

**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:** General Electric Transportation Systems  
**Facility Address:** 2901 East Lake Road, Lawrence Park Township; Erie, PA 16531  
**Facility EPA ID #:** PAD 005 033 055

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 #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 nonhuman (ecological) receptors is intended to be developed in the future.

**Definition of "Current Human Exposures Under Controls" 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).

**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRIS code (CA725)**

Page 2

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	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>
Air (indoors) <sup>2</sup>	<u>      </u>	<u>X</u>	<u>      </u>	<u>      </u>
Surface Soil (e.g., <2 ft)	<u>      </u>	<u>X</u>	<u>      </u>	<u>      </u>
Surface Water	<u>      </u>	<u>X</u>	<u>      </u>	<u>      </u>
Sediment	<u>      </u>	<u>X</u>	<u>      </u>	<u>      </u>
Subsurface Soil (e.g., >2 ft)	<u>      </u>	<u>X</u>	<u>      </u>	<u>      </u>
Air (outdoors)	<u>      </u>	<u>X</u>	<u>      </u>	<u>      </u>

       If no (for all media) – skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient support documentation demonstrating that these "levels" are not exceeded.

X 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):

An Environmental Indicator Inspection Report was completed in December 2002 for the General Electric Transportation Systems facility located at 2901 East Lake Road, Lawrence Park Township, Erie, PA 16531 (Facility). Since 2009, the Facility has been monitoring sitewide groundwater in accordance with a combination of an EPA approved RCRA 2020 Corrective Action Work Plan and bi-annual post closure monitoring. Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) being investigated are:

- Waste Disposal Area #1 (SWMU 1) - This area is located in the northwest corner of the facility (including the area now covered by parking lots and operations buildings) and was operated from approximately 1920 through 1980. This unit was used for disposal of demolition wastes, foundry sands, and general plant trash in addition to small quantities of asbestos board, paint residue, carbide slag, and wastewater treatment sludge. GE reports that the wastewater treatment sludge was removed from this SWMU in 1978 and deposited in the currently operating sludge landfill.
- Waste Disposal Area #2 (SWMU 2) – This SWMU was located in the northeast portion of the facility and was operated from 1920 until 1979. The unit was used for disposal of Class III materials, including demolition wastes, foundry sands, and general plant trash in addition to small quantities of asbestos board, paint residue, carbide slag, and wastewater treatment sludge. This area was also used for temporary storage of creosote treated wood blocks

<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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used for building flooring. In addition, sludges (containing dirt and oil) from sump cleaning throughout the facility were disposed in two pits on top of the fill area.

- Open Pit Burning Area (SWMU 5) - This unit was located in the southwest portion of the facility in an area now containing a paved roadway and parking area adjacent to Building 44J. This unit was in use until the waste solvent incinerator unit was put in operation. This SWMU was believed to first be put into operation in approximately 1910 and last operated in 1955. The unit incinerated general plant trash and some waste solvents and oils.
- Wastewater Treatment Sludge Landfill/In-Plant Closed Landfill (SWMU 6) - Operation of this RCRA-permitted SWMU began in 1978 and ceased in September 1987 (closed in approximately 1987). The landfill is approximately one-half acre in size and has a holding capacity of 2,400 cubic yards.
- Sitewide Groundwater (AOC) - Due to the history of industrial use and minor spills indicated in the 2002 Environmental Indicator Inspection Report, the EPA determined the sitewide groundwater was an Area of Concern.

#### **Groundwater:**

Groundwater monitoring of SWMU 6 has been on-going since landfill closure as part of the bi-annual post closure monitoring. The groundwater sampling data, collected as part of GE's bi-annual post closure monitoring of the Wastewater Treatment Sludge Landfill, indicate concentrations of:

Prior to the RCRA 2020 Corrective Action Work Plan, there was no monitoring program to determine if impacts to the groundwater across the Facility has occurred as a result of historical operation or spills. Monitoring wells results from the most recent January 2015 Corrective Action Investigation Report indicate concentrations of 1,2-dichloroethane (1.4 ppm); cis-1,2-dichloroethene (5 ppm); methylene chloride (1.3 ppm); tetrachloroethene (0.51 ppm); trichloroethene (1.8 ppm); and vinyl chloride (1.9 ppm) in exceedance of their respective EPA Industrial Regional Screening Levels (IRSLs) and the PADEP non-residential non-use aquifer medium-specific concentration (MSCs) in SWMU 5.

#### **Air (indoors):**

The areas where contamination has been identified does not cause reason to suspect contamination in indoor air at the facility.

#### **Subsurface Soil:**

Subsurface soil samples taken in SWMUs 1, 2, and 5 as part of the RCRA 2020 Corrective Action investigation indicate that concentration of all detected Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Metals, and Polychlorinated Biphenyls (PCBs) were below EPA's IRSLs.

#### **Surface Water:**

No surface water bodies exist within the Facility property boundary.

#### **Sediment:**

Not sediment areas exist within the Facility property boundary.

#### **Surface Soil:**

Surface soil samples taken in SWMUs 1, 2, and 5 as part of the RCRA 2020 Corrective Action investigation indicate that concentration of all detected Volatile Organic Compounds (VOCs), Semi-volatile Organic Compounds (SVOCs), Metals, and Polychlorinated Biphenyls (PCBs) were below EPA's IRSLs.

**Air (Outdoors):**

GE follows its Title V permit carefully and there is no significant history of air releases at the facility.

**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRIS code (CA725)**

Page 3

3. 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)

<u>"Contaminated Media"</u>	<u>Residents</u>	<u>Workers</u>	<u>Day-Care</u>	<u>Construction</u>	<u>Trespassers</u>	<u>Recreation</u>	<u>Food</u> <sup>3</sup>
Groundwater	No	No	No	Yes	No	No	No
Air (indoors)							
Soil (surface, e.g., <2 ft)							
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)							
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.

\_\_\_\_\_

X

\_\_\_\_\_

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):

A Groundwater Usage Evaluation Report was prepared in January 2015 to support the Fourth Supplemental Corrective Action Investigation Report. In summary, it concluded that there are no groundwater potable supply wells in the vicinity of

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

the Facility, residents are supplied drinking water by the local water supply which draws water from Lake Erie, and a local ordinance prohibits the use of groundwater or the installation of supply wells. Therefore, there are no current or anticipated future pathways from groundwater to residents, day-care, recreation, or food.

A Risk Assessment Report (RAR) was also prepared for the Facility in January 2015 to support the Fourth Supplemental Corrective Action Investigation Report. The RAR addressed both human health and ecological receptors at the Facility. It concluded that the only potential complete pathway was a construction/utility workers exposed to the VOCs in SWMU5 during intrusive activities.

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRIS code (CA725)**  
Page 4

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be "**significant**" (i.e., potentially<sup>4</sup> "unacceptable" levels) 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)?

X \_\_\_\_\_ 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):

As part of the RAR, potential receptor exposures were evaluated. Based on the information used as part of the HHRA, the calculated exposure risk was within the EPA target risk range and is not expected to be significant.

<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.

**Current Human Exposures Under Control**  
**Environmental Indicator (EI) RCRIS code (CA725)**  
Page 5

5. Can the "significant" exposures (identified in #4) be shown to be within acceptable limits?

X

If yes (all "significant" exposures have been shown to be within acceptable limits)– continue and enter a "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 a "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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**Current Human Exposures Under Control  
Environmental Indicator (EI) RCRIS code (CA725)**


Page 6

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI eventcode (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

X 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 General Electric Transportation Systems facility, EPA ID PAD 005 033 055, located at 2901 East Lake Road, Lawrence Park Township, Erie, PA 16531, 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 9/29/15

(print) Kevin Bilash

(title) RPM

Supervisor: (signature)  Date 9-29-15

(print) Paul J. Gotthold

(title) Associate Director,  
Office of PA Remediation

(EPA Region or State) EPA Region III

Locations where References may be found

U.S. EPA Region III

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**FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.**