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: The Sherwin-Williams Company
Facility Address: 2325 Hollins Ferry Road, Baltimore, Maryland 21230
Facility EPA ID #: MDD000215160

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).

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

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)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	Yes			Goundwater monitoring shows presence of TCA, toluene, 1,2,4-TMB and other VOCs at levels above USEPA Tap Water RBCs (see Attachment 1 in HHEI Supporting Documentation).
Air (indoors)[2]		No		Air monitoring for toluene & other VOCs shows indoor air meets OSHA PELs protective of workers. J&E model with updated USEPA Region 3 contaminant risk factors / reference concentrations shows current groundwater contaminant 95% UCL concentrations will not result in unsafe contaminant levels in indoor air for office or production workers (see Attachment 2 in HHEI Supporting Documentation). Residual soil impacts beneath and around plant buildings are in the saturated zone and associated with groundwater transport; indoor air intrusion from the saturated zone has been completed using the J&E groundwater to indoor air transport model (above).
Surface Soil (e.g., <2 ft)		No		Surface / near surface soil samples do not contain VOCs above Industrial Soil RBCs and have been remediated (see Attachment 3 in HHEI Supporting Documentation).
Surface Water		No		No surface water on property
Sediment		No		No surface water sediments on property
Subsurf. Soil (e.g., >2 ft)		No		Subsurface soil samples do not contain VOCs above Industrial Soil RBCs and have been remediated (see Attachment 3 in HHEI Supporting Documentation).
Air (outdoors)		No		Deep groundwater impacts are not sufficient to measurably affect outdoor air quality

☐ 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):

Groundwater contaminants include 1,1,1-TCA, TCA degradation compounds, TCE, benzene, toluene, 1,2,4-TMB and MIBK. Peak concentrations of these compounds exceed USEPA Region 3, Tap Water RBCs (see Attachment 1 in HHEI Supporting Documentation).

Footnotes:

[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)

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)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[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)	----	----	----	----	----	----	----
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):

Incomplete Groundwater Pathway:

Residents – groundwater impacts are contained on-site and have remained stable on-site for >20 years. Off-site residents cannot access on-site groundwater / contaminants via ingestion, dermal contact or inhalation. Residents are not in proximity to stable groundwater contaminant plumes and are supplied with Baltimore City public water.
Workers – groundwater is encountered approximately 10 to 15 feet below grade and is separated from the surface by 10-15 feet of low permeability silty clay. Worker ingestion is not possible because there are no potable wells on-site and Baltimore City provides tap water. Worker dermal contact is not possible because there are no potable or production wells

on site and groundwater cannot be accessed by the workers. Vapor intrusion associated with groundwater impacts is not significant due to the depth of groundwater, low permeability soil, and surface pavement cover and indoor air monitoring has shown VOC levels are safe to workers.

Day-Care – there are no day-care facilities on-site and no known day-care facilities adjacent to the site. Groundwater impacts are contained on-site and have remained stable on-site for >20 years. To the extent there might be off-site day care, the day care providers and clients cannot access on-site groundwater / contaminants via ingestion, dermal contact or inhalation. Off-site residents and day care facilities (if present) are not in proximity to the stable groundwater contaminant plumes and are supplied with Baltimore City public water.

Construction Workers – the Sherwin-Williams site is fully improved in the area of groundwater contamination with buildings, storage tank farms, rail tracks and roads. Subsurface construction work might consist of shallow repairs to buried utilities. However, groundwater is generally located approximately 10 to 15 feet below grade and would not be encountered by reasonably expected construction activities. Therefore, it would not be possible for construction workers to ingest or come into dermal contact with groundwater. Construction worker inhalation of "contaminated" vapors during shallow utility repair / improvement work from groundwater impacts is not reasonably expected due to the depth of "contaminated" groundwater, low permeability soil. Also, Sherwin-Williams has a rigorous safety monitoring program which requires air monitoring and internal permits for subsurface digging and other construction work. Works space air is also regularly monitored (see Attachment 2 in HHEI Supporting Documentation)).

Trespassers / Recreation – the Sherwin-Williams plant is a fully operating manufacturing plant with a security perimeter and a full time security staff guarding the plant day and night that does not allow trespassers (including recreation) onto the property.

Food – the Sherwin-Williams plant manufactures paint and coating products and does NOT manufacture, package or distribute any food products; there is no indirect exposure pathway via food.

[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)

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)? **N/A**

☐ 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):

[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)

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

☐ 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):

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

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 **Sherwin-Williams Company** facility, EPA ID # MDD000215160, located at **2325 Hollins Ferry Road, Baltimore, MD 21230** 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) -s- Date ___
(print) _____
(title) _____

Supervisor (signature) -s- Date 09/16/09
(print) Luis Pizarro
(title) _____
(EPA Region or State) _____

Locations where References may be found:

US EPA Region III
Waste & Chemicals Management Division
1650 Arch Street
Philadelphia, PA 19103

Contact telephone and e-mail numbers
(name) William Geiger
(phone #) 215-814-3413
(e-mail) geiger.william@epa.gov