

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: Delta Rubber Company
Facility Address: 39 Wauregan Road, P.O. Box 300, Danielson, CT 06239-0300
Facility EPA ID #: CTD046238630

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>		<u>There is no reason to suspect indoor air contamination resulting from releases at/from the facility. While TCE concentrations were observed in groundwater in AOC 16 (former solvent storage area), there are no buildings in this area and downgradient wells did not detect any VOCs.</u>
Air (indoors) ²		<u>x</u>		
Surface Soil (e.g., <2 ft)	x			<u>Soils in AOC 6 & 7 contain PAHs exceeding CT DDEP Residential Direct Exposure Criteria (see below).</u>
Surface Water		x		<u>There is no reason to suspect contaminated sediments and surface water based on existing data and history of facility operations.</u>
Sediment		<u>x</u>		<u>Soil samples do not show elevated contaminant levels in subsurface soils.</u>
Subsurf. Soil (e.g., >2 ft)		x		
Air (outdoors)		x		<u>There is no reason to suspect outdoor air contamination resulting from releases at/from the facility.</u>

If no (for all media) - skip to #6, and enter "YI;" 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): TCE concentrations in three temporary wells in the vicinity of AOC 16 were detected above CT RSR GA/GAA Groundwater Protection Criteria in 1996. However, extensive monitoring since in close proximity to and downgradient from these temporary wells has not detected VOCs in groundwater. Based on the results of this additional monitoring and high groundwater flow velocities at the site (moving toward the Quincebaug River), it is not likely that there is a groundwater plume at the facility. Soils in AOC 6 were sampled for VOCs, SVOCs, metals, PCBs, cyanide and TPH. TPH was found at elevated levels, but is not considered to be toxic and therefore was not compared to risk based levels. Benzo(b)fluoranthene was detected at 1900 µg/kg (above CT DDEP Residential Direct Exposure Criteria, but below Industrial/Commercial Direct Exposure Criteria) in one out of 21 soil samples collected at the surface (0.25' depth). AOC 7 receives run-off from Route 12 through a culvert and requires periodic remediation by the CT DOT. Soils in AOC 7 were sampled for metals, PCBs, cyanide, TPH, VOCs, and SVOCs. SVOCs were analyzed in 26 samples. Benzo(a)pyrene was detected at levels greater than the Industrial/Commercial Direct Exposure Criteria in 6 samples (all within the top 1.5 feet of soil). The maximum concentration detected was 4,200 µg/kg.

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.

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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)

<u>"Contaminated" Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	___	___	___	___			___
Air (indoors)	___	___	___				
Soil (surface, e.g., <2 ft)	___	_X_	___	___	_X_	___	___
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 (c.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): Workers (i.e., those performing environmental investigation and remediation) and trespassers could be exposed to contaminated surface soils in AOCs 6 and 7. Construction in these areas are not likely as they are drainage areas which contain water during wet seasons.

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"¹ (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): Elevated levels of PAHs in soils in AOCs 6 and 7 are limited in area and are not significantly elevated above CT RSR Residential Direct Exposure Criteria. While trespassing is not restricted in these areas, it would not likely occur at a high frequency, if at all, since the area is surrounded mainly by roadways, the Quinebaug River, and other industrial/commercial properties. In addition, AOCs 6 and 7 form a drainage area and would not be an attractive area for trespassers. Therefore, exposures of trespassers to surface soils are not reasonably expected to be significant. Exposures of workers performing environmental investigation and remediation to surface soil in AOCs 6 and 7 are possible. However, these exposures are not reasonably expected to be significant due to the levels at which PAHs have been detected, the low frequency and duration of time during which this work would be expected to be performed, and health and safety precautions taken by workers when collecting environmental samples.

¹ 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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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 Delta Rubber Company facility, EPA ID # CTD046238630, located at 39 Wauregan Road, Danielson, 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) Stephanie Carr Date 12/6/99
(print) Stephanie Carr
(title) RCRA Facility Manager

Supervisor (signature) Matthew R. Hoagland Date 12/6/99
(print) Matthew R. Hoagland
(title) Section Chief
(EPA Region or State) Region I

Locations where References may be found:

- Connecticut Remediation Standard Regulations;
- Report on Environmental Site Assessment - The Delta Rubber Company, September 1999, prepared by ALTA Environmental Corporation for Delta Rubber Company (available in EPA files);
- Final Draft RCRA Facility Assessment, Delta Rubber, May 11, 1992, prepared for U.S. EPA by CDM Federal Programs Corporation (available in EPA files); and
- Letter dated November 12, 1999 from Kelly Meloy, ALTA Environmental Corporation to Stephanie Carr. EPA rc: response to U.S. EPA letter dated October 5, 1999.

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.