

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

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



RDMS DocID 00101635

Current Human Exposures Under Control

Facility Name: The Sibley Company
Facility Address: 95 Bridge Street, Haddam, CT
Facility EPA ID #: CTD 001 442 417

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	<u> x </u>	<u> </u>	<u> </u>	_____
Air (indoors) ²	<u> </u>	<u> </u>	<u> x </u>	_____
Surface Soil (e.g., <2 ft)	<u> x </u>	<u> </u>	<u> </u>	_____
Surface Water	<u> </u>	<u> x </u>	<u> </u>	_____
Sediment	<u> </u>	<u> x </u>	<u> </u>	_____
Subsurf. Soil (e.g., >2 ft)	<u> x </u>	<u> </u>	<u> </u>	_____
Air (outdoors)	<u> </u>	<u> x </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 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):

Reference for above checklist:

E.g., Written Proposal for Investigations Pertinent to Evaluating Nature and Extent of Human Hazards For Former Sibley Company Property Pursuant to EPA RCRA Section 3013 Order, 95 Bridge Street, Haddam, Connecticut, dated January 2004 (**hereafter referred to 3013 Order Work Proposal**).

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)
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)

“Contaminated” Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	<u> x </u>	<u> x </u>	—	—			—
Air (indoors)	—	<u> x </u>	—				
Soil (surface, e.g., <2 ft)	—	<u> x </u>	—	—	—	—	—
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):

1. Groundwater: Pathway INCOMPLETE

- a. *On-site GW.* Sibley obtains potable water for on-site use from Well #28. Sibley Well #28 is a deep bedrock well that formerly supplied production water for the Sibley Company; it is located to the west (hydrologically upgradient) of the site near the property boundary of Sibley and the former Connecticut Department of Transportation (CTDOT) facility.

The CTDOT facility located upgradient and adjacent to the Sibley property is a suspected source of

Chlorinated Volatile Organic Compound (CVOC) contamination to the Bridge Street area. The CTDOT Well No. D-28 (not to be confused with Sibley Well #28), for instance, “has historically contained trichloroethylene (TCE) and other chlorinated VOCs at elevated levels; the TCE level detected in May 2000 was above TCE’s groundwater protection criteria of 5 ppb.” Phase I Environmental Site Assessment, Bridge Street Associates Property, 95 Bridge Street, Haddam, Connecticut at 8. *In* 3013 Order Work Proposal at Appendix A (hereafter referred to as “Phase I ESA”). CTDOT Well D-28 is a shallow overburden well and, like Sibley Well #28, is located very close to the property line. CTDOT Well D-28 is located some 150 feet (ft) north of Sibley Well #28.

Based on conversation with Kelly Meloy of Alta Environmental Corporation (Alta), the bedrock is quite shallow in the western-most area of the site. Although it is possible that the contamination at CTDOT Well D-28 could affect Sibley Well #28, to date, the latter has not evidenced contamination. EPA believes therefore that human health exposures are not to be reasonably expected from exposure to the water from Sibley Well #28.

- b. *Off-site GW.* The Bridge Street area is currently impacted by dissolved-phased CVOC contamination. However, based on conversation with Jon Goldman of the CTDEP, CTDEP monitors the quality of Bridge Street area residential GW wells. To date, CTDEP has installed Granulated Activated Carbon (GAC) systems at a number of homes where contamination exceeds the Maximum Contaminant Level (MCL). EPA believes therefore that human health exposures are not to be reasonably expected from exposure to the contaminated groundwater of the Bridge Street area.

2. Indoor Air: Occupational Exposures Deferred to OSHA

The 3013 Order Work Proposal indicates a potential human health hazard from a vapor intrusion pathway. This potential exposure is attributable to the historic use of VOCs at the site (e.g., methylene chloride, TCE). As EPA Region 1 interprets a recent EPA vapor intrusion guidance, for purposes of Environmental Indicator determinations, risk management of occupational exposures arising from the vapor intrusion pathway is deferred to the Occupational Health and Safety Administration (OSHA).

3. Surface Soil: pathway assumed complete only for purposes of further consideration below

The 3013 Order Work Proposal indicates that some surface soil contamination may exist at the site. Potential human health exposure from this contaminated media is further considered below.

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 4

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):

Surface Soil: human exposures not reasonably significant

The Sibley Company property is currently commercial / industrial. Although the 3013 Order Work Proposal indicates that some surface soil contamination may exist at the site (e.g., an exterior area with oily stained patches. See Figure 2 of the 3013 Order Work Proposal), the available information does not suggest the potential human health exposure(s) from this contaminated media could reasonably be expected to be significant.

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 5

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):

not applicable

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

Page 6

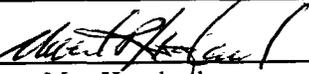
6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

 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 Sibley Company facility, EPA ID # CTD 001 442 417 , located at 95 Bridge Street, Haddam, CT 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 4-14-04
(print) Raphael Cody
(title) U.S. EPA Facility Manager
 Corrective Action Section

Supervisor (signature)  Date 4/15/04
(print) Matt Hoagland
(title) Chief, Corrective Action Section
(EPA Region or State) Region 1

Locations where References may be found:

Contact telephone and e-mail numbers

(name) Mark Sussman, Murtha, Cullina, LLP
(phone #) 860-240-6034
(e-mail) msussman@murthalaw.com

(name) Kelly Meloy, Alta Environmental Corp.
(phone #) 860-537-2582
(e-mail) kelly@altaenv.com

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.