

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: ITW Philadelphia Resins
Facility Address: 130 Commerce Drive, Montgomeryville, PA 18936
Facility EPA ID #: PAD002278224

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units [SWMU], Regulated Units [RU], and Areas of Concern [AOC]), been **considered** in this EI determination?
- If yes – check here and continue with #2 below.
- If no – re-evaluate existing data, or
- If data are not available skip to #6 and enter “IN” (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of “Migration of Contaminated Groundwater Under Control” EI

A positive “Migration of Contaminated Groundwater Under Control” EI determination (“YE” status code) indicates that the migration of “contaminated” groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original “area of contaminated groundwater” (for all groundwater “contamination” subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The “Migration of Contaminated Groundwater Under Control” EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 2

2. Is groundwater known or reasonably suspected to be “contaminated”¹ above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

_____ If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

 X If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

_____ If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

ITW Philadelphia Resins is a division of Illinois Tool Works (ITW), a global industrial company that has been in business since 1912. ITW currently operates at 130 Commerce Drive (formerly 26 Commerce Drive) manufacturing a variety of adhesives and specialty coatings for industrial and marine applications. The majority of the products are epoxy-based adhesives, specialty coatings, and pourable chocking and grouting compounds. Prior to ITW’s acquisition of the facility in 1983, the facility was privately owned and operated as Philadelphia Resins Corporation. The facility’s administration and rope making operation remained at 20 Commerce Drive until 1985, when the property and the rope making operation was sold to Phillystran who currently operates at 20 Commerce Drive. Note: The facility was permitted to operate a hazardous waste storage facility at the 26 Commerce Drive property (also known as 130 Commerce Drive).

The facility consists of a 38,000 square foot manufacturing plant that includes administrative offices and a laboratory. The northern portion of the building consists of office space, the laboratory (used for quality control and quality-assurance tests, as well as product improvement and new product development), and the hazardous waste storage area. The raw materials storage, manufacturing area, finished materials storage, and shipping/receiving docks are located in the southern portion of the building. The manufacturing process consists of blending raw materials to form the finished products. Raw materials including epoxy resins, hardeners, fillers, and modifiers are received at the facility via the receiving dock. Resins and hardeners are stored in the facility’s six indoor aboveground storage tanks (ASTs). Fillers are received in bags. The raw materials are blended in six separate mixing pots of varying capacities located in the manufacturing area. When well-blended, the mixtures are transferred to the dispensing area where the final products are dispensed into containers either by gravity or ramming. The final products are then transferred to the final product storage area located in the southeastern corner of the building.

The facility generates waste as a result of cleaning the mixing equipment with solvents after use. The solvent wastes, which also contain resins and curing agents, are subsequently drummed and transported to the waste accumulation area awaiting off-site disposal by licensed contractors. Prior to 1983, the waste accumulation area consisted of an open, caged, asphalt-paved area located outside of the northwestern corner of the building. In 1983, the outdoor waste accumulation area was closed (Professional Engineer Certification of Closure, 1985); and in 1985, the facility constructed an addition to the building in the same area. Currently, all wastes generated at the facility are stored in this area of the building.

The facility operates as a large quantity generator (LQG) of hazardous waste. Wastes generated at the facility primarily of consist of D001 (characteristically ignitable) and F003/F005 (spent non halogenated solvents) wastes. The facility also is a LQG of residual wastes that include silica sand filler, epoxy resin blends, wastewater, surface coatings, and plant trash (PADEP, 2009). The facility also operates under a Natural Minor State Only Operating Permit (No. NMOP-46-00107), and a National Pollutant Discharge Elimination System (NPDES) permit (No. PAR230021). The facility also reported under the Toxic Release Inventory System (18936TWPHL130C0) according to PADEP eFACTS website updated on May 22, 2008. The facility was required to register with USEPA as a pesticide-producing facility (055363PA001) in accordance with Section 7 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) because of its past use of

¹“Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 3

tributyltin (an antifouling agent) in its marine paints. Facility representatives stated that tributyltin is no longer used at this facility.

The water supply for the facility is provided by the North Wales Water Authority (NWWA). According to the Pennsylvania Department of Conservation of Natural Resources (PA DCNR) Groundwater Information System (PaGWIS), there are four private supply wells located within 0.5 miles of the facility. The closest well is located approximately 0.3 miles southeast of the facility. Reported well depths for these private wells range from 218 feet to 508 feet.

There have been no known releases to groundwater at the site. Hazardous wastes and regulated substances (raw products in ASTs) are stored inside of the building on the concrete, epoxy-coated floors and within secondary containment units (e.g., three-foot high concrete walls and recessed/curbed concrete floors). Some minor staining was observed on the asphalt pavement around the containment box situated beneath the fill ports associated with the indoor regulated ASTs and near the fill ports for the indoor unregulated ASTs. Closure of the outdoor waste drum storage area in 1983 was conducted in accordance with the Pennsylvania Department of Environmental Protection (PADEP)-approved closure plan and was certified by a Professional Engineer on PADEP certification forms. This area was enclosed and currently serves as the facility's labeling department. Based on this information, the exposure pathway or release controls for groundwater are not required at this time.

Note: Two PADEP Land Recycling Program (Act 2) clean-up sites also are located in close proximity to the facility. These include the property located directly southwest of the facility (SGS-Thomson Microelectronics (SGS) [formerly Advanced Power Technology RF Pennsylvania, Inc. - PAD021047584] formerly located at 140 Commerce Drive) and the property located approximately 700 feet northeast of the facility (Thomas & Betts Corporation formerly located at 120 Commerce Drive). Documents pertaining to these sites were not reviewed as part of the EI for this facility. An NIR was submitted to PADEP for the SGS site on October 28, 1996. A final report concerning remediation of site soils and groundwater contaminated with chlorinated solvents and benzene, toluene, ethylbenzene, and xylenes (BTEX) was submitted in December 1996. The report documented demonstration of the PADEP non-residential statewide health standards for soil and site-specific standard for groundwater. The final report was approved on February 26, 1997 with implementation of deed restrictions and use of engineering controls. One monitoring well related to this investigation was observed on the property boundary between ITW and the former SGS facility.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 4

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”² as defined by the monitoring locations designated at the time of this determination)?

_____ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”²).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”²) - skip to #8 and enter “NO” status code, after providing an explanation.

_____ If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

4. Does “contaminated” groundwater **discharge** into **surface water** bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

_____ If no - skip to #7 (and enter a “YE” status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater “contamination” does not enter surface water bodies.

_____ If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

² “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 5

5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration³ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater “level,” and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter “YE” status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of “contaminated” groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration³ of each contaminant discharged above its groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate groundwater “levels,” the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter “IN” status code in #8.

Rationale and Reference(s):

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 6

6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter “IN” status code.

Rationale and Reference(s):

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 7

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

_____ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 8

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

YE Yes, "Migration of Contaminated Groundwater Under Control" has been verified.

Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the **ITW Philadelphia Resins** facility, EPA ID # **PAD002278224**, located at **130 Commerce Drive, Montgomeryville, PA 18936**. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

NO - Unacceptable migration of contaminated groundwater is observed or expected.

IN - More information is needed to make a determination.

Completed by (signature) *Camelia M. Draghiciu* Date 3/22/2011
(print) Camelia M. Draghiciu
(title) Geologic Specialist

Supervisor (signature) *Mohamad Mazid* Date 3/22/2011
(print) Mohamad M. Mazid, P.E., PhD.
(title) Environmental Engineer Manager
(EPA Region or State) PA DEP, Southeast Regional Office

Locations where References may be found:

USEPA Region III
Waste and Chemical Mgmt. Division
1650 Arch Street
Philadelphia, PA 19103

PADEP
South East Regional Office
2 E Main Street
Norristown, PA 19401

Contact telephone and e-mail numbers

(name) Camelia M. Draghiciu
(phone#) 484.250.5743
(e-mail) cdraghiciu@state.pa.us

Facility Name:
EPA ID#
City/State

ITW Philadelphia Resins
PAD002278224
Montgomeryville, PA 18936

MIGRATION OF CONTAMINATED GROUNDWATER UNDER CONTROL (CA 750)

