

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Chem Pak. Corp.
Facility Address: 167 Mill St., Cranston, RI 02905
Facility EPA ID #: RID084802842

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, 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 "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "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 "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

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. Is **groundwater** known or reasonably suspected to be “contaminated”¹ above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

_____ If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

 X If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

_____ If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s): _____

See Attached Data

Groundwater discharge to Pawtuket River is 10 feet downgradient of wells. Groundwater is classified as non-drinkable and the river is classified the same. Levels are below the applicable GB criteria in the range of 2-80 ppb. Groundwater, which is classified as a GB area, is presumed not suitable for use as a current or potential source of drinking water, and is subject to the GB Groundwater Objectives (Rule 8.03.Aii). Further sampling is planned to verify and monitor on a regular schedule.

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 appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

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2. Is groundwater known....

Rationale and Reference(s):

Four groundwater samples were collected and analyzed by ESS Laboratory, Division of Thielsch Engineering, Inc. The groundwater at the Chem-Pak facility is classified as GB. The analytical results revealed no exceedences of the Method 1 GB groundwater objectives.

| Substance | GB Groundwater Objectives | | Sample ID | | | |
|------------------------|---------------------------|--------|---------------|-------|-------|-------|
| | | | LFR-1 | LFR-2 | LFR-3 | LFR-4 |
| | (mg/L) | (ug/L) | Result (ug/L) | | | |
| 1,1-Dichloroethane* | 513.20 | 513197 | 2.53 | 4.69 | ND | ND |
| 1,2-Dichloroethane | 670 | 670000 | 1.79 | ND | ND | ND |
| 2-Chlorotoluene* | 152.52 | 152520 | 4.37 | ND | ND | ND |
| Benzene | 18 | 18000 | ND | 1.35 | ND | ND |
| Chlorobenzene | 56 | 56000 | 2.01 | ND | ND | ND |
| cis-1,2-Dichloroethene | 69 | 69000 | ND | 79.8 | 20.6 | 14.8 |
| Tetrachloroethene* | 216.37 | 216369 | ND | 6.19 | ND | ND |
| Trichloroethene | 87 | 87000 | 9.87 | 4.73 | 1.65 | ND |
| Vinyl Chloride* | 0.22 | 215 | 92.3 | 39.3 | 10.3 | 2.72 |

* Calculated by using Method 2 GB Groundwater Objective Algorithm and Input Parameters obtained from Appendix F of the RI DEM, Rules and Regulations for the Investigation and Remediation of Hazardous Materials Release, March 31 1993, amended August 1996 (DEM-DSR-01-93).

Data submitted on August 23, 2001 by Chem-Pak, Inc.

Re: Corrective Action on a Self-Directed Basis, Chem-Pak, Corp., 167 Mill Street, Cranston, RI

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6. Can the discharge of "contaminated" groundwater into surface water be shown to be "currently acceptable" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁴)?

- _____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
2) providing or referencing an interim-assessment,⁵ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialist, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

- _____ If no - (the discharge of "contaminated" groundwater can not be shown to be "currently acceptable") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

- _____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): _____

⁴ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁵ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), 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).

 X YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Chem Pak Corp. facility, EPA ID # RI084802842 located at 167 Mill St. Cranston, RI 02905. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

 NO - Unacceptable migration of contaminated groundwater is observed or expected.

 IN - More information is needed to make a determination.

Completed by (signature) *Edgar A. Davis*
(print) Edgar. A. Davis
(title) RCRA Facility Manager

Date September 27, 2001

OK
BEVIN B
FRANK C
9-27-01

Supervisor (signature) *Matthew R. Hoagland*
(print) Matthew R. Hoagland
(title) Section Chief
(EPA Region or State) Reg I - New England

Date 9/27/01

Locations where References may be found:

USEPA, REGION 1, RCRA FILES, (1 CONGRESS ST, STE 1100, BOSTON MA)

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