

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: Waterbury Companies, Inc.
Facility Address: 64 Avenue of Industry, Waterbury, CT
Facility EPA ID #: CTD001165695

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).

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

THIS CA725 ANALYSIS HAS BEEN UPDATED AS A RESULT OF RECENT WORK CONDUCTED FOR PURPOSES OF CA750, GROUNDWATER MIGRATION UNDER CONTROL

Surface Soils. The available historic information revealed four (4) surface soil samples at AOC 7 exhibiting low levels of chlorinated VOCs which exceed the CTDEP RSRs. See facility file, including Environmental Indicator Evaluation (EIE) report, dated July 17, 1995.

Groundwater. Available information indicates that groundwater (GW) located to the west of the facility building as delineated by groundwater monitoring wells (MW), GZ-5 and GZ-6, exhibits slight exceedences of 1,1,1-trichloroethane (111-TCA) and cis-1,2-dichloroethylene (cis-12-DCE). The most recent GW data (per letter from facility dated Aug. 20, 1998) revealed 111-TCA and cis-12-DCE at maximum concentrations of 420 and 30 ug/l, respectively, in GZ-5 which are above CTDEP’s Remediation Standard Regulations (RSR) for GA-designated aquifers; the facility is located above an aquifer that is designated as a GA-aquifer.

The results of the recent installation of two nested GW MW’s (March 1999) revealed low levels of 1,1-dichloroethylene (11-DCE), TCA, DCE and 1,1-dichloroethane (11-DCA) in groundwater in the wells. However, only MW-11 exhibited concentrations at or in excess of MCLs: 5 ug/l of 11-DCE (MCL: 5 ug/l) and 28 ug/l of DCE (MCL: 7 ug/l). See June 1, 1999 draft letter report.

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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	_n_	_n_	_n_	_n_			_n_
Air (indoors)	_n_	_n_	_n_				
Soil (surface, e.g., <2 ft)	_n_	_n_	_n_	_n_	_n_	_n_	_n_
Surface Water	_n_	_n_			_n_	_n_	_n_
Sediment	_n_	_n_			_n_	_n_	_n_
Soil (subsurface e.g., >2 ft)				_n_			_n_
Air (outdoors)	_n_	_n_	_n_	_n_	_n_		

Instructions for Summary Exposure Pathway Evaluation Table: n=no; y=yes

- 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):

Surface soil. AOC 7 have been fenced off by a 6 foot high solid wooden picket fence; human exposures as a result of exposure to soils which exhibited historic surface soil exceedences is not reasonably expected.

Groundwater. The available data, including a recent soil gas survey (SGS) reasonably establish that this contamination is the result of a historical surface spill event, that a definable vadose zone source does not exist, that the VOC contamination exists exclusively as low level dissolved-phase contamination, and that this low level dissolved-phase plume is biotically /abiotically attenuating. In addition, EPA developed a site-specific distance-attenuation factor which conservatively established that the detected dissolved-phase concentrations would completely natural attenuate within 1,350 feet of the property boundary. For a more

detailed explanation, see CA750 analysis (attached).

A receptor survey of the area was conducted to determine the potential impact of these concentration on downgradient receptors. The results of this survey, entitled "*Draft Report Receptor Survey In the Vicinity of 64 Avenue of Industry, Waterbury, Connecticut,*" dated July 16, 1999 (draft receptor survey) indicated that "the property within a 1,500 foot distance hydro geologically down-gradient (east-northeast) of the subject property is either undeveloped or commercial property." Draft receptor survey at p. 2. A survey of available records indicates that all downgradient properties located within 1,500 feet of the facility are connected to Municipal water supply. *Id.* at p. 4.

In addition, "North Swamp Brook, an intermittent stream, is located approximately 800 feet to the east (hydro geologically down-gradient) of the subject property." *Id.* at p. 2. There is a reasonable basis to conclude that this stream "serves as a groundwater divide for shallow groundwater." *Id.* at p. 3.

Moreover, the concentrations of VOCs detected in MW's 10 and 11 do not exceed CTDEP's Remediation Standard Regulations (RSR) volatilization criteria. Therefore, it is highly unlikely that dissolved-phase VOC concentrations downgradient of MW-10 and 11 exceed the same criteria.

The work recently conducted including the installation of the MWs at the facility boundary and the receptor survey establish that complete pathways do not exist and that a human health exposure cannot be reasonably expected from exposure to groundwater at or beyond the facility boundary.

For more detailed information, see CA750 evaluation (attached).

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

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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): _____

_____ **not applicable** _____

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.

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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 **Waterbury Companies, Inc.** facility, EPA ID #CTD001165695, located at **64 Avenue of Industry, Waterbury, 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 2/9/99
(print) Raphael J. Cody Updated: 7/20/99
(title) RCRA Facility Manager

Supervisor (signature)  Date ~~5/6/99~~
(print) Matthew Hoagland 8/2/99
(title) Chief, RCRA Corrective Action
(EPA Region or State) Region 1

Locations where References may be found:

see facility files _____

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.