



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: Bantam River Corporate Park
Facility Address: 607 Bantam Road, Litchfield, Connecticut, 06759
Facility EPA ID #: CTD000791772

- 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?

X 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).

BANTAM RIVER
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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)?

Media	Yes	No	?	Rationale/Key Contaminants
Groundwater	X			One monitor well onsite contains 1,1 DCE at a concentration exceeding the Ground Water Protection Criterion (but not the Surface Water Protection Criterion) in the Remediation Standard Regulations (RSRs)
Air (indoors)		X		Tested and no contaminants detected
Surface Soil (e.g. <2ft)		X		Remediated through excavation and offsite disposal
Surface Water		X		Concentrations in the groundwater are lower than the the Surface Water Protection Criteria and the aquatic life criteria in the Water Quality Standards. The Connecticut Department of Environmental Protection is scheduled to approve a Screening Level Ecological Risk Assessment (correspondence from Anthony Gyasi dated July 22, 2009).
Sediment		X		Although sediment quality has not been tested, the concentrations of volatile organic compounds in the groundwater are lower than the the Surface Water Protection Criteria and the aquatic life criteria in the Water Quality Standards. The Connecticut Department of Environmental Protection is scheduled to approve a Screening Level Ecological Risk Assessment (correspondence from Anthony Gyasi dated July 22, 2009).
Subsurface Soil (e.g., >2 ft)		X		Remediated through excavation and offsite disposal and soil venting.
Air (outdoors)		X		Not tested, but there are no ongoing air emissions.

_____ 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):

References –

"RCRA Closure Plan and Verification Report, Parts 1, 2 and 3, Chemical Storage Area, Bantam River Corporate Park, 607 Bantam Road, Litchfield, CT 06759" prepared for Bantam River Corporate Park, LLC by CRB Geological & Environmental Services, Inc. dated November 2005.

Revised Summary Status Report, Bantam River Corporate Park, 607 Bantam Road, Litchfield, CT 06759, prepared for Bantam River Corporate Park, P.O. Box 1416, Washington, Connecticut 06793, by CRB Geological & Environmental Services, Inc., 747 Main Street, Suite 121, Concord, Massachusetts 01742, May 2004

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).

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Bi-Annual Groundwater Monitoring Report, Bantam River Corporate Park, 607 Bantam Road, Litchfield, Connecticut, prepared for Bantam River Corporate Park, LLC, P.O. Box 1416, Washington, CT 06793, May 27, 2009.

Rationale: The site is in a GA groundwater classification area and is subject to the requirements of Connecticut's Remediation Standard Regulations (RSRs), including the Ground Water Protection Criteria (GWPC), Surface Water Protection Criteria (SWPC) and Residential Volatilization Criteria (RVC). All monitor wells on the site produce groundwater samples that do not contain tested constituents of concern at concentrations exceeding any of these criteria except monitor well MW-9D, which is located at the downgradient corner of the site; potentially downgradient from a former solvent storage tank. The most recent sample from this well contained 8.7 micrograms per liter (ug/l) of 1,1 dichloroethylene (DCE) compared to the most stringent criterion (GWPC) of 7 ug/l.

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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

Contaminated Media	Potential Human Receptors (Under Current Conditions)						
	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ²
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.

 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

Reference(s):

"RCRA Closure Plan and Verification Report, Parts 1, 2 and 3, Chemical Storage Area, Bantam River Corporate Park, 607 Bantam Road, Litchfield, CT 06759" prepared for Bantam River Corporate Park, LLC by CRB Geological & Environmental Services, Inc. dated November 2005.

² Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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Bi-Annual Groundwater Monitoring Report, Bantam River Corporate Park, 607 Bantam Road, Litchfield, Connecticut, prepared for Bantam River Corporate Park, LLC, P.O. Box 1416, Washington, CT 06793, May 27, 2009.

Rationale:

There is only one monitor well on the entire Site that contains a tested substance at a concentration exceeding the Ground Water Protection Criteria in the RSRs. There are no potable supply wells downgradient from this well and the groundwater discharges to the Bantam River which is about 50 feet south from the monitor well. The concentration of detected constituents in the groundwater are considerably lower than the SWPC.

The Bantam River is the largest surface water course in the area and is locally the discharge location for the groundwater. Figures 1, 2 and 3 in the report entitled "RCRA Closure Plan and Verification Report, Parts 1, 2 and 3, Chemical Storage Area, Bantam River Corporate Park, 607 Bantam Road, Litchfield, CT 06759" (RCRA Report) prepared for Bantam River Corporate Park, LLC by CRB Geological & Environmental Services, Inc. dated November 2005, show the topography, the proximity of the Site to the river and a cross section which shows the groundwater discharging to the river. The report concludes "Surface water and groundwater flow at the site is generally towards the Bantam River located in the southern region of the site." The hydrogeologic cross section attached to this report shows the water levels in a deep/shallow well pair located adjacent to the Bantam River. The upward hydraulic head in the vicinity of the well pair shows that the Bantam River is the discharge point for the Site groundwater.

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

³ 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):

X YB - 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 Bantam River Corporate Park in Litchfield, CT under current and reasonably expected conditions. This determination will be reevaluated 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) Robt Lamonea Date 8/18/09
(print) Robert Lamonea
(title) Principal Consultant

DEP Reviewed by: (signature) Sandy Brunelli Date 8/26/09
(print) Sandy Brunelli
(title) BA 3

DEP Supervisor (signature) David Ringquist Date 8-19-09
(print) David Ringquist
(title) Supervising Engineer

Locations where References may be found:

Connecticut Department of Environmental Protection file room at 79 Elm Street
Hartford, CT 06106

File Room contact telephone number and e-mail

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(phone #) 860 424-3936
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Reviewed by [Signature] 10/29/09
Chief, RCRA Corrective Action

