



State of Ohio Environmental Protection Agency

**Southeast District Office**

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Logan, Ohio 43138

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Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

May 27, 2010

**WASHINGTON COUNTY  
CYTEC INDUSTRIES INC.  
RCRA-LDF  
OHD004341509  
04-84-0023**

Mr. Anton Marek  
Director, Remediation  
Environmental Services Department  
Cytec Industries Inc.  
5 Garret Mountain Plaza  
Woodland Park, NJ 07424

Dear Mr. Marek:

On May 3, 2010, Ohio EPA inspected Cytec's Marietta facility to determine compliance with Ohio's hazardous waste laws as found in Chapter 3734. of the Ohio Revised Code (ORC), Chapter 3745. of the Ohio Administrative Code (OAC) and Cytec's Part B hazardous waste permit. Mr. Rick Petty of Kemron Environmental Services and you accompanied Scott Bergreen and me during the inspection, which included an overview of facility operations and a review of written documentation.

I found the following violations of Ohio's hazardous waste laws and/or Cytec's Part B permit. In order to correct these violations, you must do the following and send me the required information **within 30 days** of the date of this letter:

- (1) Permit Condition B. 5 and OAC Rule 3745-54-15 (A)and(D), General Inspection Requirements:** **(A)**The owner/operator must inspect the facility for malfunctions and deterioration, operator errors and discharges which may be causing or may lead to a release of hazardous constituents to the environment or is a threat to human health. The owner/operator must follow a written schedule; **(B)** inspection logs must include the following information: the date and time of the inspection, name of inspector, notation of observations made, and the date and nature of any repairs or other remedial actions.

During the inspection, we observed that a pipe leading from the Equalization Tank and/or Spill Basin (SWMUs #21 and 22) had failed, draining wastewater from one or both of these tanks into a sump located below them. It was later determined that the sump led to the Marietta POTW. Cytec was unable to determine how long this pipe was leaking. As a result, **(A)** Cytec personnel or their designated representative failed to adequately inspect the facility wastewater treatment system for malfunctions or deterioration in accordance with Table F2 of the permit application. **(B)** In general, Cytec failed to include on their inspection checklists the date and nature of any repairs or other remedial actions.

In order to abate these violations, Cytex must (A) determine why inspections were not being conducted adequately by personnel, and begin to inspect and record the WWTP weekly in accordance with their permitted inspection schedule; and (B) In general, revise all company inspection checklists to include a notation of corrective actions taken. In addition, Cytex must, pursuant to section (C) of the above-cited rule, provide to this office a summary of the conditions which led to the release of tank liquids, and actions taken to remedy the deterioration.

#### GENERAL COMMENTS

- (a) During the inspection, Ohio EPA observed a drum of soda ash located in the truck unloading station of the WWTP. In accordance with our recommendation, Cytex relocated this drum to a nearby storage shed in order to prevent any potential spillage, should the drum leak or spill in the future.
- (b) Cytex should take steps to re-seed the eastern end of the cap of Pond 1, as minor erosion was beginning to occur at the corner between the cap and the WWTP.
- (c) Cytex should abandon old SVE test wells in the old west tank farm area as soon as practicable. A cap should be replaced on one of the wells if the wells will be left in place for an extended time.

Enclosed you will find a copy of the checklists that were completed as a result of the inspection. Should you have any questions, please feel free to call me at 740-380-5293. You can find copies of the rules and other information on the division's web page at <http://www.epa.state.oh.us/dhwm>.

Sincerely,



Donna Goodman  
Inspector  
Division of Hazardous Waste Management

DG/mlm

Enclosures

**NOTICE:**

***Ohio EPA's failure to list specific deficiencies or violations in this letter does not relieve your company from having to comply with all applicable regulations.***

Send to Central Office <input checked="" type="checkbox"/>	<b>Ohio Environmental Protection Agency</b> <b>RCRA SUBTITLE C SITE</b> <b>IDENTIFICATION/VERIFICATION FORM</b>	For Ohio EPA use only
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Completed verification forms required to be submitted to CO should be e-mailed to [kristina.durnell@epa.state.oh.us](mailto:kristina.durnell@epa.state.oh.us).

<b>Site EPA ID No.</b>	EPA ID Number: OHD004341509	
<b>Site Name</b>	Name: Cytec Industries Inc.	Website: (Optional)
<b>Site Location Information</b>	Street Address: 1405 Greene Street	
	City, Town, or Village: Marietta	State: OH
<b>Site Land Type</b> (check only one)	County Name: Washington	
<b>NAICS code(s)</b> <a href="http://www.census.gov/epcd/www/naics.html">www.census.gov/epcd/www/naics.html</a>	Private <input checked="" type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/>	Zip Code: <b>45750</b> Indian <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other <input type="checkbox"/>
	325132	
<b>Facility Representative</b>	First Name: Anton	MI:                      Last Name: Marek
Additional names can be recorded in number 12	Phone Number (973) 569-4009	Phone Number Extension:
Only provide address information if it is different than the site address	E-Mail Address: anton.marek@cytec.com	
	Fax Number: (973)569-4011	Fax Number Extension:
	Street or P.O. Box: 5 Garret Mountain Plaza	
	City, Town or Village: Woodland Park	State: NJ
		Zip Code: 07424
<b>Legal Owner And Operator of the Site.</b>	Name of Site's Legal Owner: Cytec Industries Inc.	
List Additional Owners and/or Operators in the Comment Section or on another copy of this form page	Date Became Owner (mm/dd/yyyy):	
	Owner Type: Private <input checked="" type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Indian <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other <input type="checkbox"/>	
	Street or P.O. Box: 5 Garret Mountain Plaza	
	City, Town or Village: Woodland Park	Owner Phone #: (973)569-4011
	State: NJ	Country:                      Zip Code: 07424
	Name of Site's Operator: Cytec Industries Inc.	
	Date Became Operator (mm/dd/yyyy):	
	Operator Type: Private <input checked="" type="checkbox"/> County <input type="checkbox"/> District <input type="checkbox"/> Federal <input type="checkbox"/> Indian <input type="checkbox"/> Municipal <input type="checkbox"/> State <input type="checkbox"/> Other <input type="checkbox"/>	
	Street or P.O. Box: 5 Garret Mountain Plaza	
	City, Town or Village: Woodland Park	Operator Phone #: (973)569-4011
	State: NJ	Country                      Zip Code: 07424

**VIOLATIONS CITED?**     Yes     No

**TYPE OF HANDLER - MARK "X" AS APPROPRIATE**

<input type="checkbox"/> Not a HW Generator	<input type="checkbox"/> UNKNOWN: Cited for violation of 3745-52-11	<input type="checkbox"/> Large Quantity Generator (LQG)
		<input type="checkbox"/> Small Quantity Generator (SQG)
		<input type="checkbox"/> Conditionally Exempt Small Quantity Generator
		<input type="checkbox"/> U.S. Importer of Hazardous Waste
		<input type="checkbox"/> Mixed Waste (Hazardous and Radioactive) Generator

**TYPE OF REGULATED WASTE ACTIVITY (MARK "X" IN ALL OF THE APPROPRIATE BOXES)**

<input type="checkbox"/> Recycler of Hazardous Waste	<input type="checkbox"/> Exempt Boiler and/or Industrial Furnace
<input type="checkbox"/> Underground Injection Control Facility	<input type="checkbox"/> Small Quantity On-Site Burner Exemption
<input type="checkbox"/> Hazardous Waste Transporter	<input type="checkbox"/> Smelting, Melting, Refining Furnace Exemption
<input checked="" type="checkbox"/> Treater, Storer or Disposer of Hazardous Waste	

**UNIVERSAL WASTE ACTIVITIES (INDICATE TYPES OF UNIVERSAL WASTE MANAGED)**  
(CHECK ALL BOXES THAT APPLY)

- Small Quantity Handler of Universal Waste  Destination Facility for Universal Waste  
 Large Quantity Handler of Universal Waste  
(accumulates 5,000 kg. or more)

**CHECK ALL BOXES BELOW THAT APPLY FOR THE TYPES OF UNIVERSAL WASTE THE FACILITY MANAGES**

- Batteries  
 Pesticides  
 Mercury containing equipment  
 Lamps

**USED OIL ACTIVITIES (INDICATE TYPE(S) OF ACTIVITY(S))**

- Used Oil Generator  
 Used Oil Transporter  
 Used Oil Transfer Facility  
 Used Oil Processor  
 Used Oil Re-refiner  
 Off-Specification Used Oil Burner  
 Used Oil Fuel Marketer Who Directs Shipment of Off-Spec. Oil  
 Used Oil Fuel Marketer to Off-Specification Used Oil Burner

**Waste Codes for Federally Regulated Hazardous Wastes.** Please list the codes for the federally regulated hazardous waste handled at the site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page or list them in the comments if more space is needed. If the waste codes are the same as listed in the most recent RCRAInfo source record, you do not need to list them. Instead just indicate the date of the most recent source record.

**COMMENTS: USE THIS AREA TO DESCRIBE WHETHER THE INSPECTION WAS ANNOUNCED, WHETHER THE WASTE IS STORED IN TANKS OR CONTAINERS, ETC.**

Announced  Yes  No Additional Facility Representatives:  
Tanks  Yes  No  
Containers  Yes  No

Name of Inspector(s)  
**Donna Goodman**

Name of Inspector(s)  
**Scott Bergreen**

Date of Inspection/Time  
(mm/dd/yyyy) (hh:mm)  
05/03/10

**Comments:**

**PROCESS, WASTE, P2 SUMMARY SHEET**

<b>Facility Name:</b> Cytex Industries Inc.	<b>Facility Type:</b> Non - Generator	<b>Date of Inspection:</b> 05/03/10	<b>EPA ID #:</b> OHD004341509
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<b>Waste Generated</b>			<b>On- or Off-Site Management</b>		<b>P2 Activities</b>	
<b>Process/Activity Generating Waste</b> (e.g. plating bath, machining, baghouse, painting, general maintenance, etc)	<b>Waste Description</b> (e.g. sludge, solvent, ash, used oil, spent lamps, etc.) and EPA Waste Code, if applic.	<b>QTY Generated per Month, Type of Accumulation</b> (container, tank, etc) and location of waste accumulation area	<b>Type of On-Site Treatment</b> (recycle, wwt, etc)	<b>Name, state, and type of activity occurring at the off-site facility.</b>	<b>Current P2 Activities</b>	<b>P2 Opportunities</b>
1	Cytex did not generate or ship any hazardous waste for the time period covered by this inspection					

## REMARKS-GENERAL INFORMATION

### **General Process Information:**

The Cytec Industries (FKA American Cyanamid) facility is located at 1405 Greene Street in Marietta, Washington County. Industrial activity was initiated at the site in 1915 and included the extraction of chemicals from wood chips to manufacture dyes. Different companies operated at the site until 1946, when American Cyanamid purchased the facility and operated it as a specialty chemical manufacturing plant. Some of the specialty chemicals manufactured at the plant included rubber additives, ultraviolet absorbers, DDT and other pesticide products, flame retardants, and a rocket fuel burn regulator. At the present time, the facility has completed closure of Pond 1 and Pond 2, and Cytec is conducting post-closure care of these units. All industrial operations have been terminated by Cytec at the plant. In April, 2008, Cytec leased building 10 to a third party who conducts toll processing (milling, blending and packaging) of dry solid materials for use at Cytec's Willow Island, WV plant. This company will soon be closing moving operations to another location in Belpre. As a result of the long industrial operations at Cytec, several solid waste management units and areas of concern have been identified which are being addressed under the RCRA corrective action program.

As required by the Part B permit, Cytec submitted a sitewide RFI Report to Ohio EPA in September, 2004, which Ohio EPA approved in a letter to Cytec dated May 3, 2005. On June 16, 2008, Cytec received approval of the CMS Report.

### **Regulatory/Enforcement History:**

Cytec has a part B permit for closure, post-closure, and corrective action activities effective on June 18, 2004. The last compliance evaluation inspection was conducted at Cytec on January 15, 2009.

### **Other:**

During the past year, Cytec did not generate or ship any hazardous waste from the Marietta facility.

**OHIO PART B PERMITTED FACILITY  
RCRA INSPECTION CHECKLIST**

Facility: Cytec Industries Inc.

Address: 1405 Greene Street

City/State/Zip: Marietta, OH 45750 County: Washington

Facility Phone: (740) 374-7171

Ohio Permit No: 04-84-0023 U.S. EPA ID: OHD004341509

Inspection Date: 05/03/10 Time: 9:30 a.m. - 12:15 p.m.

Advance notice of inspection given? YES  NO

If so, how far in advance? One week

	Name	Agency	Phone#
Inspectors:	Scott Bergreen	Ohio EPA	(740) 380-5288
	Donna Goodman	Ohio EPA	(740) 380-5293
Facility Representative(s):	Rick Petty	Kemron	(740) 373-4308
	Tony Marek	Cytec	(973) 569-4009

Is facility operating as a generator? YES  NO \*

\* During the time period covered by this inspection, Cytec did not generate or ship any hazardous waste.

If so, complete the applicable sections of the Generator Requirements Checklist for wastes being managed under generator status.

**PERMIT STATUS**

Permit Issued: June 18, 2004  
Permit Effective Date: June 18, 2004  
Permit Expiration Date: June 18, 2014

AUTHORIZED ACTIVITIES					
STORAGE		TREATMENT		DISPOSAL	
<input type="checkbox"/>	Container	<input type="checkbox"/>	Tank	<input type="checkbox"/>	Injection Well
<input type="checkbox"/>	Tank	<input type="checkbox"/>	Surface Impoundment	<input type="checkbox"/>	Landfill
<input type="checkbox"/>	Waste Pile	<input type="checkbox"/>	Incinerator	<input type="checkbox"/>	Land Application
<input type="checkbox"/>	Surface Impoundment	<input type="checkbox"/>	Thermal Treatment	<input type="checkbox"/>	Surface Impoundment

NOTE: Cytec is permitted for closure, post-closure, and corrective action activities.

**GENERAL PERMIT COMPLIANCE AND ACTIVITIES**

1. Has the expiration date of the permit passed? If so, Yes No N/A \_\_\_RMK#
- a. Is the permittee continuing any activity regulated by the permit after the expiration date of the permit? Yes No N/A \_\_\_RMK#
- b. Has the facility submitted an application for a permit renewal to the Director no later than 180 days prior to the expiration date of the permit? (or upon a later date if the permittee can demonstrate good cause for late submittal) [Condition A.6.(a)] Yes No N/A \_\_\_RMK#

**NOTE:** The Permittee may continue to operate in accordance with the terms and conditions of the expired permit until a renewal permit is issued or denied if:

- i. The Permittee has submitted a timely and complete application for a renewal permit under OAC rule 3745-50-40. [Condition A.6.(b)(i)]; and
- ii. Through no fault of the Permittee, a new permit has not been issued pursuant to OAC rule 3745-50-40 on or before the expiration date of the permit. [Condition A.6.(b)(ii)]

2. Has the Permittee submitted the annual permit fee, payable to Treasurer, State of Ohio to Ohio EPA on or before the anniversary of the date of issuance during the term of the permit? [Condition A.26] Yes No N/A \_\_\_RMK#
3. Is the Permittee conducting any hazardous waste management activities (not otherwise exempt by law) which are not authorized by the permit? [Condition A.1.(b) and A.5] Yes No N/A \_\_\_RMK#
4. Have any provisions of the permit been identified as invalid? [Condition A.4] Yes No N/A \_\_\_RMK#
5. Has the facility identified any instances of noncompliance with the permit, ORC Chapter 3734. or the rules adopted thereunder, which may endanger human health or the environment? If so: Yes No N/A \_\_\_RMK#
- a. Did the facility immediately report the following to Ohio EPA's Emergency Response Section: [Condition A.20(b)]

- i. Information concerning a release of any hazardous waste that may cause an endangerment to public drinking water supplies.  Yes  No  N/A \_\_RMK#
- ii. Information concerning a release of hazardous waste, fire, explosion at the facility which could threaten human health or the environment, including a description of:
- a. Name, address and telephone number of the owner/operator?  Yes  No  N/A \_\_RMK#
- b. Name, address and telephone number of the facility?  Yes  No  N/A \_\_RMK#
- c. date, time, and type of incident  Yes  No  N/A \_\_RMK#
- d. Name and quantity of material(s) involved?  Yes  No  N/A \_\_RMK#
- e. The extent of injuries, if any?  Yes  No  N/A \_\_RMK#
- f. An assessment of the actual or potential hazard to the environment and human health inside and outside the facility where applicable?  Yes  No  N/A \_\_RMK#
- g. Estimated quantity and disposition of recovered material that resulted from the incident?  Yes  No  N/A \_\_RMK#
6. Did the Permittee provide a written report to Ohio EPA's Emergency Response Section within five days of the time the Permittee became aware of the circumstances reported in Question No. 5? [Condition A.21] If so, did the report contain:
- a. A description of the noncompliance (including exact dates and times)?  Yes  No  N/A \_\_RMK#
- b. Whether the noncompliance has been corrected and if not, the anticipated time noncompliance is expected to continue?  Yes  No  N/A \_\_RMK#
- c. Steps taken or planned to minimize the impact on human health and the environment and to  Yes  No  N/A \_\_RMK#

reduce and prevent recurrence of the noncompliance?

7. Has the Permittee expeditiously taken all steps necessary to minimize or correct any adverse impact on the environment or public health resulting from noncompliance with the permit? [Condition A.8] Yes No N/A \_\_RMK#
8. Has the Permittee identified any other instances of noncompliance not provided for in Question No. 5?, If so:
- a. Did the Permittee report these instances to the Director within a month of becoming aware of the noncompliance? [Condition A.22.] Yes No N/A \_\_RMK#
- b. Do the reports provided contain the information set forth in Condition A.20? [Condition A.22.] Yes No N/A \_\_RMK#
- c. Has the Permittee expeditiously taken all steps necessary to minimize or correct any adverse impact on the environment or public health resulting from noncompliance with the permit? [Condition A.8] Yes No N/A \_\_RMK#
9. Has the Permittee planned any change in the permitted facility or activity which may result in noncompliance with the conditions of the permit? If so:
- a. Has the facility provided Ohio EPA with advance notice of such changes? [Condition A.15] Yes No N/A \_\_RMK#

**NOTE:** Such notification does not waive the Permittee's duty to comply with the permit pursuant to Condition A.5.

**REMARKS**

**PERMIT MODIFICATION, REVISION, REVOCATION**

1. Has the Permittee filed a request for a permit modification, revision or revocation since issuance of the permit? [Condition A.2.] Yes No N/A \_\_RMK# 1
2. Has the permit been transferred to a new owner/operator? [Condition A.18.] If so: Yes No N/A \_\_RMK#
- a. Has the transfer been conducted in accordance with ORC Chapter 3734. and the rules adopted thereunder? [Condition A.18.(a)] Yes No N/A \_\_RMK#
- b. Before transferring ownership did the Permittee notify the new owner in writing of the requirements of ORC Chapter 3734. and the rules adopted thereunder and the applicable Ohio hazardous waste rules? [Condition A.18(a)] Yes No N/A \_\_RMK#
3. Has the Permittee submitted reports of compliance or noncompliance with, or any progress reports on the requirements contained in any compliance schedule of the permit to Ohio EPA no later than 14 days following each scheduled date, unless otherwise specified? [Condition A.19] Yes No N/A \_\_RMK#
4. Has the Permittee furnished relevant information which Ohio EPA has requested to determine whether cause exists for modifying, revising, revoking or suspending the permit, or to determine compliance with the permit? [Condition A.10] Yes No N/A \_\_RMK#
5. Has the facility furnished Ohio EPA, upon request, with copies of records required to be kept by the permit? [Condition A.10] Yes No N/A \_\_RMK#
6. Has the Permittee become aware that it failed to submit any relevant facts in the permit or issuance proceedings or that it submitted incorrect or incomplete information in permit issuance proceedings or other submissions to the Director? If so: Yes No N/A \_\_RMK#
- a. Has the Permittee promptly submitted such facts or corrected information to the appropriate entity? [Condition A.24] Yes No N/A \_\_RMK#

7. Is the Permittee maintaining records of all data used to complete the approved application and any amendments, supplements, revisions or modifications to the application? [Condition A.14(c)]  Yes  No  N/A \_\_RMK#
8. Is the Permittee retaining a complete copy of the approved application on-site? [Condition A.14(c)]  Yes  No  N/A \_\_RMK#
9. Is the Permittee maintaining records from all ground water monitoring wells for the active life of the facility? [Condition A.14(d)]  Yes  No  N/A \_\_RMK#
10. Is the Permittee maintaining records for at least three years after all corrective action activities have been completed? [Condition A.14(e)]  Yes  No  N/A \_\_RMK#
11. Is the Permittee planning any physical alterations or additions to the permitted facility? If so:  Yes  No  N/A \_\_RMK#2
- a. Has the Permittee given notice to the Director of such alterations/additions? [Condition A.15]  Yes  No  N/A \_\_RMK#2
- b. Have such changes been made in accordance with OAC rule 3745-50-51? [Condition A.15]  Yes  No  N/A \_\_RMK#2

**REMARKS**

- #1) Cytec has submitted requests for permit modifications since issuance of the permit.
- #2) In April, 2008, Cytec leased Building 10 to a third party that conducts toll processing of dry solids.

**SITE ENTRY - AVAILABILITY OF RECORDS**

1. As specified in Condition A.11, has the Permittee allowed the Director or an authorized representative, upon proper identification and upon stating the purpose and necessity of an inspection, to:
- a. Enter at reasonable times upon the premises where a regulated activity is located or where records are kept under the conditions of the permit, within 15 minutes of arrival on-site? ■Yes No N/A \_\_RMK#
  
  - b. Have access to and copy any records required to be kept under the conditions of the permit? ■Yes No N/A \_\_RMK#
  
  - c. Inspect and photograph at reasonable times facility's equipment (including control and monitoring equipment), practices or other operations regulated under the conditions of the permit? ■Yes No N/A \_\_RMK#
  
  - d. Sample or monitor any substance or parameter at any location of the facility to assure compliance with the permit or as otherwise authorized by ORC Chapter 3734. and the rules adopted thereunder? ■Yes No N/A \_\_RMK#

**REMARKS**

**COMPLIANCE SCHEDULE - DOCUMENTS**

1. Did the Permittee submit the following documents to Ohio EPA, within the specified timeframes, as required by the permit:

- a. A Sitewide RFI Report within 90 days of the effective date of the permit? [Condition A.27] Yes No N/A \_\_RMK#
  
- b. An updated closure/post-closure cost estimate within 60 days after permit journalization? [Condition A.27.b.i.] Yes No N/A \_\_RMK#
  
- c. An updated financial assurance mechanism for closure within 60 days after permit journalization? [Condition A.27.b.ii.] Yes No N/A \_\_RMK#3
  
- d. Updated liability requirements within 60 days after permit journalization? [Condition A.27.b.iii.] Yes No N/A \_\_RMK#

**REMARKS**

#3) A Notice of Compliance letter was sent to Cytec from DHWM Central Office on 6/08/09 stating that no violations of financial assurance regulations were found.

**RECORD KEEPING REQUIREMENTS**

**CONFIDENTIALITY**

**CONFIDENTIALITY**

1. Has the Permittee requested confidentiality of any information of the permit in accordance with ORC Chapter 3734. and the rules adopted thereunder? [Condition A.25] Yes No N/A \_\_RMK#

**OPERATING RECORD**

2. Is the Permittee maintaining a written operating record at the facility as set forth in OAC rules 3745-54-73 and 3745-54-74 which contains the following elements: [Condition B.22]
- a. A description and the quantity of each hazardous waste received? Yes No N/A \_\_RMK#4
  - b. Method(s) and date(s) of treatment, storage or disposal at the facility? Yes No N/A \_\_RMK#4
  - c. The location of each hazardous waste within the facility and the quantity at each location? Yes No N/A \_\_RMK#4
3. Is the Permittee maintaining, until closure is complete and certified, the following documents and amendments, revisions and modifications to these documents: [Condition A.28]
- a. Closure plan in accordance with OAC rule 3745-55-12 and the conditions of the permit? Yes No N/A \_\_RMK#
  - b. Cost estimate for facility closure in accordance with OAC rule 3745-55-42 and the conditions of the permit? (Estimate only - adequacy of permit will be evaluated by central office financial assurance personnel) Yes No N/A \_\_RMK#
  - c. Personnel training plan and records for the duration of activities conducted on-site, required by OAC rule 3745-54-16 and the conditions of the permit? Yes No N/A \_\_RMK#

- d. Operating record, required by OAC Rule 3745-54-73 and the terms and conditions of this permit?  Yes  No  N/A \_\_RMK#
- e. Inspection schedules, developed in accordance with OAC Rules 3745-54-15, 3745-55-74 and 3745-55-95 and the terms and conditions of this permit?  Yes  No  N/A \_\_RMK#
- f. Post-closure plan, as required by OAC Rule 3745-55-18(A) and the terms and conditions of this permit?  Yes  No  N/A \_\_RMK#
- g. Annually-adjusted cost estimate for facility closure and post-closure, as required by OAC Rules 3745-55-42 and 3745-55-44 and the terms and conditions of this permit?  Yes  No  N/A \_\_RMK#
4. Is the Permittee maintaining copies of all inspection logs at the facility for a period of at least three years from the date of inspection? [Condition A.28(b)]  Yes  No  N/A \_\_RMK#

**ANNUAL REPORT REQUIREMENT**

5. Is the Permittee complying with annual report requirements set forth in OAC rule 3745-54-75 and the additional reporting requirements set forth in OAC rule 3745-54-77 and the conditions of the permit? [Condition B.25]  Yes  No  N/A \_\_RMK#

- c. Date(s) analyses were performed?  Yes  No  N/A \_\_RMK#
- d. Individual(s) who performed the analyses?  Yes  No  N/A \_\_RMK#
- e. Results of the data validation review including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results consistent with the US EPA and Ohio EPA guidelines for data review?  Yes  No  N/A \_\_RMK#
- f. Analytical technique(s) or method(s) used?  Yes  No  N/A \_\_RMK#
- g. Results of such analyses?  Yes  No  N/A \_\_RMK#
7. Have the methods used to obtain a representative sample of the waste to be analyzed included the appropriate SW-846 method (most current edition) or an equivalent method specified in the approved waste analysis plan? [Condition A.12(a)]  Yes  No  N/A \_\_RMK#
8. Has Ohio EPA requested submittal of any reports or other information required by the conditions of the permit from the Permittee? If so:  Yes  No  N/A \_\_RMK# 5
- a. Have the submittals been signed and certified according to OAC rule 3745-50-42? [Condition A.13]  Yes  No  N/A \_\_RMK# 5

### **REMARKS**

- #4) Cytec is not receiving hazardous waste for treatment, storage, or disposal from off-site sources. Cytec generates hazardous waste on an infrequent basis as an episodic generator.
- #5) On 10/07/09 Ohio EPA received the Baseline Ecological Risk Assessment (BERA). OEPA responded to this in a July 8, 2009 letter. Separate assessments were conducted for aquatic habitat related to Duck Creek, and the remaining largely terrestrial habitat associated to the SWMUs. OEPA is not requiring a revised BERA at this time.

**OFF-SITE SHIPMENTS/MANIFEST REQUIREMENTS**

1. Is all hazardous waste transported from the facility by a properly registered transporter of hazardous waste in accordance with all applicable laws, rules and standards? [Condition A.16] Yes No N/A \_\_RMK#
2. Has the Permittee complied with all applicable regulations regarding land disposal prohibitions and restrictions as required by OAC Chapters 3745-270? [Condition B.40] Yes No N/A \_\_RMK#

**REMARKS**

**MODULE B - GENERAL FACILITY CONDITIONS**

1. Is the Permittee following the inspection procedures and schedules described in Section F-2 of the approved permit application and the requirements of OAC rule 3745-54-15? [Condition B.5] Yes No N/A \_\_RMK# 17
2. Does the Permittee inspect the facility with such regularity as to identify problems resulting from deterioration, malfunctions, operator errors or discharges which may lead to a release of hazardous waste to the environment or threat to human health? (OAC rule 3745-54-15(A)(1)(2)) Yes No N/A \_\_RMK#17
3. Is the Permittee following the approved inspection schedule for inspecting: monitoring equipment, safety equipment, emergency equipment, security devices and operating and structural equipment as specified in OAC rule 3745-54-15(1)? Yes No N/A \_\_RMK#17
- a. Is the schedule kept at the facility? [OAC rule 3745-54-15(B)(2)] Yes No N/A \_\_RMK#
- b. Does the schedule identify the types of problems which are to be looked for during the inspection? [OAC rule 3745-54-15(B)(3)] Yes No N/A \_\_RMK#
- c. Does the schedule include inspection of areas subject to spills daily when in use and according to other applicable regulations when not in use? [OAC rule 3745-54-15(B)(4)] Yes No N/A \_\_RMK#
4. Does the Permittee remedy deterioration or any malfunctions discovered by an inspection as required by OAC rule 3745-54-15(C)? [Condition B.5] Yes No N/A \_\_RMK#
5. Is the Permittee maintaining records of inspections for a minimum of three years? [Condition B.5] Yes No N/A \_\_RMK#
6. In accordance with OAC rule 3745-54-15(D), do inspection records contain the following information:
- a. Date and time of inspection? Yes No N/A \_\_RMK#
- b. The name of the inspector? Yes No N/A \_\_RMK#

c. Notation of observations made?

Yes  No  N/A \_\_RMK#

d. Date/nature of any repairs or other remedial actions?

Yes  No  N/A \_\_RMK# 17

7. Has the Permittee received hazardous waste from a foreign source? [Condition B.2.a]

Yes  No  N/A \_\_RMK#

8. Has the Permittee received hazardous waste from off-site sources? [Condition B.2.b]

Yes  No  N/A \_\_RMK#

9. Has the Permittee complied with the requirements in OAC Rule 3745-55-48 regarding the incapacity of owners, operators, guarantors, or financial institutions? [Condition B.39]

Yes  No  N/A \_\_RMK#

### REMARKS

#17. Cytec failed to conduct weekly inspections of the WWTP in accordance with Table F2 of their permit application. In general, inspection checklists failed to note the date and nature of corrective actions made.

**SECURITY PROVISIONS/FACILITY OPERATION**

- 1. Is the Permittee complying with the security provisions of OAC rule 3745-54-14 and Section F of the approved permit application, including the following: [Condition B.4] ■Yes No N/A \_\_RMK# 6
  - a. Does the Permittee have a 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility? Yes ■No N/A \_\_RMK#6
  - b. An artificial or natural barrier (in good repair) which completely surrounds the active portion of the facility. ■Yes No N/A \_\_RMK# 6
  - c. A means to control entry, at all times, through gates or other entrances, to the active portion of the facility? ■Yes No N/A \_\_RMK# 6
- 2. In accordance with OAC rule 3745-54-14(C) does the Permittee have signs reading "Danger - Unauthorized Personnel Keep Out" posted at each entrance and at other locations and in sufficient numbers to be seen when approaching the active portion of the facility? ■Yes No N/A \_\_RMK# 6
- 3. Is construction, maintenance and operation of the facility being conducted to minimize the possibility of a fire, explosion, or unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, ground or surface waters? [Condition B.1] ■Yes No N/A \_\_RMK#

**REMARKS**

#6) On February 2, 2007, Ohio EPA approved a permit modification allowing Cytec to eliminate the 24 hour security guards at the site.

**PERSONNEL TRAINING**

1. Is the facility conducting personnel training in accordance with Section H of the approved permit application and the following requirements of OAC rule 3745-54-16: [Condition B.6] Yes No N/A \_\_RMK# 7
- a. The facility provides personnel training which includes instruction in safe equipment operation and emergency procedures and implementation of the contingency plan? [OAC rule 3745-54-16(B)(C)] Yes No N/A \_\_RMK# 7
- b. The facility provides personnel training to new employees within six months of their date of employment as required by OAC rule 3745-54-16(B)? Yes No N/A \_\_RMK#8
- c. The facility provides an annual refresher training course as required by OAC rule 3745-54-16(B)? Yes No N/A \_\_RMK# 7
2. Is the Permittee maintaining personnel training records as required by OAC rule 3745-54-16(D) and the approved permit application, including; written job titles, job descriptions and documented employee training records? [Condition B.6.] Yes No N/A \_\_RMK#

**REMARKS**

- #7) One Cytec employee (Mr. Tony Marek) is responsible for the operation of the Marietta plant. Kemron was hired by Cytec to perform many of the operation and maintenance activities at the plant in Mr. Marek's absence. All Kemron employees receive 8 hour annual HAZWOPR training. Other contractors/subcontractors working for Cytec at the site are required to be current on their personnel training programs.
- #8) The plant is not currently operating, so there are no plans to hire new employees.

**REQUIRED EQUIPMENT**

- 1. Is the Permittee, at a minimum, maintaining the equipment set forth in the approved permit application (Section G) at the facility? [Condition B.9] ■Yes No N/A \_\_RMK#
  
- 2. Is the Permittee inspecting, testing and maintaining the equipment specified in Question No. 1 to assure its proper operation as specified in OAC rule 3745-54-33, the inspection plans and Section F.3 of the approved permit application? [Condition B.10] ■Yes No N/A \_\_RMK#
  
- 3. Whenever hazardous waste is being managed at the facility, has the Permittee provided all personnel involved in the operation with immediate access to an internal alarm or emergency communication device as required by OAC rule 3745-54-34 and Section F of the approved permit application? [Condition B.11] ■Yes No N/A \_\_RMK#

**REMARKS**

**CONTINGENCY PLAN REQUIREMENTS**

**EMERGENCY PROCEDURES**

1. In compliance with Condition B.13.(a) of the permit, does the Permittee:
- a. Familiarize the emergency response agencies likely to respond to an emergency at the facility with:
    - i. The layout of the facility?  Yes  No  N/A \_\_RMK#
    - ii. Properties of hazardous waste managed at the facility and associated hazards?  Yes  No  N/A \_\_RMK#
    - iii. Places where facility personnel will normally be working?  Yes  No  N/A \_\_RMK#
    - iv. Entrances to and roads inside the facility?  Yes  No  N/A \_\_RMK#
    - v. Evacuation routes as depicted in Section G.7 of the permit application?  Yes  No  N/A \_\_RMK#
  - b. Make arrangements with Ohio EPA emergency response teams, emergency response contractors, and equipment suppliers, as necessary?  Yes  No  N/A \_\_RMK#
  - c. Make arrangements to familiarize local hospitals with the properties of hazardous waste managed at the facility and the types of injuries or illness which could result from fires, explosions or a release of hazardous waste at the facility?  Yes  No  N/A \_\_RMK#
2. Is the Permittee in compliance with the requirements of OAC rule 3745-54-56 and Section G of the approved permit application regarding emergency procedures? [Condition B.20]  Yes  No  N/A \_\_RMK#

## EMERGENCY AUTHORITIES

3. Has a state or local agency declined to enter into the arrangements set forth in OAC rule 3745-54-37(A)? If so: Yes No N/A \_\_RMK#
- a. Has the Permittee documented the refusal in the operating record as required by OAC rule 3745-54-37(B)? Yes No N/A \_\_RMK#
4. Has the Permittee maintained a copy of the contingency plan at the guard gate building during the duration of investigations and/or remediation activities conducted on-site? [Condition B.18(a)] Yes No N/A \_\_RMK#
5. In the event of an emergency, has the Permittee provided a copy of the contingency plan and any relevant job-specific hazard assessments to emergency response agencies when they arrived on-site? [Condition B.18(b)] Yes No N/A \_\_RMK#
- a. If an emergency event did occur, did the Permittee review the content of the Contingency Plan and hazard assessments with the emergency authorities at the site? [Condition B.18(b)] Yes No N/A \_\_RMK#
6. Has the Permittee submitted a copy of the approved contingency plan and all revisions, amendments and modifications to Ohio EPA's Division of Emergency and Remedial Response in accordance with OAC rule 3745-54-53? [Condition B.18(c)] Yes No N/A \_\_RMK#

## EMERGENCY COORDINATOR

7. Is the Permittee in compliance with the requirements of OAC rule 3745-54-56 with regard to the emergency coordinator? [Condition B.19] Yes No N/A \_\_RMK#

## AMENDMENT OF PLAN

8. Is the Permittee reviewing the approved contingency plan at least annually and upon the occurrence of any event listed in OAC Rule 3745-54-54 and amending the plan immediately if needed? [Condition B.17] Yes No N/A \_\_RMK#

## IMPLEMENTATION OF PLAN

9. Has there been a fire, explosion or release of hazardous waste or hazardous waste constituents at the facility since the date of the last inspection as described by Condition B.14 of the permit? If so: Yes No N/A \_\_RMK#
- a. Did the Permittee immediately implement the approved contingency plan and follow the emergency procedures described in OAC rule 3745-54-56? [Condition B.14] Yes No N/A \_\_RMK#
- b. In regard to spills and related toxic gas releases, does the plan describe the criteria to be used by the emergency coordinator to determine when the plan will be implemented? [Condition B.14] Yes No N/A \_\_RMK#

**NOTE:** At a minimum, the plan must be implemented in the following situations:

- i. Any fire involving hazardous waste; or
- ii. Any explosion involving hazardous waste; or
- iii. Any hazardous waste release, outside of a secondary containment system, that causes or has the potential to cause off-site soil and/or surface water contamination; or
- iv. Any hazardous waste release that produces or has the potential to produce hazardous conditions, including noxious, poisonous, flammable and/or explosive gases, fumes, or vapors; harmful dust; or explosive conditions.

c. Immediately after an emergency, did the emergency coordinator provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility? [Condition B.16.a]  Yes  No  N/A \_\_RMK#

d. Did the Permittee collect and manage released material, emergency response material and by-products as hazardous waste until making a demonstration to Ohio EPA that such materials are not subject to Ohio's hazardous waste rules? [Condition B.16.b]  Yes  No  N/A \_\_RMK#

e. Within 15 days of the incident did the Permittee submit, to the Director, a written report of the incident? If so:  Yes  No  N/A \_\_RMK#

i. Did the report contain the elements set forth in OAC rule 3745-54-56(J)? [Condition B.23]  Yes  No  N/A \_\_RMK#

f. Did the Permittee note in the operating record the time, date and details of any incident that required the implementation of the approved contingency plan? [Condition B.23]  Yes  No  N/A \_\_RMK#

Yes  No  N/A \_\_RMK#

10. In accordance with OAC Rule 3745-54-35, has the Permittee maintained aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency? [Condition B.12]

**REMARKS**

## CLOSURE/POST-CLOSURE REQUIREMENTS

### GENERAL CLOSURE REQUIREMENTS

1. Is the Permittee maintaining at the facility, the approved closure plan which contains the elements set forth in OAC rule 3745-55-12? [Condition B.29]  Yes  No  N/A \_\_RMK#

### AMENDMENT OF CLOSURE PLAN

2. Has the Permittee amended the closure plan? If so:  Yes  No  N/A \_\_RMK# 9
- a. Has the plan been amended in accordance with OAC rule 3745-55-12(C)? [Condition B.28]  Yes  No  N/A \_\_RMK# 9

### CLOSURE PROCEDURES

3. Has the Permittee closed the facility? If so:  Yes  No  N/A \_\_RMK# 10
- a. Was closure conducted in accordance with the closure performance standard of OAC rule 3745-55-11? [Condition B.26]  Yes  No  N/A \_\_RMK# 10
- b. Did the Permittee carry out the approved closure plan as set forth in the permit application and the conditions of the permit? [Condition B.27]  Yes  No  N/A \_\_RMK# 10
- c. Has the Permittee decontaminated and/or disposed of all facility equipment, structures and soils as required by OAC rule 3745-55-14 and the approved closure plan? [Condition B.32(a)]  Yes  No  N/A \_\_RMK# 10
- d. Did the Permittee notify Ohio EPA's Southeast District Office within five working days prior to all closure activities, including rinseate and soil sampling? [Condition B.32(b)]  Yes  No  N/A \_\_RMK# 10

- e. Has the Permittee certified that the facility has been closed in accordance with the specifications in the approved closure plan as required by OAC rule 3745-55-15? [Condition B.33]  Yes  No  N/A \_\_RMK# 10
- f. Has the Permittee submitted a survey plat to the director and the local zoning authority no later than the certification of closure of each hazardous waste disposal unit? [Condition B.34]  Yes  No  N/A \_\_RMK# 11

**REMARKS**

- #9) Cytec amended the Pond 1 closure plan to address the unit through landfill closure instead of a clean closure approach.
- #10) Cytec has closed Pond 1 and Pond 2. Both units are in post-closure care.
- #11) Cytec submitted a survey plat for Pond 1 and Pond 2 when the units were certified closed.

## POST-CLOSURE REQUIREMENTS

4. **Following completion of the closure of the surface impoundment(s):** Has the Permittee implemented post-closure care of the unit(s) in accordance with OAC rule 3745-55-17 and the approved post-closure plan? [Condition B.35(a)] Yes No N/A \_\_RMK# 12
5. Has the Permittee amended the post-closure plan? If so: Yes No N/A \_\_RMK#
- a. Has the plan been amended in accordance with OAC rule 3745-55-18(D)? [Condition B.35(c)] Yes No N/A \_\_RMK#

## POST-CLOSURE NOTICES

6. Following the certification of closure, did the Permittee comply with the post-closure notice requirements as included in Condition B.35(d) of the permit? Yes No N/A \_\_RMK# 13
7. Following the completion of post-closure, did the Permittee certify that such post-closure care was conducted in accordance with OAC rule 3745-55-20 and the approved post-closure plan? [Condition B.35(e)] Yes No N/A \_\_RMK#

## REMARKS

- #12) Cytec has implemented post-closure care for Pond 1 and Pond 2.
- #13) Cytec filed the post-closure deed notice for Pond 1 with the Washington County Recorder's Office. The declaration of use was recorded on August 28, 2006, at Volume 437, Pages 2333-2344 and cross references the survey plat recorded at Volume 15, Page 100.

## MODULE E - CORRECTIVE ACTION REQUIREMENTS

### **CORRECTIVE ACTION AT THE FACILITY**

1. Has the Permittee instituted Corrective Action as necessary to protect human health and the environment for all releases from any waste management unit (WMU) at the Facility? [Condition E.1]  Yes  No  N/A \_\_RMK#
2. Has the Permittee implemented Corrective Action beyond the Facility property boundary, where necessary, to protect human health and the environment? [Condition E.2]  Yes  No  N/A \_\_RMK#

**NOTE:** If the Permittee is unable to obtain the necessary permission to undertake such actions, the Permittee must demonstrate to the satisfaction of Ohio EPA, that, despite the Permittee's best efforts, the Permittee was unable to obtain such permission. 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.

### **RCRA FACILITY INVESTIGATION (RFI)**

#### **RFI REPORT**

3. Has the Permittee submitted a sitewide RFI Report to Ohio EPA within 90 days of the effective date of the permit? [Condition E.5]  Yes  No  N/A \_\_RMK#
4. Within 45 days of receipt of Ohio EPA comments on the RFI Report, has the Permittee submitted either an amended or new RFI Report that incorporates Ohio EPA's comments? [Condition E.5.a.1]  Yes  No  N/A \_\_RMK#

#### **RFI FOR NEWLY DISCOVERED UNITS**

5. In case of newly discovered WMU's, has the Permittee submitted a written RFI Workplan to Ohio EPA within a time frame established by Ohio EPA? [Condition E.5.b]  Yes  No  N/A \_\_RMK#
6. Upon receipt of Ohio EPA comments on the RFI Workplan, has the Permittee submitted either an amended or new RFI Workplan that incorporates Ohio EPA's comments? [Condition E.5.b.1]  Yes  No  N/A \_\_RMK#

7. Has the Permittee implemented the RFI Workplan according to the terms and schedule in the approved RFI Workplan? [Condition E.5.c]  Yes  No  N/A \_\_RMK#
8. Within 90 days of completing the RFI, has the Permittee submitted an RFI Final Report to Ohio EPA? [Condition E.5.d]  Yes  No  N/A \_\_RMK#

**INTERIM MEASURES**

9. Based on the results of the RFI Final Report or other information documenting a release of hazardous waste or constituents, has the Permittee undertaken an Interim Measure to mitigate or eliminate a threat to human health or the environment? [Condition E.6]  Yes  No  N/A \_\_RMK#

**DETERMINATION OF NO FURTHER ACTION**

10. Based on the results of the completed RFI and other relevant information, has the Permittee submitted an application to Ohio EPA for a permit modification to terminate Corrective Action tasks for certain WMU's? [Condition E.7.a]  Yes  No  N/A \_\_RMK#

**NOTE:** The above permit condition is not a requirement; rather is up to the Permittee to decide whether a permit modification will be submitted.

**CORRECTIVE MEASURES STUDY (CMS)**

**CMS WORKPLAN**

11. Has the Permittee submitted a written CMS Workplan to Ohio EPA within 120 days of the effective date of the permit? [Condition E.8.a]  Yes  No  N/A \_\_RMK#
12. Within 45 days of receipt of Ohio EPA comments on the CMS Workplan, has the Permittee submitted either an amended or new CMS Workplan that incorporates Ohio EPA's comments? [Condition E.8.a.1]  Yes  No  N/A \_\_RMK#
13. Has the Permittee implemented the CMS Workplan according to the terms and schedule in the approved CMS Workplan? [Condition E.8.b]  Yes  No  N/A \_\_RMK#

**CMS FINAL REPORT**

- 14. Within 60 days after the completion of the CMS, has the Permittee submitted a CMS Final Report to Ohio EPA? [Condition E.8.c] Yes No N/A \_\_RMK#
  
- 15. Within 45 days of receipt of Ohio EPA comments on the CMS Final Report, has the Permittee submitted either an amended or new CMS Final Report that incorporates Ohio EPA's comments? [Condition E.8.c.1] Yes No N/A \_\_RMK#

**NOTE:** The CMS Final Report shall include a remediation schedule for each SWMU at the site, unless Permit Condition E.7 applies.

**CORRECTIVE MEASURES IMPLEMENTATION (CMI)**

- 16. Based on the results of the CMS, has the Permittee Implemented one or more of the Corrective Measures authorized by Ohio EPA? [Condition E.9] Yes No N/A \_\_RMK#

**NOTE:** 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 constituents); and (4) comply with all applicable standards for management of wastes. If two or more of the Corrective Measures studies 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.

- 17. Has the Permittee implemented the Corrective Measure after Ohio EPA initiates a permit modification? [Condition E.9.a] Yes No N/A \_\_RMK#
  
- 18. Within 30 days after receiving CMI approval, has the Permittee provided financial assurance in the amount necessary to implement the corrective measure(s)? [Condition E.9.b] Yes No N/A \_\_RMK#
  
- 19. Within 30 days of discovery of a newly identified WMU, did the Permittee submit the following information to Ohio EPA? [Condition E.10.a] Yes No N/A \_\_RMK#

- i. the location of the unit on the site topographic map;

- ii. designation of the type of unit;
- iii. general dimensions and structural description;
- iv. when the unit was operated; and
- v. specification of all waste(s) that have been managed at the unit.

20. Within 30 days of discovery of any release of hazardous waste(s) or hazardous constituents from any new or existing WMU, did the Permittee submit all available information to Ohio EPA? [Condition E.10.b] Yes No N/A \_\_RMK#

**CORRECTIVE ACTION FOR NEWLY IDENTIFIED WMU'S AND RELEASES**

**NOTE:** If Ohio EPA determines that a RFI is required for newly identified WMU's, 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 in accordance with Permit Conditions E.5, E.8, and E.9.

The Permittee must make the RFI Workplan submittal, and any other related submittals, in accordance with time frames established by Ohio EPA.

21. Have the following documents been certified by a Professional Engineer, licensed to practice in the State of Ohio? [Condition E.12]
- i. Final Interim Measures Report Yes No N/A \_\_RMK#
  - ii. Corrective Measures Final Design Yes No N/A \_\_RMK#
  - iii. Corrective Measures Construction Completion Report Yes No N/A \_\_RMK#
  - iv. Corrective Measures Attainment of Groundwater Performance Standards Report Yes No N/A \_\_RMK#
  - v. Corrective Measures Completion of Work Report Yes No N/A \_\_RMK#

## MODULE G - INTEGRATED GROUND WATER MONITORING

**NOTE:** Ground water contamination from the hazardous waste management units (HWMU's) regulated under OAC Rules 3745-54-90 through 3745-55-01 has co-mingled with ground water contamination from solid waste management units (SWMU's) regulated under OAC Rule 3745-55-011 at the site. It is not practical to separate the HWMU's and SWMU's either for ground water monitoring purposes or remedial efforts. A more efficient multifaceted approach is to combine the relevant portions of OAC Rule 3745-55-01 and 3745-55-011 for these areas. This combined approach is referred to as the Integrated Ground Water Monitoring Program or IGWMP.

### GROUND WATER PROTECTION STANDARD

1. Has the Permittee ensured that the hazardous constituents detected in the ground water do not exceed the concentration limits in the uppermost aquifer underlying the waste management areas beyond the point of compliance during the compliance period and to respond with any corrective action measures to bring the ground water back into compliance with those limits? [Condition G.2] Yes No N/A \_\_RMK#14
  
2. Has the Permittee also monitored ground water for the field parameters temperature, pH, Specific Conductance, and Turbidity? [Condition G.2.a] Yes No N/A \_\_RMK#

### POINT OF COMPLIANCE

3. Has the Permittee monitored background wells, primary compliance wells, and secondary compliance wells as listed in Table 3 of Appendix E-7 of the permit application? [Condition G.2.b] Yes No N/A \_\_RMK#
  
4. Has the Permittee monitored the ground water between the point of compliance and the down-gradient property boundary to determine if the concentration limit has been exceeded at any point? [Condition G.2.b] Yes No N/A \_\_RMK#

## WELL LOCATION, INSTALLATION, MAINTENANCE, AND REMOVAL

5. Does the Permittee's ground water monitoring system consist of a sufficient number of wells, installed and screened at appropriate locations and depths, to yield ground water samples from the unconsolidated overburden, weathered bedrock, and competent bedrock zones which are the uppermost aquifer?  
[Condition G.3.a]  Yes  No  N/A \_\_RMK#
6. Has the Permittee's ground water monitoring samples represented the quality of background water that has not been affected by leakage from the unit/area?  
[Condition G.3.a.i]  Yes  No  N/A \_\_RMK#
7. Has the Permittee's ground water monitoring samples represented the quality of ground water passing the point of compliance, between the point of compliance and the downgradient property boundary, and beyond the property boundary? [Condition G.3.a.i]  Yes  No  N/A \_\_RMK#
8. Has the Permittee's ground water monitoring samples allowed for the detection and measurement of contamination for all potential release pathways to the uppermost aquifer from the waste management units based on site-specific hydrogeologic characterization when hazardous waste or hazardous constituents have migrated from the units to the uppermost aquifer?  
[Condition G.3.a.ii]  Yes  No  N/A \_\_RMK#
9. Has the Permittee's ground water monitoring samples demonstrated the effectiveness of any corrective action program? [Condition G.3.a.iii]  Yes  No  N/A \_\_RMK#
10. Does the Permittee's monitoring system consist of the ground water wells as specified on Figure 1 and Table 3 of Appendix E-7 found in the Permit Application?  
[Condition G.3.b]  Yes  No  N/A \_\_RMK#
11. Are monitoring wells cased in a manner that maintains the integrity of the bore hole and complies with the detailed plans and specifications presented in Table 2 of Appendix E-7 of the Permit Application?  
[Condition G.3.c]  Yes  No  N/A \_\_RMK#

**NOTE:** The well casing must be screened and packed with gravel or sand, where necessary, to enable collection of ground water samples. The annular space above the sampling depth must be sealed to prevent contamination of samples and the ground water. Appendix E-1 of the Permit Application contains ground water monitoring well construction information.

12. Are wells removed or replaced in compliance with OAC Rule 3745-50-51, permit modification process?  Yes  No  N/A \_\_RMK#  
[Condition G.3.d]

**NOTE:** Each change must be accompanied by a revised map and table (Figure 1 and Table 3 of Appendix E-7 found in the Permit Application) as specified in Permit Condition G.3(b).

13. Has the Permittee within 90 days of replacement, demonstrated to Ohio EPA that the ground water quality at the replacement well meets the criteria in Permit Condition G.3.a?  Yes  No  N/A \_\_RMK#  
[Condition G.3.e]

### **SAMPLING AND ANALYSIS PROCEDURES**

14. Has the Permittee implemented the IGWMP?  Yes  No  N/A \_\_RMK#  
[Condition G.4.a]

**NOTE:** The IGWMP must include consistent sampling and analysis procedures designed to ensure monitoring results that provide a reliable indication of ground water quality below the units. The sampling and analytical methods must be appropriate to accurately measure hazardous constituents in ground water samples.

15. Has the Permittee validated field and analytical data in accordance with procedures specified in Appendix E-7 of the Permit Application?  Yes  No  N/A \_\_RMK#  
[Condition G.4.c]

### **GROUND WATER SURFACE ELEVATION**

16. Has the Permittee determined the ground water surface elevation at each well identified in the Table in Permit Condition G.3.b each time ground water is sampled using the methods in Section 3.1 of Appendix E-7 of the Permit Application?  Yes  No  N/A \_\_RMK# #  
[Condition G.5]

## **SAMPLING FREQUENCY**

**NOTE:** Data on each hazardous constituent specified in Permit Condition G.2.a will be collected from all wells listed in Permit Condition G.3.b. The sampling procedure and interval for each constituent is described in Section 3.3 and Table 3 of Appendix E-7 of the Permit Application.

17. Has the Permittee collected the number and kinds of samples to establish background appropriate for the form of statistical test employed, following generally accepted statistical procedures? [Condition G.6.a]  Yes  No  N/A \_\_RMK#
18. Has the Permittee collected samples as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected? [Condition G.6.b]  Yes  No  N/A \_\_RMK#

**NOTE:** Background values shall be established in the permit through the permit modification process in OAC Rule 3745-50-51. Background data may be updated as necessary in accordance with Appendix E-7 of the Permit Application to provide an accurate representation of background ground water quality.

## **STATISTICAL PROCEDURES**

19. Has the Permittee conducted statistical procedures as presented in Section 4 of Appendix E-7 of the Permit Application utilizing a combination of time-trend graphs and the Mann-Kendall test, or another statistical method approved by the director? [Condition G.7.a]  Yes  No  N/A \_\_RMK#
20. Are the Permittee's statistical procedures protective of human health and the environment, provide reasonable confidence that the migration of hazardous constituents from a unit/area into and through the aquifer will be indicated, and will determine whether such leakage of hazardous constituents into the ground water exceeds specified concentration limits? [Condition G.7.b]  Yes  No  N/A \_\_RMK#

21. Does the Permittee's statistical procedures comply with the following performance standards?
- a. The statistical evaluation of ground water monitoring data is conducted separately for each hazardous constituent specified in Permit Condition G.2.a in each well [Condition G.7.b.i] ■Yes No N/A \_\_RMK#
  
  - b. The statistical method is appropriate for the distribution of the data used to establish background or concentration limits. If the distribution of the constituents differ, more than one statistical method may be needed. [Condition G.7.b.ii] ■Yes No N/A \_\_RMK#
  
  - c. The statistical method provides a reasonable balance between the probability of falsely identifying a non-contaminating and/or exceeding unit/area and the probability of failing to identify a contaminating and/or exceeding unit area. [Condition G.7.b.iii] ■Yes No N/A \_\_RMK#
  
  - d. If a control chart approach is used, the specific type of control chart and its associated parameter values are presented by the Permittee and approved in the permit. [Condition G.7.b.iv] Yes No N/A \_\_RMK#
  
  - e. If a tolerance or prediction interval procedure is used, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, is proposed by the Permittee and approved in the permit. These parameters must be determined after considering the number of samples in the background data base, the data distribution, and the range of concentration values for each constituent of concern. [Condition G.7.b.v] Yes No N/A \_\_RMK#
  
  - f. The statistical method accounts for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (PQL) approved in the permit that is used in the statistical method must be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that ■Yes No N/A \_\_RMK#

are available to the permittee using the methods outlined in the most recent version of SW-846. [Condition G.7.b.vi]

- g. If necessary, the statistical method includes procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data. [Condition g.7.b.vii]

Yes  No  N/A \_\_RMK#

### **RECORDKEEPING and REPORTING**

22. Has the Permittee entered all of the following information obtained in accordance with Permit Module G in the operating record? [Condition G.8.a]

- a. Laboratory results from each of the wells and their associated qualifiers including the laboratory sheets for the full volatile, semi-volatile and pesticide analyses (must include method codes, detection limits, and units of measurement);

Yes  No  N/A \_\_RMK#

- b. Date each well was sampled;  Yes  No  N/A \_\_RMK#
- c. Date, time, and identification of all blanks and duplicates;  Yes  No  N/A \_\_RMK#
- d. Any field log documentation of deviation from the procedures in Appendix E-6 of the Permit Application, including documentation of parameter omissions during the sampling event;  Yes  No  N/A \_\_RMK#
- e. Date the Permittee received the results from the laboratory;  Yes  No  N/A \_\_RMK#
- f. Date the owner or operator completed their review of the analytical laboratory's verification of the accuracy and precision of the data and determined its quality;  Yes  No  N/A \_\_RMK#
- g. Results of the data validation review per Permit Condition G.8(a)(vi) including: report completeness, chain of custody, sample receipt form, signed statement of validity, technical holding time review, data qualifiers including their definitions, dilutions, blank data, spikes, spike recovery %, surrogate recovery, and an explanation of any rejected results consistent with U.S. EPA and Ohio EPA guidelines for data review;  Yes  No  N/A \_\_RMK#
- h. Results of all blanks and duplicates (trip, field, equipment, and method);  Yes  No  N/A \_\_RMK#
- i. Results of the field parameters;  Yes  No  N/A \_\_RMK#
- j. The statistical evaluation of the data according to the statistical tests specified in Permit Condition G.7;  Yes  No  N/A \_\_RMK#
- k. Any change in well status;  Yes  No  N/A \_\_RMK#
- l. Ground water surface elevations taken at the time of sampling each well;  Yes  No  N/A \_\_RMK#
- m. Date and results of the annual determination of the ground water flow rate and direction;  Yes  No  N/A \_\_RMK#
- n. Results of the last three years of all inspections  Yes  No  N/A \_\_RMK#

required under OAC Rule 3745-54-15(D) related to ground water monitoring and equipment as required under OAC Rule 3745-54-73(B)(5);

- o. Evaluation of the efficiency of any corrective actions performed to bring the ground water quality into compliance with the GWPS per permit condition G.2  Yes  No  N/A \_\_RMK#

23. Has the Permittee submitted Semi-Annual groundwater monitoring reports according to the following schedule:

- a. For the 1<sup>st</sup> Semi-Annual event, 45 days after analytical results are received from the laboratory? [Condition G.8.b.i]  Yes  No  N/A \_\_RMK#

- b. For the 2<sup>nd</sup> Semi-Annual event, 75 days after analytical results received from the laboratory, or by March 1<sup>st</sup> of the following calendar year, which ever comes first? [Condition G.8.b.i]  Yes  No  N/A \_\_RMK#

**NOTE:** Once a ground water corrective action program has been implemented, the Permittee must report, in writing, semi-annually to the director on the effectiveness of the corrective action program. These reports must be submitted at the same time as the analytical data in accordance with the schedule above for each year until the corrective action program has been completed.

24. Has the Permittee submitted an annual report to the director by March 1<sup>st</sup> of the following year? [Condition G.8.b.ii]  Yes  No  N/A \_\_RMK#

**NOTE:** The annual reports must include, at a minimum, the analytical results, ground water elevation data, and the results of any statistical analyses. In addition, a copy, on disk, of all ground water and blank data must be submitted electronically in the format supplied by the director, a hard copy of well-specific information for any new/replacement wells, and any other information specified in the instructions for the annual report not addressed in this Permit Condition must be submitted as required by OAC Rule 3745-54-75.

### ***INTEGRATED GROUNDWATER MONITORING PROGRAM***

**NOTE:** The Permittee is required to establish and implement a ground water monitoring corrective action program under OAC Rule 3745-55-011 and must take corrective action, as necessary, to ensure that units are in compliance with the GWPS as specified in permit condition G.2. For additional details on the corrective action program see permit condition G.9.

25. Does the Permittee's ground water monitoring system include the installation and maintenance of a ground water monitoring system at the compliance point, and, as necessary to protect human health and the environment, between the compliance point and the downgradient property boundary and beyond the property boundary? [Condition G.9.c.i]  Yes  No  N/A \_\_RMK#
26. Does the Permittee's ground water monitoring system include the collection, preservation, and analysis of samples pursuant to Permit Conditions G.4, G.5, and G.6? [Condition G.9.c.ii]  Yes  No  N/A \_\_RMK#
27. Has the Permittee conducted a sampling program semiannually for each chemical parameter and hazardous constituent specified in Permit Condition G.2(a) from each well (background and compliance) specified in Permit Condition G.3(b) during the permit period and any extensions due to corrective action implementation? [Condition G.9.c.iii]  Yes  No  N/A \_\_RMK#
28. Has the Permittee compared the concentration of each hazardous constituent measured at each well at the compliance point specified in Permit Condition G.2(b), between the compliance point and the downgradient facility property boundary, with its concentration limit each time ground water quality is determined in accordance with the procedures specified in Permit Condition G.7? [Condition G.9.c.iv]  Yes  No  N/A \_\_RMK#

**NOTE:** Wells beyond the property boundary shall be sampled where necessary to protect human health and the environment, unless the Permittee demonstrates to the Agency that, despite the Permittee's best efforts, the Permittee was unable to obtain the necessary permission to undertake such action. 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 determined on a case-by-case basis.

29. Has the Permittee analyzed samples from all monitoring wells for all constituents contained in Appendix to OAC Rule 3745-54-98 (Table 4 in Appendix E-7 of the Permit Application) once every two years to determine whether additional hazardous constituents are present in the uppermost aquifer? [Condition G.9.c.v]  Yes  No  N/A \_\_RMK#
30. Has the Permittee found additional constituents present in the monitoring wells? If so,  Yes  No  N/A \_\_RMK#
- a. Has the Permittee re-sampled the affected well(s) within 1 month for the additional detected constituents?  Yes  No  N/A \_\_RMK# 15
31. Did the results of the second analysis confirm the presence of new hazardous constituents? If so,  Yes  No  N/A \_\_RMK# 15
- a. Did the Permittee report their concentrations to the director in writing within 7 days from completion of the second analysis?  Yes  No  N/A \_\_RMK# 15
- b. If the Permittee chooses not to re-sample, did the Permittee report the concentrations of the additional constituents to Ohio EPA within 7 days after completion of the initial analysis?  Yes  No  N/A \_\_RMK#
32. Within 30 days of notifying the director, has the Permittee submitted to Ohio EPA an application for a permit modification to incorporate the additional constituents into the Permit? [Condition G.9.c.vi]  Yes  No  N/A \_\_RMK# 15
- NOTE:** The application must include; an identification of the concentration of each new constituent detected at the compliance point and/or any new well downgradient between the compliance point and the downgradient property boundary; a proposed concentration limit for each new constituent; or, a notice of intent to seek an alternate concentration limit for a hazardous constituent.
33. Has the Permittee maintained a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance for the compliance period? [Condition G.9.c.vii]  Yes  No  N/A \_\_RMK#

34. Has the Permittee determined the ground water flow rate and direction in the uppermost aquifer at least annually? [Condition G.9.c.viii]  Yes  No  N/A \_\_RMK#

**RESPONSE ACTION**

35. Has the Permittee implemented a corrective action program, to remove or treat in place any hazardous constituents specified in Permit Condition G.2(a) that exceed their respective concentration limits specified in Permit Condition G.2(a) in the ground water? [Condition G.9.d.a]  Yes  No  N/A \_\_RMK#14

**NOTE:** The corrective action program shall be detailed in a Corrective Measures Study (CMS), as required by Permit Condition E.8, with the implementation schedule included in the CMS workplan.

36. Has the Permittee submitted a corrective action program that contains all appropriate measures to ensure that ground water quality will achieve compliance in a reasonable time period? [Condition G.9.d.ii]  Yes  No  N/A \_\_RMK#16

**NOTE:** Until such time that the CMS and a Corrective Action program is implemented in accordance with Permit Conditions E.8 and E.9, the Permittee shall follow an Integrated Ground Water Monitoring Program in accordance with the conditions of this permit module.

37. Has the Permittee continued the corrective action measures during the compliance period to the extent necessary to ensure that the GWPS is not exceeded? [Condition G.9.d.iii]  Yes  No  N/A \_\_RMK#

**NOTE:** If the Permittee is conducting corrective action at the end of the compliance period, the Permittee must continue corrective action for as long as necessary to achieve compliance with the GWPS.

The Permittee may discontinue corrective action activities during the compliance period when the GWPS has not been exceeded at any well listed in Permit Condition G.3(b) for any constituent listed in Permit Condition G.2(a) for three consecutive years (i.e. 6 consecutive semi-annual sampling events). The Permittee must continue a compliance monitoring program under OAC Rule 3745-54-99 for the remainder of the compliance period.

38. Has the Permittee reported in writing to the director on the effectiveness of the corrective action monitoring program on a semiannual basis according to Permit Condition G.8? [Condition G.9.e.]  Yes  No  N/A \_\_RMK#

Yes  No  N/A \_\_RMK#

39. If the Permittee has determined that the corrective action monitoring program established by this permit no longer satisfies the requirements of OAC Rule 3745-55-011, has the Permittee submitted an application for a permit modification per OAC Rule 3745-50-51 to make any appropriate changes to the program within 90 days of that determination?

## REMARKS

- #14) Hazardous constituents in ground water exceed concentration limits in the uppermost aquifer. Cytec is addressing ground water corrective action measures concurrent with the CMS.
- #15) Past monitoring results have revealed the presence of additional constituents. In these cases, Cytec followed the provisions of condition G.9. of the Part B permit, and the regulations in OAC 3745-54-98 and 3745-54-99. Cytec submitted a class 1A permit modification to incorporate the new constituents into the ground water monitoring program.
- #16) Cytec submitted, and Ohio EPA approved, a CMS Workplan for the facility that incorporates ground water corrective action measures. The CMS Report has been submitted to and approved by Ohio EPA.

