

**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**

Interim Final 2/5/99

**RCRA Corrective Action**

**Environmental Indicator (EI) RCRIS code (CA725)**

**Current Human Exposures Under Control**

**Facility Name:** FCI USA Inc.  
**Facility Address:** 320 Busser Road Emigsville, PA 17318  
**Facility EPA ID #:** PAD000796334

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, 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 #8 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 "Current Human Exposures Under Control" EI**

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "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 "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

**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).

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated”<sup>1</sup> above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	X			See below
Air (indoors) <sup>2</sup>		X		
Surface Soil (e.g., <2 ft)	X			See below
Surface Water		X		
Sediment		X		
Subsurf. Soil (e.g., >2 ft)	X			See below
Air (outdoors)		X		

- ☒ If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.
- ☐ If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.
- ☐ If unknown (for any media) - skip to #6 and enter “IN” status code.

**Rationale and Reference(s):**

FCI USA Inc. (then known as DuPont Connector Systems) received a Final Decision for No Further Action (NFA) from the U.S. Environmental Protection Agency on May 14, 1992 for the facility located at 320 Busser Road Emigsville, PA 17318. A Human Exposure Under Control Environmental Indicator was completed on 8/20/2008 to satisfy agency obligations for public awareness because the EI forms were developed after the Final Decision and not completed to date. The decision to issue an NFA at the Facility was due to the results submitted in a Verification Investigation (VI) final report received on November 25, 1991. The analytical results for the soil samples taken during the VI showed that the levels of contamination present at the site were far below EPA criteria for remedial action or potential migration to the groundwater. Therefore, the EI prepared at that time concluded that human exposures were under control.

On November 16, 2005 FCI, due to property transfer to Mundis Race Associates, LLC, entered into the PA Act 2 program by submitting a Notice of Intent to Remediate (NIR), in accordance with Act 2 requirements. Between 2000 and 2015, several additional phases of site investigations were performed initially under the FCI corporate due diligence process and under Act 2. Accordingly, this updated EI is being prepared.

A Revised Remedial Investigation and Final Report (RIFR) was submitted to PADEP on April 3, 2017 and conclusions were as follows:

**Groundwater** has been found to be impacted with the following Constituents of Concern (COCs):

- 1,1,1-trichloroethane (TCA)
- Trichloroethylene (TCE)
- 1,1-dichloroethylene (DCE)

- Cis 1,2-dichloroethylene
- 1,4-dioxane (14D)
- Vinyl chloride (VC)
- Nickel (Ni)
- Manganese (Mn)

**Soil (surface and sub-surface)** has been found to be impacted with the following COCs:

- 1,1,1-trichloroethane (TCA)
- Trichloroethylene (TCE)
- 1,1-dichloroethylene (DCE)
- 1,1-dichloroethane (DCA)
- Cis 1,2-dichloroethylene: (C12 DCE)
- 1,4-dioxane (14D)
- Vinyl chloride (VC)
- Nickel (Ni)
- 1,1,2,2-tetrachloroethylene

#### **Surface Water and Sediment:**

Surface water and sediment sampling from Emig Run and Codorus Creek have not identified impacts from site-related or regional groundwater impacts. Low-level VOCs are present and persistent in the surface water samples from Codorus Creek; however, these contaminant concentrations are consistent levels compared to discharges upstream of the site.

#### **Indoor Air:**

The Site groundwater and soil impacts, including the background TCE related impacts; do not present an unacceptable risk of indoor vapor intrusion to existing on-site or downgradient off-site buildings based on comparison of the soil and groundwater characterization data with the Act 2 Vapor Intrusion Guidance Soil and Groundwater Screening Values For Protection of Indoor Air. Residual soil contamination by TCA and related compounds present beneath a former loading dock sump (AOC 3) were assessed via soil sampling and soil vapor sampling. Sub-slab soil vapor data were below the screening values for all analyzed compounds.

#### **Outdoor Air:**

There is no known or reason to suspect outdoor air could be contaminated above appropriately protective risk-based levels from releases subject to RCRA Corrective Action based on the comparison to indoor air data detailed above.

#### **Reference:**

Revised Remedial Investigation and Final Report, April 3, 2017, HRP Associates, Inc.  
Environmental Indicator, Migration of Groundwater Under Control, EPA, September 12, 2017

#### **Footnotes:**

<sup>1</sup> “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 appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

<sup>2</sup> Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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2. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

**Summary Exposure Pathway Evaluation Table**

Potential **Human Receptors** (Under Current Conditions)

<b><u>“Contaminated” Media</u></b>	Residents	Workers	Day-care	Construction	Trespassers	Recreation	Food <sup>3</sup>
Groundwater	no	no	no	no	no	no	no
Air (indoors)							
Soil (surface, e.g., <2 ft)	no	no	no	no	no	no	no
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)	no	no	no	no	no	no	no
Air (outdoors)							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated” as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“\_?”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- ☒ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- ☐ If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.
- ☐ If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

**Groundwater:**

The Site and entire Site vicinity are presently supplied with public water and all presently developed properties have been connected. All wells which were formerly in use on nearby properties have been taken out of service and were properly abandoned, thereby eliminating the drinking water ingestion pathway. The local ordinances requiring mandatory connection and the availability of the extended water mains for future development ensure

that this condition will continue to be met in the future. It is noted that the geographic extent of the ordinances areas of applicability were extended into areas well beyond the known extent of contamination to areas where public water is already available and (in the case of Springettsbury Township) connect to an existing groundwater use prohibition zone (The Mount Zion Water District). A proposed UECA Covenant for the Site also prohibits any use of Site groundwater for human or agricultural uses.

**Soil (surface and sub-surface):**

A limited area of nickel in soil above Soil to GW MSCs in the Former Plating Pit Area remains in areas where excavation would have compromised building integrity. The floor slab caps this area. The UECA Covenant requires that the capping of this area is maintained and any future disturbance of impacted soils is managed.

The concrete floor slab caps the Former Loading Dock Sump Area where DCE was the only VOC detected above Soil to GW MSCs. The UECA Covenant requires that the capping of this area is maintained and manage any future disturbance of impacted soils.

Impacted soils are present at depth (>15 feet below grade) in the Former On-site septic system - TCE Release Area and are capped by clean soils. No direct contact MSC exceedances were identified, only soil to groundwater exceedances in some samples. This area includes a non-disturbance clause in the proposed UECA covenant to maintain current conditions.

<sup>3</sup> Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**<sup>4</sup> (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?
- ☐ If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”
- ☐ If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”
- ☐ If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

<sup>4</sup> If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

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5. Can the “significant” exposures (identified in #4) be shown to be within acceptable limits?
- ☐ If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing and referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).
- ☐ If no - (there are current exposures that can be reasonably expected to be “unacceptable”)- continue and enter “NO” status code after providing a description of each potentially “unacceptable” exposure.
- ☐ If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code.

Rationale and Reference(s):



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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI (event code CA725), 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, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the FCI USA Inc. facility, EPA ID # PAD000796334, located at 320 Busser Road, Emigsville, PA, 17318 under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.
- ☐ NO - "Current Human Exposures" are NOT "Under Control."
- ☐ IN - More information is needed to make a determination.

Completed by

(signature) 

Date 9/13/17

(print) Kevin Bilash

(title) RCRA Project Manager

Supervisor

(signature) 

Date 9-13-17

(print) PAUL J. GROTTTEL

(title) ASSOC DIRECTOR LCIS

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