



New Hampshire Department of Environmental Services
DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: Freudenberg NOK General Partnership
Facility Address: 450 Pleasant Street, Bristol, NH
Facility EPA ID #: NHD 001084672
DES Site #: 198706012

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INTRODUCTION

The purpose of this EI Determination is to provide documentation in support of the CA725 determination entered in the RCRAinfo for this site. The New Hampshire Department of Environmental Services, as an authorized Corrective Action Program, manages this site under the State Program to assure that conditions at the site do not adversely affect human health and the environment. Documentation to support this EI Determination is presented for each criterion and is consistent with the United States Environmental Protection Agency requirements. All reports referenced are available for review at the Department's office and a limited number of reports are available on the Department's internet web site.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to look beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the surrounding environment. The two EI developed to-date address 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 subject to RCRA corrective action associated with the identified facility (i.e., there are no contaminants in concentrations that exceed appropriate risk-based levels).

Relationship of EI to Final Remedies

The EI are near-term objectives which are currently being used as Program measures to satisfy requirements of the Government Performance and Results Act of 1993, (GPRA).

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The “Current Human Exposures Under Control” EI pertains only to reasonably expected human exposures under current land- and groundwater-use conditions. Final Remedies remain the long-term objective of the RCRA Corrective Action program and does not substitute for the development of further remedies (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). The Department will update EI Determinations in the event significant land use changes occur at the site.

Applicable Acronyms

The New Hampshire Department of Environmental Services – Department
Freudenberg NOK General Partnership - Freudenberg
Ambient Groundwater Quality Standards – AGQS
Risk Characterization and Management Policy – RCMP
Groundwater Management Permit – GMP
Remedial Action Plan - RAP
Surface Water Quality Standards – SWQS
Volatile Organic Compounds – VOCs
1,1,1-Trichloroethane – 1,1,1-TCA
1,1- Dichloroethylene -- 1,1-DCE
1,1-Dichloroethane – 1,1-DCA
Cis-1,2-Dichloroethylene – cis-1,2, DCE
Tetrachloroethylene – PCE
Trichloroethylene – TCE
Vinyl chloride – VC

DETERMINATION

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

If data are not available skip to #6 and enter “IN” (more information needed) status code.

2. Are groundwater, soil, surface water, sediments, or air media known or reasonably suspected to be “contaminated” above appropriately protective risk-

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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)?

	YES	NO	?	RATIONAL
Groundwater	x			AGQS is exceeded for VOCs. See Below
Air (indoors)		x		See Below
Surface Soil, 2 feet or less		x		See Below
Surface Water		x		See Below
Sediment		x		See Below
Air (outdoors)		x		See Below
Subsurf. Soil (e.g., >2 ft)		x		See Below

	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:

Groundwater: A total of 15 different compounds have been detected in Site groundwater. AGQS is exceeded for TCE, Cis-1,2-DCE, 1,1-DCE, VC, 1,1,1-TCA, Benzene, Toluene. GWP-198706012-B-002 requires regular monitoring of site groundwater to ensure off-site migration is not occurring.

- GWP-198706012-B-002 dated February 22, 2006
- Year 2004 Annual Report dated April 2005

Indoor Air – Currently the site is an active manufacturing facility and downgradient of the site is undeveloped. The only structure located in the vicinity

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of the groundwater plume and source area is the building housing the pump and treat system. This building treats any vapors present in the influent and through passive infiltration into the building.

- Remedial Action Plan dated September 1993

Surface Soil – Remedial activities have addressed surficial soil contamination with a combination of vapor extraction and source removal. Detailed information is contained in the following remedial reports:

- Remedial Action Plan dated September 1993
- RCRA Facility Assessment dated March 1993
- Status of Remedial Activities dated March 2004
- Summary for Remedial Activities dated November 2004
- Year 2004 Annual Report dated April 2005
- GMP GWP-1987-6-12-B-003 dated February 2006

Surface Water – Historic surface water impacts were significant at the site. Current sampling, as required by the GMP, of the unnamed tributary to the Smith River currently meets SWQS. See the following report for current information:

- Year 2004 Annual Report dated April 2005

Sediments – Historic sampling of the surface water had high levels of VOCs. Recent data has not violated SWQS and is generally non detect. Based on this information, sediments do not appear to be a significant source of surface water contamination. In addition, monitoring well GZ308 was installed adjacent to the small stream in the wetlands. Field screening of the sediments contained in the top two foot interval were non detect for VOCs.

- Results of Supplemental Groundwater Sampling dated February 2004
- Year 2004 Annual Report dated April 2005

Outdoor Air – Air monitoring during remedial activities have not detected contaminant concentrations above action levels.

Subsurface Soil – As a result of the drum disposal that was remediated in 1981 and 1984 a significant amount of DNAPL was identified at the site. Vapor extraction has successfully treated stranded source material and the Department issued a Certificate of Partial Completion for the vapor extraction system on March 10, 2003. DNAPL present in the saturated soils continues to provide source material to the groundwater and is treated by the on site pump and treat system.

- Remedial Action Plan dated September 1993

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- RCRA Facility Assessment dated March 1993
- Certificate of Partial Completion dated March 2003
- Year 2004 Annual Report dated April 2005

Summary Exposure Pathway Evaluation Table

3 Potential Human Receptors (Under Current Conditions)

Contaminated Media, Recreation, Food	Residents	Workers	Day-Care	Construction	Trespassers
Groundwater					
Air (indoors)					
Surface Soil, 2 feet or less					
Surface Water					
Sediment					
Air (outdoors)					
Subsurf. Soil (e.g., >2 ft)					

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 <u>Pathway Evaluation Work Sheet</u> 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):

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 Are there complete pathways between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

The site is an active manufacturing facility. The groundwater plume is migrating away from the facility, and the former source area is located under a paved parking lot and the building housing the groundwater treatment system.

The exposure pathways (i.e., surface water, sediments, surficial soil, indoor and outdoor air) meet standards and pose little or no human risk.

No residents or day care operations are present at or directly adjacent to the site and there is no on-going construction at the site. Therefore, the potential for groundwater exposure is not a complete exposure pathway for these receptors. Trespassers may be present. However, groundwater is not readily accessible. Freudenberg employees are present at the site, but are not typically exposed to contaminated groundwater.

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

- 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"
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	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):

- 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 (All documentation must be referenced for future reference):

X	YES - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination. 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 *David Bowen* 8/16/06 Date
 Print David Bowen
 Title Hydrogeologist

Supervisor Signature *Kenneth Kettenring* 8/16/06 Date
 Print Kenneth Kettenring
 Title Hydrogeologist

Locations where References may be found:
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 29 Hazen Drive
 Concord, NH

REV'D BY FRANK BATTACCI
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