

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: Honeywell International, Inc.
Facility Address: 98 Westwood Road Pottsville, PA 17901
Facility EPA ID #: PAD069776185

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 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).

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”**¹ 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			Acetone found at concentrations exceed the EPA Region 3 tapwater RBC
Air (indoors) ²		X		Indoor pathway is not complete. See VI evaluation
Surface Soil (e.g., <2 ft)		X		No releases documented
Surface Water		X		No releases documented
Sediment		X		No releases documented
Subsurf. Soil (e.g., >2 ft)	X			Acetone found at concentrations above the EPA Region 3 residential soil direct contact RBC
Air (outdoors)		X		No Releases Documented

_____ 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):

Background:

The facility historically used acetone in the manufacture of specialty films within Building 1, which was piped in

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

² 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.

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

Page 3

from an above-ground storage tank located outside the building. Until November 2003, the use of acetone was only periodically required in the process within Building 1. On November 10, 2003, acetone was required in the building. Between November 14 and 15, 2003, approximately a total of 764 gallons of acetone were released to the environment. Soil and groundwater characterization were performed and contaminated soil was remediated at the facility. Acetone contaminated soil (300 cubic yards) was removed to meet an onsite cleanup goal of 1,000 mg/kg (Act 2 used aquifer non-residential soil to groundwater MSC for acetone) except a volume of soil (approximately 1.3 cubic yard) in an area beneath the southeastern corner of Building 1 due to structural reason. The cleanup goal of 1,000 mg/kg is below the PADEP Act 2 non-residential direct contact MSC of 10,000 mg/kg and EPA Region 3 residential soil direct contact RBC of 61,000 mg/kg. On January 6, 2006, PADEP approved the facility's Remedial Investigation Final Report (RIFR).

Groundwater: Acetone was detected in groundwater at the facility at concentrations up to 15,000 mg/l, above the EPA Region 3 tapwater RBC of 22 mg/l and PADEP Act 2 used-aquifer non-residential MSC of 10 mg/l for acetone. However, acetone was not detected in groundwater samples collected over multiple sampling events (March 2004 through February 2005) from monitoring wells MW-3 and MW4 located at the downgradient property boundary (Act 2 points of compliance). To verify that acetone concentrations will remain below the MSCs at the downgradient property line in the future, groundwater fate and transport modeling in accordance with the Act 2 Technical Guidance Manual was performed. Based upon the groundwater modeling results, it was concluded that the plume had likely reached equilibrium and was decreasing since the source had been removed. The modeling also demonstrated that the predicted concentration of acetone in groundwater at the facility's points of compliance is less than 10 mg/l. The RIFR demonstrated that Act 2 used-aquifer non-residential MSC and EPA Region 3 tap water RBC for acetone were met at the downgradient points of compliance (Remedial Investigation Final Report (RIFR) (MACTEC, 2005)). A deed notice and land use restriction has been in place since June 11, 2007 to prohibit the use of site groundwater for drinking or agriculture purpose.

Air (indoor): The facility's vapor intrusion assessment was performed in accordance with the Act 2 Vapor Intrusion into Buildings from Groundwater and Soil Technical Guidance. The assessment revealed that the indoor air pathway is not complete. (Remedial Investigation Final Report (RIFR) (MACTEC, 2005)).

Surface water: No releases documented (Remedial Investigation Final Report (RIFR)) (MACTEC, 2005).

Subsurface Soil: Acetone was found in sub-surface soil at concentrations as high as 77,000 mg/kg, above the EPA Region 3 residential direct contact RBC of 61,000 mg/kg and the PADEP Act 2 non-residential direct contact MSC of 10,000 mg/kg for acetone. Acetone contaminated soil was removed to meet the PADEP Act 2 cleanup goal of 1,000 mg/kg, except an area beneath the southeastern corner of Building 1 at the facility. A deed notice and land use restriction has been in place to restrict land use at the facility to non-residential purpose and to require the owner of the land to maintain the protective soil cover, pavement caps and/or structures overlying contaminated soil under the southeastern corner of Building 1.

Air (outdoors): No releases documented.

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

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

Contaminated Media	Potential Human Receptors (Under Current Conditions)						
	<u>Residents</u>	<u>Workers</u>	<u>Day-Care</u>	<u>Construction</u>	<u>Trespassers</u>	<u>Recreation</u>	<u>Food</u> ³
Groundwater	No	No	No	No	No	No	No
Air (indoors)							
Soil (surface, e.g. <2 ft.)							
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:

- Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated” as identified in #2 above.
- 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.

 x 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):

Access to the facility is restricted by security gate at the Westwood road entrance and perimeter fencing. Access to trespassers in the rear of the property is somewhat restricted by the hilly terrain and the presence of at least one abandoned mineshaft.

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

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

Page 5

The Notice and Land Use Restriction executed by the facility on June 11, 2007 includes the following land use restrictions and covenants: (1) the groundwater at and under the land shall not be used for any drinking or agricultural purpose; (2) the Land shall be used solely for nonresidential purposes; and (3) the owner of the Land shall have a continuing duty to maintain the protective soil cover, pavement caps and/or structures overlying contaminated soils under the southeastern corner of Building 1 on the Land and shall not allow any excavations below the southeastern corner of Building 1 without prior written notice and a plan submitted to the DEP or successor with schedule of implementation setting forth worker health and safety requirements and restoration of the cap or other alternative cover that is approved by DEP in writing. Therefore, exposure pathways for soil and groundwater for workers and construction workers are not complete and are under control with the enforcement of the Notice and Land Use Restrictions.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 6

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**⁴ (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):

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):

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):

_____ 4 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 7

 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 Honeywell International, Inc. facility, EPA ID # PAD069776185 , located at 98 Westwood Road Pottsville, PA 17901 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 1/31/2012
(print) Tran Tran
(title) Project Manager

Supervisor (signature) _____ Date 1/31/2012
(print) Paul Gotthold
(title) Associate Director
(EPA Region or State) EPA Region 3

Locations where References may be found:

USEPA Region III
Land and Chemicals Division
1650 Arch Street
Philadelphia, PA 19103

PADEP
Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18711

Contact telephone and e-mail numbers

(signature) _____
(print) Tran Tran
(title) Project Manager

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.