Decisions regarding the completion of RCRA Corrective Action and no further action may be made for the entire Facility, for a portion of the Facility, or for a specific unit or release.

(b) Periodic Monitoring

A determination of no further action shall not preclude Ohio EPA from requiring continued or periodic monitoring of air, soil, ground water, or surface water, if necessary to protect human health and the environment, when site-specific circumstances indicate that a potential or an actual release of hazardous waste or constituents exists.

(c) Further Investigations

A determination of no further action shall not preclude Ohio EPA from requiring further investigations, studies, or remediation at a later date, if new information or subsequent analysis indicates that a release or potential release from a WMU at the Facility may pose an unacceptable risk to human health or the environment. In such a case, Ohio EPA shall initiate a modification to the terms of the permit to rescind the determination made in accordance with Permit Condition E.7(a). Additionally, in the event Ohio EPA determines that there is insufficient information on which to base a determination, the Permittee, upon notification, is required to develop a Work Plan and upon Ohio EPA approval of that Work Plan, perform additional investigations as needed.

E.8 Corrective Measures Study (CMS)

If Ohio EPA determines, based on the results of the RFI and any other relevant information, that corrective measures are necessary, Ohio EPA will notify the Permittee in writing that the Permittee must conduct a CMS either as described below or as described in Ohio EPA's notification to the Permittee. The purpose of the CMS will be to develop and evaluate the corrective action alternative(s) and to outline one or more alternative corrective measure(s) that will satisfy the performance objectives specified in Permit Condition E.9.

(a) CMS Workplan

The Permittee must submit a written CMS Workplan to Ohio EPA within ninety (90) days from the notification by Ohio EPA of the requirement to conduct a CMS.

- (i) Within sixty (60) days of receipt of any Ohio EPA comments, the Permittee must submit either an amended or new CMS Workplan that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Workplan. The CMS Workplan, as approved or as

modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Workplan must be authorized by Ohio EPA.

(b) CMS Workplan Implementation

The Permittee must implement the CMS Workplan according to the terms and schedule in the approved CMS Workplan.

(c) CMS Final Report

Within sixty (60) days after the completion of the CMS, the Permittee must submit a CMS Final Report to Ohio EPA. The CMS Final Report must summarize the results of the investigations for each remedy studied and must include an evaluation of each remedial alternative.

- (i) Within sixty (60) days of receipt of any Ohio EPA comments, the Permittee must submit either an amended or new CMS Final Report that incorporates Ohio EPA's comments.
- (ii) Ohio EPA will approve or modify and approve, in writing, the amended or new CMS Final Report. The CMS Final Report, as approved or as modified and approved, must be incorporated into this permit and become an enforceable condition of this permit. Subsequent changes to the approved CMS Final Report must be authorized by Ohio EPA.

E.9 Corrective Measures Implementation (CMI)

Based on the results of the CMS, the Permittee must implement one or more of the Corrective Measures authorized by Ohio EPA. Ohio EPA will authorize one or more of the Corrective Measures in the CMS, and will notify the Permittee in writing of the decision. The Corrective Measure selected for implementation must: (1) be protective of human health and the environment; (2) attain media cleanup standards; (3) control the source(s) of releases so as to reduce or eliminate further releases of hazardous waste(s) (including hazardous constituent[s]); and (4) comply with all applicable standards for management of wastes.

If two or more of the Corrective Measures studied meet the threshold criteria set out above, Ohio EPA will authorize the Corrective Measures Implementation by considering remedy selection factors including: (1) long-term reliability and effectiveness; (2) the degree to which the Corrective Measure will reduce the toxicity, mobility or volume of contamination; (3) the Corrective Measure's short-term effectiveness; (4) the Corrective Measure's implementability; and (5) the relative cost associated with the alternative.

(a) Permit Modification

Ohio EPA will initiate a permit modification, as provided by OAC Rule 3745-50-51 to require implementation of the corrective measure(s) authorized.

The Permittee must not implement the corrective measure until the permit is modified pursuant to OAC Rule 3745-50-51.

(b) Corrective Measures

Ohio EPA has determined that the combination of removal, engineering, institutional controls/environmental covenants and ground water monitoring will be effective and reliable corrective measures for Unit 4-Central Magnesium Fluoride Lagoon.

(i) The permittee shall implement corrective measures as described in Alternative ALT-U4D of the approved Corrective Measures Study, which are summarized below:

- (a) Removal of soil and residual sludge to a minimum depth of two feet.
- (b) Excavation of soil and residual sludge laterally until the lead and beryllium Preliminary Risk Goals (PRGs) of 945 mg/kg and 2,000 mg/kg, respectively, are confirmed by analytical testing
- (c) Excavation, characterization, and disposal of soils in accordance with applicable federal and state laws and regulations.
- (d) Filling and compacting of the excavated area to provide a suitable subgrade and elevation for the cover system.
- (e) Design of the cover system in general accordance with Appendix G of Ohio EPA's Closure Plan Review Guidance. Specific cover design, grading, subgrade thickness and storm sewer configuration will be identified during the Corrective Measures Implementation (CMI) phase, but is expected to contain a 20 mil-thick HDPE barrier membrane overlain by a sand drainage layer, aggregate base, and asphalt. A storm sewer will drain the cover and surrounding area and be connected to an existing storm sewer.

(ii) Within ninety (90) days of issuance of this permit modification, the Permittee must submit a ground water monitoring program for Unit 4 which contains at least the following provisions:

- (a) Ground Water Sampling Procedures including:

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- (i) sampling preparation and equipment maintenance
  - (ii) well inspection
  - (iii) ground water level measurements
  - (iv) well purging
  - (v) sample collection
  - (vi) sample labeling
  - (vii) field measurements and calibration
  - (viii) field quality/quality control
  - (ix) sample volume, preservation, containers, and holding times
  - (x) sample handling, chain-of-custody control, and shipping procedures

(b) Monitoring well installation and abandonment activities including:

- (i) installation time-frame
- (ii) installation and abandonment techniques
- (iii) construction materials
- (iv) well installation
- (v) well development
- (vi) quality control for monitor well drilling and installation
- (vii) monitor well surveying

(c) Ground Water Monitoring Program including:

- (i) monitoring overview
- (ii) parameter list
- (iii) analytical methods and practical quantitation limits (PQLs)
- (iv) statistical analysis
- (v) provisions for characterizing and responding to statistical exceedances

(c) Environmental Covenant

The Permittee must obtain an Environmental Covenant in accordance with Ohio's Environmental Covenant law, Ohio Revised Code sections 5301.80 to 5301.92, that will declare the site is restricted to industrial use only and prohibit the use of on-site ground water for potable purposes.

(d) Financial Assurance

As part of the modification of this permit to incorporate CMI, the permittee shall provide financial assurance in the amount necessary to implement the corrective measure(s) as required by OAC Rule 3745-54-101(B) and (C).

E.10 Newly Identified WMUs or Releases  
OAC Rule 3745-54-101

(a) General Information

The Permittee must submit to Ohio EPA, within 30 days of discovery, the following information regarding any new WMU identified at the Facility by Ohio EPA or the Permittee:

- (i) The location of the unit on the site topographic map;
- (ii) Designation of the type of unit;
- (iii) General dimensions and structural description (supply any available drawings);
- (iv) When the unit was operated; and
- (v) Specification of all waste(s) that have been managed at the unit.

(b) Release Information

The Permittee must submit to Ohio EPA, within thirty (30) days of discovery, all available information pertaining to any release of hazardous waste(s) or hazardous constituent(s) from any new or existing WMU.

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E.11 Corrective Action for Newly Identified WMUs and Releases  
OAC Rule 3745-54-101

If Ohio EPA determines that a RFI is required for newly identified WMUs, the Permittee must submit a written RFI Workplan to Ohio EPA upon a time frame established in written notification by Ohio EPA in accordance with Permit Condition E.5. This determination will be made based on the information submitted in accordance with Permit Condition E.10.

Further investigations or corrective measures will be established by Ohio EPA.

Permittee must make such submittal in accordance with time frames established by Ohio EPA.

E.12 Completion of Corrective Action  
OAC Rule 3745-54-101

After completing Corrective Action as necessary to protect human health and the environment for all releases of hazardous wastes or hazardous constituents from any WMUs at the Facility, the Permittee shall submit a Corrective Measures Completion of Work (CMCW) Report. The CMCW Report shall document that Corrective Action construction is complete, cleanup objectives and standards have been met, and any releases of hazardous waste or constituents no longer pose an unacceptable risk to human health and the environment. The CMCW Report may be submitted for any part of the Facility for which corrective measures are complete, or for the entire Facility. The CMCW Report must be submitted as a request for permit modification pursuant to OAC Rule 3745-50-51.

E.13 Documents Requiring Professional Engineer Stamp  
ORC Section 4733.01

Preparation of the following Corrective Action documents constitutes the "practice of engineering" as defined by ORC Section 4733.01:

Final Interim Measures Report  
Corrective Measures Final Design  
Corrective Measures Construction Completion Report  
Corrective Measures Attainment of Groundwater Performance Standards Report  
Corrective Measures Completion of Work Report  
As such, the Permittee must ensure that these documents, as submitted to Ohio EPA, are stamped by a Professional Engineer licensed to practice in the State of Ohio.

E.14 Unit 4 Compliance Schedule

The Permittee shall make the following submittals in accordance with the table below:

Unit 4 Corrective Measures Final Design	Within 90 days of the effective date of permit modification
Unit 4 Ground Water Monitoring Plan	Within 90 days of the effective date of permit modification
Financial Assurance	To be provided within 180 days of the effective date of permit modification
Provide Evidence of Recording of Environmental Covenants	To be provided with Unit 4 Corrective Measures Construction Completion Report
Unit 4 Corrective Measures Construction Completion Report	Within 60 days of completion of construction



Ohio EPA DMWM NOV 28 2012

## Division of Materials and Waste Management

### Response to Comments

**Project: Materion Brush Inc., Director Initiated Permit Modification**  
**Ohio EPA ID #: OHD 004 212 999**

#### Agency Contacts for this Project

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Ohio EPA held a comment period beginning on July 31, 2012, regarding a draft permit modification initiated by Ohio EPA. This document summarizes the comments and questions received during the associated comment period, which ended on September 14, 2012.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

#### Comments from Materion Brush Inc.

**Comment 1:** Permit Condition E.9(b)(i) identifies the remedy selected for implementation. Ohio EPA has summarized the selected remedy in (a) through (e) of this condition. Materion Brush Inc. understands the difficulty in reducing a lengthy corrective measures study document into a few bullets for inclusion in the modified permit. For the sake of clarification, and to avoid reading ambiguity into the final permit, Materion Brush Inc. suggests that the permit references the approved corrective measures study document in this permit condition. By doing

so, the reader can reference the corrective measures study document where more detail is necessary. Materion Brush Inc. believes this can be easily accomplished by making the following change to this condition:

**“The permittee shall implement corrective measures as described in Alternative ALT-U4D of the approved Corrective Measures Study, which are summarized below:”**

Response 1: Ohio EPA agrees that the added text would help clarify Permit Condition E.9(b)(i) and has changed the condition accordingly.

Comment 2: Permit Condition E.9(b)(ii) requires submittal of a ground water monitoring program within 45 days of permit issuance. Based on extensive experience in developing ground water monitoring programs with Ohio EPA, Materion Brush Inc. believes that 45 days is not sufficient time to produce an adequate program. Materion Brush Inc. asks that this condition be changed to allow submittal of the ground water monitoring program within 90 days of the final permit issuance. This will allow sufficient time to discuss and come to agreement with Ohio EPA on key program elements such as well location, constituent lists and statistical analysis.

Response 2: Ohio EPA agrees that the request for an additional 45 days to develop and submit a ground water monitoring program is reasonable due to the complexity of the task. The final permit modification has been changed to allow submittal of the ground water monitoring program within 90 days of permit issuance.

Comment 3: Permit Condition E.9(c) requires Materion Brush Inc. to obtain an Environmental Covenant as a component of the final remedy. As this condition does not establish a timeframe in which to record the covenant, Materion Brush Inc. proposes that evidence of recording of the covenant be submitted with the construction completion report. Materion Brush Inc. suggests incorporating this milestone into a compliance schedule as described in comment number 6 below.

Response 3: Ohio EPA agrees that establishing the suggested timeframe for recording the environmental covenant would be beneficial to the permittee and Ohio EPA. Permit Condition E.14 has been added to the permit as suggested in Comment 6 below. The added permit condition establishes timeframes for submittal of all required

documentation for implementation of the selected remedy, including the requirement to provide evidence of recording the environmental covenant with the construction completion report.

**Comment 4:** Permit Condition E.9(d) requires that Materion Brush Inc. provide financial assurance to implement the selected remedy. Please note that the regulatory citation provided for this condition (OAC Rule 3745-55-011 (b) and (c)) does not exist; Materion Brush Inc. understands that this is likely a typographical error and the correct reference is likely OAC Rule 3745-54-101 (B) and (C). Materion Brush Inc. requests that this citation be corrected in the final modified permit.

Response 4: Ohio EPA has corrected the reference.

**Comment 5:** Permit Condition E.9(d) requires that Materion Brush Inc. provide financial assurance to implement the selected remedy. As this condition does not establish a specific timeframe in which to provide financial assurance, Materion Brush Inc. proposes that financial assurance be provided within 180 days of the effective date of the permit. This will allow Materion Brush Inc. to include the financial assurance demonstration with the annual financial assurance update already required by Permit Condition B.37 and OAC Rule 3745-55-43(F)(5), thus reducing the administrative burden of submitting financial assurance documentation twice within a six month period. In addition, by establishing the due date as requested, Materion Brush Inc. will be able to incorporate up-to-date cost estimates for corrective measures which will not be available until the final design is completed. Materion Brush Inc. suggests incorporating this milestone into a compliance schedule as described in comment number 6 below.

Response 5: Ohio EPA agrees that allowing 180 days to provide financial assurance is reasonable. Permit Condition E.14 has been added to the permit as suggested in Comment 6 below. The added permit condition establishes timeframes for submittal of all required documentation for implementation of the selected remedy, including the requirement to provide financial assurance for the selected corrective measures within 180 days of the effective date of this permit modification.

**Comment 6:** The draft permit, with the exception of condition E.9(b)(ii), does not establish timeframes for implementation of the

selected remedy. Materion Brush Inc. believes that both Ohio EPA and Materion Brush Inc. could benefit from a more explicit schedule for submittal of all required documentation for implementation of the selected remedy. Such a schedule will ensure that both organizations will understand when project deliverables are due. Materion Brush Inc. requests the inclusion of the following condition in the final permit:

#### E.14 Unit 4 Compliance Schedule

The permittee shall make the following submittals in accordance with the table below:

Unit 4 Corrective Measures Final Design	Within 90 days of the effective date of permit modification
Unit 4 Ground Water Monitoring Plan	Within 90 days of the effective date of permit modification
Financial Assurance	To be provided within 180 days of the effective date of permit modification
Provide Evidence of Recording of Environmental Covenants	To be provided with Unit 4 Corrective Measures Construction Completion Report
Unit 4 Corrective Measures Construction Completion Report	Within 60 days of completion of construction

Response 6:

Ohio EPA agrees that adding the suggested Permit Condition E.14 would be beneficial to both the Permittee and Ohio EPA. The permit condition has been added to the permit.

**End of Response to Comments**