

**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**

August 28, 2007

**RCRA Corrective Action  
Environmental Indicator (EI) RCRIS code (CA725)**

**Current Human Exposures Under Control**

**Facility Name: General Electric Residential Products (formerly Caribe General Electric Products)**  
**Facility Address: State Road 191 Palmer, Puerto Rico**  
**Facility EPA ID #: PRD090510793**

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**

The **General Electric Residential Products, formerly Caribe General Electric Products (Caribe GE)** is a former electro-plating facility, located in Palmer Ward, Municipality of Rio Grande, Commonwealth of Puerto Rico. The facility is located on both sides of State Road 191, adjacent to the Mameyes River which forms the Facility's southeast boundary. The Rio Mameyes flows north and drains an area of approximately 17 square miles from the flanks of the Luquillo National Rain Forest ("El Yunque") to the Atlantic Ocean. The surface waters of the Rio Mameyes are used as a municipal drinking water source, at a municipal intake point located approximately 2,000 feet downstream (i.e., northeast) of the Caribe GE facility. Besides the Rio Mameyes, the areas surrounding the facility include agricultural fields, dense overgrown areas (non-cultivated), and residential housing located approximately 1000 feet north of the facility, in the Mameyes development (Palmer post office). No other manufacturing facilities are nearby.

The facility commenced operations in 1956. From 1956 until 1981 wastewaters from the facility's electroplating (metal plating) operations, located in Building No.1 on the west side of State Road 191, were transferred via underground piping from the electroplating area to two surface impoundments (Lagoons A and B), located on the east side of State Road 191. The wastewaters were temporarily held in Lagoons A and B to allow particulates to settle out and accumulated as a sludge. This sludge is the listed hazardous waste F006. Following settling of the sludges, the wastewaters were formerly discharged by underground piping to the Rio Mameyes. According to GE, the two lagoons stopped receiving wastewaters in December 1981. However, the lagoons were not closed until between November 1989 and September 1991, when, under an approved RCRA Closure Plan, all liquids, sludges and contaminated soils were removed from the two surface impoundments, and they were closed and capped. Because subsequent groundwater monitoring revealed that dissolved cadmium continued to be detected in the groundwater at concentrations exceeding the MCL of 0.005 mg/L, a RCRA Post-closure permit was issued in 1998. The post-closure permit required investigations to fully delineate the dissolved cadmium plume in the groundwater and continued groundwater monitoring to confirm that there are no unacceptable impacts from the two closed surface impoundments. Almost ten years of groundwater monitoring have revealed no unacceptable impacts from the two closed surface impoundments.

In 2003, Caribe GE closed all operations at the Facility, and in 2004 sold that portion of the facility located on the west side of State Road 191 to the Puerto Rico Industrial Development Company (PRIDCO); however, GE retained ownership of the portion of the Facility on the east side of State Road 191, where the two closed surface impoundments are located. Currently, no portions of the Facility (both the PRIDCO and GE owned) are being utilized or occupied.

In conjunction with the sale of part of the Facility to PRIDCO, Caribe GE performed extensive groundwater investigations on the portion of the facility on the west side of State Road 191. Based on those investigations, Caribe GE discovered chlorinated solvent plumes in the groundwater underlying the portion of the Facility on the west side of State Road 191, which were not associated with any SWMUs or AOCs addressed under the 1998 Post-closure permit. The chlorinated solvent constituents in the groundwater include: cis - 1,2-Dichloroethene (“DCE”), tetrachloroethene “PCE”), and trichloroethene (“TCE”). Since 2004, Caribe GE has performed extensive groundwater investigations and submitted the results to EPA. The chlorinated solvent constituents in the groundwater underlying the portion of the Facility on the west side of State Road 191 appear to discharge to the surface waters of the Rio Mameyes. However, in 2007 Caribe GE conducted sampling of the surface waters in the Rio Mameyes and found no detections of chlorinated solvents in the surface waters of the Rio Mameyes. Therefore, based on the information currently available to EPA and current site usage, no unacceptable risks to human health are indicated. Nevertheless, EPA has requested Caribe GE to submit by September 30, 2007 a proposed corrective action and groundwater monitoring plan for the chlorinated solvent plumes under the PRIDCO-owned portion of the former facility.

#### **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, GPRAs). 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).

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>Key Contaminants</u> : Volatile Organic Constituents (VOCs), primarily underlying the PRIDCO owned portions of the closed facility. The VOCs include: trichloroethene (TCE), cis-1, 2-dichloroethene (DCE), tetrachloroethene (PCE), vinyl chloride, and 1,1-Dichloroethene. Also, the metal cadmium, in the area of the two closed surface impoundments. See Rationale discussion below.
Air (indoors) <sup>2</sup>	___	___	<u>?_</u>	Not evaluated, since all buildings on-site are no longer occupied or utilized. These buildings formerly contained industrial manufacturing facilities. In addition, no residential, child-care or school buildings are overlying or down-gradient of the known TCE, DCE, and PCE plumes in the groundwater.
Surface Soil (e.g., <2 ft)	<u>X</u>	___	___	Although several metals, primarily arsenic, cadmium, chromium nickel and/or vanadium, have been reported in a limited number of samples from SWMUs 7 and 9, and other areas, in the portion of the facility located west of state road 191, at concentrations exceeding residential Risk-Based Concentrations (RBCs), the areal extent of the elevated metal concentrations appears to be very limited. In addition, except for cadmium, those metal concentrations are very likely the result of natural background conditions, and not a release. (Refer to RFI Final Reports dated June and October 2000 and the December 2003 “New AOC Assessment Report”.) In addition, soils contaminated with metals (primarily cadmium) in the two former hazardous waste surface impoundments, located of east of state road 191, were removed between 1989 and 1991 and the two impoundments were capped with clean fill under a 1989 approved RCRA closure plan.
Surface Water	___	<u>X</u>	___	Surface water sampling was conducted by EPA in the Honduras Creek in September 2000 and in the Rio Mameyes adjacent to the GE facility, in December 2000. These surface water samples were analyzed for TAL metals (including cadmium), and several

biological parameters (fecal coliforms, etc.). No exceedance of risk-based concentrations for TAL metals (including cadmium) were measured. Surface water sampling conducted in June 2007 on behalf of GE indicates that there are no adverse impacts to the surface waters in the Rio Mameyes from chlorinated solvent plume groundwater discharge. A total of six surface water samples were collected in June 2007 from the Rio Mameyes, within and down stream of the “projected groundwater discharge zone”, as well as two background samples, collected up-stream of the “projected groundwater discharge zone”. The chlorinated solvent constituents present in the groundwater were all measured at non-detect levels (less than 1.0 ug/L - 0.8 ug/L), all of which below the respective MCL or RBSC levels

Sediment	___	<u>X</u>	___	Sediment sampling was conducted by EPA in the Honduras Creek in September 2000 and in the Rio Mameyes in December 2000. The sediment samples in the Rio Mameyes were analyzed for TAL metals (including cadmium), TCL volatile organic constituents, including TCE, DCE, and PCE, non-volatile organic constituents, PCBs, and cyanide. No exceedance of risk-based concentrations were measured for those constituents.
Subsurf. Soil (e.g., >2 ft)	___	___	___?	Although arsenic and vanadium, have been reported in a limited number of subsurface samples from SWMUs 7 and 9, and other areas, in the portion of the facility located west of state road 191, at concentrations marginally exceeding residential Risk-Based Concentrations (RBCs), the areal extent of the elevated metal concentrations appears to be very limited, and it has never been definitively established whether those metal concentrations are the result of releases, or natural background conditions. (Refer to RFI Final Reports dated June and October 2000 and the December 2003 “New AOC Assessment Report”.) In addition, soils contaminated with metals (primarily cadmium) in the two former hazardous waste surface impoundments, located of east of state road 191, were removed between 1989 and 1991 and the lagoons were capped with clean fill under a 1989 approved RCRA closure plan.
Air (outdoors)	___	<u>X</u>	___	The facility is closed. No manufacturing, processing, or waste management activities occur at the site.

\_\_\_\_\_ 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.

\_\_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):**

Groundwater Recent maximum concentrations of Volatile Organic Compounds measured in groundwater, in micrograms/liter (ug/l), include: TCE at 4400 ug/L and 3700 ug/l (well MW-K in November and March 2006, respectively ), PCE at 710 ug/l and 460 ug/L (well MW-E in March and November 2006, respectively ), DCE at 450 ug/l and 470 ug/L (well MW-E in March and November 2006, respectively ), and vinyl chloride at 110 ug/L (well MW-E in November, 2006).

Historical maximum concentration levels of Volatile Organic Compounds measured in groundwater: TCE 3000 ug/l (July 2004 in well MW-H); DCE 520 ug/l (July 2004 in well MW-I); PCE 380 ug/l (June 2004 in well MW-E); and vinyl chloride at 120 ug/L (June 2004 in well MW-E). Refer to September 2004 report “New Area of Concern Down-Gradient Extent of Volatile Organic Compounds in Groundwater”, prepared by MWH Americas, Inc for GE.

Maximum concentration of cadmium measured in groundwater, in milligrams/liter (mg/l): 0.072 mg/l (well D-2 in March 1998). Most recent maximum concentration of cadmium measured in groundwater: 0.0022 mg/l (well D-2 in December, 2006). Refer to March, 2007 “Semiannual Post-Closure Groundwater Monitoring Report”, prepared by MWH Americas, Inc for GE. Also, see April 1999 report “Assessment of Nature and Extent of Dissolved Cadmium in Groundwater”, prepared by Montgomery Watson for GE.

**References:**

Groundwater:

- 1) “New Area of Concern, Down -gradient Extent of Volatile Organic Compounds in Groundwater”, prepared by MWH for General Electric, September 2004.
- 2) “New Area of Concern, Monitored Natural attenuation Summary Report”, prepared by MWH for General Electric, December 2005
- 3) “New Area of Concern, Groundwater Assessment Summary Report”, prepared by MWH for General Electric, June 2006
- 4) “New Area of Concern, Confirmation Sampling Results and Plume Delineation and Source Assessment Work Plan ”, prepared by MWH for General Electric, September 2006
- 5) “New Area of Concern, Revised Plume Delineation and Source Assessment Report ”, prepared by MWH for General Electric, May 2007
- 6) December 2003 “New AOC Assessment Report”, prepared by MWH Americas, Inc for GE.

7) April 1999 report "Assessment of Nature and Extent of Dissolved Cadmium in Groundwater", prepared by Montgomery Watson for GE, and

8) Semiannual Post-Closure Groundwater Monitoring Reports, submitted under the 1998 RCRA Post-Closure Permit; most recent report is the 2006 Second Semiannual Report, submitted March 12, 2007 by MWH Americas Inc. (William Bowen), on behalf of General Electric.

Surface and subsurface soil: Surface soil samples (0 - 1 foot below surface) collected in 1999 and 2000 at SWMUs 7 (Drum Container Storage Area) and SWMU 9 (Drum Storage Waste Pile) found arsenic at a maximum concentration of 2 mg/kg; and cadmium at 70 mg/kg (both at sample SB09-03), and vanadium at 288 mg/kg (sample SB09-04). These surface soil concentrations exceed the Region 3 residential Risk-Based Concentration (RBC) values of 0.43 mg/kg arsenic; 39 mg/kg cadmium, and 78 mg/kg vanadium, respectively. Subsurface soil samples also collected in 1999 at SWMUs 7 and 9 found arsenic at a maximum concentration of 0.53 mg/kg (sample SB09-005) and vanadium at 392 mg/kg (sample SB09-04), exceeding their respective residential RBCs of 0.43 mg/kg arsenic and 78 mg/kg vanadium. In addition, surface soil samples collected in 2003 in the (PRIDCO owned) portions of the facility located west of state road 191 reported arsenic at a maximum concentration of 1.6 mg/kg; chromium (total) at maximum concentration of 172 mg/kg; and vanadium 311mg/kg,. Since the April 2007 Region 3 residential Risk-Based Concentration (RBC) values for chromium IV (there is no RBC for undifferentiated total chromium) is 230 mg/kg and the alternative Region 9 residential "preliminary remediation goal" (PRG) concentration for undifferentiated total chromium is 210 mg/kg, only arsenic and vanadium were found in 2003 in subsurface soils exceeding (marginally) their residential RBC and/or PRG. The areal extent of the elevated metal concentrations in both surface and subsurface soils appears to be limited, and, except for the cadmium concentrations measured above residential RBCs in several surface soil samples at SWMUs 7 and 9, it appears that the other metal concentrations (arsenic, chromium, and vanadium) may be the result of natural background conditions (due to the predominance of igneous source rocks in this area), rather than releases.

#### **References:**

##### Surface and subsurface soil sampling results:

1) October 2005 "New Area of Concern Up-gradient Reconnaissance and Potential Source Area Evaluation Report", prepared by MWH Americas, Inc for GE.

2) December 2003 "New AOC Assessment Report", prepared by MWH Americas, Inc for GE.

3) October 2000 "RCRA Facility Investigation Report SWMUs 2, 4, 6, 10, 11 and 13" prepared by Montgomery Watson for GE.

4) June 2000 "RCRA Facility Investigation Report SWMUs 7 and 9" prepared by Montgomery Watson for GE.

5) January 1992, "Closure Certification for RCRA Interim Status Surface Impoundments" prepared by Law Environmental for GE,

Sediment and surface water sampling results: Surface water sampling was conducted by EPA in the Honduras Creek in September 2000 and in the Rio Mameyes adjacent to the GE facility, in December 2000. These surface water samples were analyzed for TAL metals (including cadmium), and several biological parameters (fecal coliforms, etc.). No exceedance of risk-based concentrations for TAL metals (including cadmium) were measured. Surface water sampling conducted in June 2007 on behalf of GE indicates that there are no adverse impacts to the surface waters in the Rio Mameyes from chlorinated

solvent plume groundwater discharge. A total of six surface water samples were collected in June 2007 from the Rio Mameyes, within and down stream of the “projected groundwater discharge zone”, as well as two background samples, collected up-stream of the “projected groundwater discharge zone”. The chlorinated solvent constituents present in the groundwater were all measured at non-detect levels (less than 1.0 ug/L - 0.8 ug/L), all of which below the respective MCL or RBSC levels.

Sediment sampling was conducted by EPA in the Honduras Creek in September 2000 and in the Rio Mameyes in December 2000. The sediment samples in the Rio Mameyes were analyzed for TAL metals (including cadmium), TCL volatile organic constituents, including TCE, DCE, and PCE, non-volatile organic constituents, PCBs, and cyanide. No exceedance of risk-based concentrations were measured for those constituents.

**References:**

Sediment and surface water sampling results:

- 1) August 8, 2007 letter and attachments regarding “Preliminary [Rio Mameyes] Surface Water Sampling Results”, submitted to Mr. Adolph Everett of EPA, on behalf of General Electric by MWH (William Bowen).
- 2) February 2001 report “RCRA Corrective Action Investigation, Caribe General Electric Products, Rio Mameyes Sediments”, prepared for EPA by Division of Environmental Science and Assessment, EPA Region 2.
- 3) October 2000 report “RCRA Corrective Action Investigation (in Honduras Creek), Caribe General Electric Products”, prepared for EPA by Division of Environmental Science and Assessment, EPA Region 2.

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.

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)

<b><u>“Contaminated” Media</u></b>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation
Food	No_	_no_	no__	_no_	no	No
Groundwater <sup>1</sup>	No_	_no_	no__	_no <sup>2</sup> _	No	no
Air (indoors) <sup>3</sup>	No_	_no_	no__	_no_	no	No
Soil (surface, e.g., <2 ft)	No	No	no	_no <sup>4</sup> _	?	No
Surface Water	Yes (Off-site) <sup>5</sup>	No	No	no	no	no
Sediment	No	No	no	no	no	no
Soil (subsurface e.g., >2 ft)	No_	no	no	no	no	no
Air (outdoors)	No source areas on site/no Evidence of contamination					

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

<sup>1</sup> Groundwater not used as a drinking water source at the facility or down-gradient.

<sup>2</sup> No construction activity currently occurring or planned at the site.

<sup>3</sup> All buildings on-site are no longer occupied or utilized. These buildings formerly contained industrial manufacturing facilities. In addition, no residential, child-care or school buildings are overlying or down-gradient of the known chlorinated solvent plumes in the groundwater. Refer to “Deed of Purchase and Sale” between Caribe GE International Electric Meters Corp (GE) and the Puerto Rico Industrial Development Company (PRIDCO), dated December 8, 2003.

<sup>5</sup> Potential, via discharge of chlorinated solvent contaminated groundwater to the Rio Mameyes, where a public supply drinking water in-take is located approximately 3000 feet downstream of the chlorinated solvent contaminated groundwater discharge zone at the facility.

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): Since a public drinking water surface intake is located on the Rio Mameyes, approximately 3000 feet down-gradient of the GE facility, a potential exposure pathway exists for surface waters in the Rio Mameyes, if they were impacted by discharges of chlorinated solvent contaminated groundwater. However, since no chlorinated solvents were found in the Rio Mameyes surface water samples, any potential human exposure from this pathway is not expected to be significant.

There is no pathway for direct exposure via groundwater since groundwater is not used as a drinking water source at the facility or down-gradient of it.

There is no pathway for indoor air exposure, since all buildings on-site are no longer occupied or utilized. These buildings formerly contained industrial manufacturing facilities. In addition, no residential, child-care or school buildings are overlying or down-gradient of the known chlorinated solvent plumes in the groundwater. No construction activity is currently occurring or planned at the site.

Refer to “Deed of Purchase and Sale” between Caribe GE International Electric Meters Corp (GE) and the Puerto Rico Industrial Development Company (PRIDCO), dated December 8, 2003.

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

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)?

  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):

A) There is No significant risks resulting from any chlorinated solvent groundwater discharges to the surface waters in the Rio Mameyes, based on the following:

1) August 8, 2007 letter and attachments regarding “Preliminary [Rio Mameyes] Surface Water Sampling Results”, submitted to Mr. Adolph Everett of EPA, on behalf of General Electric by MWH (William Bowen), and

2) GE’s request for “Proposed Alternate Concentration Limits (ACLs)”, dated August 17, 1999, and EPA’s letter of October 16, 2001 to General Electric, approving those ACLs.

B) There is no significant risks from the cadmium contaminated groundwater underlying the two RCRA closed, former wastewater treatment surface impoundments, since the cadmium contaminated groundwater does not impact the surface waters of the Rio Mameyes. See:

1) April 1999 report “Assessment of Nature and Extent of Dissolved Cadmium in Groundwater”, prepared by Montgomery Watson for GE, and

2) Semiannual Post-Closure Groundwater Monitoring Reports, submitted under the 1998 RCRA Post-Closure Permit; most recent report is the 2006 Second Semiannual Report, submitted March 12, 2007 by MWH Americas Inc. (William Bowen), on behalf of General Electric.

C) There is no significant risks posed by the metals (including cadmium) in surface and/or subsurface soils, as the site is no longer utilized, and residential and/or day-care usage is prohibited by the Restrictions in the 2003 Deed of Purchase. Refer to “Deed of Purchase and Sale” between Caribe GE International Electric Meters Corp (GE) and the Puerto Rico Industrial Development Company (PRIDCO), dated December 8, 2003.

D) There is no significant risks posed by exposure to indoor air, as the site is no longer utilized, and residential and/or day-care usage is prohibited by the Restrictions in the 2003 Deed of Purchase. Refer to “Deed of Purchase and Sale” between Caribe GE International Electric Meters Corp (GE) and the Puerto Rico Industrial Development Company (PRIDCO), dated December 8, 2003.

<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.

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 (and 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 **General Electric Residential Products, Palmer PR (ex. Caribe General Electric Products)** facility, EPA ID # **PRD090510793**, located at **Km. 05, State Road 191 Palmer, Puerto Rico** 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 \_\_\_\_\_ Date Aug 28, 2007  
\_\_\_\_\_  
Timothy R. Gordon  
Remedial Project Manager  
EPA Region 2

Supervisor 1 (signature) \_\_\_\_\_ Date Aug 28, 2007  
(print) Dale Carpenter  
(title) Chief, Caribbean Section, RCRA Programs Branch  
EPA Region 2

Supervisor 2 (signature) Original signed by: \_\_\_\_\_ Date Aug. 31, 2007  
(print) Adolph S. Everett, P.E.  
(title) Chief, RCRA Programs Branch  
EPA Region 2

**Locations where References may be found:**

\_\_\_\_\_ US EPA, Region 2  
\_\_\_\_\_ 290 Broadway  
\_\_\_\_\_ RCRA File Room, 15<sup>th</sup> Floor  
\_\_\_\_\_ New York, NY 10007

**Contact telephone and e-mail numbers**

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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.**