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: **Nashua Label Corporation**
Facility Address: **3838 South 108th Street, Omaha, Nebraska**
Facility EPA ID #: **NED045275260**

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).

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)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	_X_	___	___	Toluene (September 2001 Quarterly Report #4, RCRA Corrective Action ('01 QR#4))
Air (indoors)[2]	___	_X_	___	_____
Surface Soil (e.g., <2 ft)	___	_X_	___	_____
Surface Water	___	_X_	___	_____
Sediment	___	_X_	___	_____
Subsurf. Soil (e.g., >2 ft)	_X_	___	___	Toluene, Xylene, 1,1,1-TCA (2001 Comprehensive Current Conditions Report ('01 CCCR))
Air (outdoors)	___	_X_	___	_____

_____ 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): Investigations carried out at the Nashua facility have found levels of toluene, xylene, and 1,1,1-TCA above health-based risk levels in subsurface soils and groundwater. The highest toluene, xylene, and 1,1,1-TCA concentrations found in the subsurface soils are 6,924,000 parts per billion (ppb), 185,000 ppb, and 1265 ppb, respectively. The Region 9 toluene, xylene, and 1,1,1-TCA soil screening levels for protection of groundwater are 600 ppb, 10,000 ppb, and 100 ppb, respectively. The Region 9 toluene, xylene, and 1,1,1-TCA PRGs for residential soils are 520 mg/kg, 210 mg/kg, and 770 mg/kg, respectively. This information can be found in the January 2001 Comprehensive Current Conditions Report ('01 CCCR). The highest concentrations of toluene and 1,1,1-TCA found in groundwater during the last sampling events are 375,000 µg/L and 16 µg/L, respectively; xylene was not detected ('01 QR#4). The Maximum Contaminant Levels (MCLs) for toluene, xylene, and 1,1,1-TCA are 1000 µg/L, 10,000 µg/L, and 200 µg/L, respectively. Surface water samples showed toluene either not detected or below its MCL for a period of eight years, until sampling was suspended because of the continually low concentrations ('01 CCCR). Surface water samples were collected in January, 2002 from stormwater manholes #1 and 2, as well as the point where the surface water discharges from the culvert 800' downstream of Nashua, The manholes are on highway right of way adjacent to the property. They collect runoff and any groundwater entering surface water on its way to discharge in Big Papillion Creek, about 1.25 miles from the Facility. Samples in manhole 1 showed no contamination, Manhole 2 had toluene at 2.9 ppm, and at the discharge point toluene was 0.006 ppm (CMS, 2002). Because surficial soil (see attached tables) samples have been shown to be clean, with no elevated PID readings ('01 CCCR), outdoor air quality is very unlikely to be impacted as is dermal contact with contaminated soil.

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.

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	_no_	_yes_	_no_	_yes_			_no_
~~Air (indoors)~~	___	___	___				
~~Soil (surface, e.g., <2 ft)~~	___	___	___	___	___	___	___
~~Surface Water~~	___	___			___	___	___
~~Sediment~~	___	___			___	___	___
Soil (subsurface e.g., >2 ft)				_yes_			_no_
~~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 (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): Maintenance, construction, and utility workers could come into contact with contaminated subsurface soil and groundwater during installation of remedial systems and maintenance of these systems. This information can be found in the memo "Potential Receptors at Nashua," dated October 1999.

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

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)?

__X__ 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): A site-specific Health and Safety Plan (HASP) has been developed for this facility. All site workers who might potentially be exposed to contaminants are required to follow the guidelines in the HASP, including 40-hour HAZWOPER training.

Access to the facility is limited by a fence.

The drainage swale between the Facility and the highway is an intermittent stream that only contains surface water during and immediately after rain or snow. Unauthorized access to surface water in the manholes is not considered likely.

Surface soils are not contaminated.

Groundwater and surface water flows away from the plant and it appears that the contaminant plume is not under any structures, therefore indoor air is not considered a likely complete pathway (Progress report 9, December 2002).

[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.

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): Not Applicable

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

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_ 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 Nashua Label Products facility, EPA ID #NED045275260, located at 3838 South 108th Street, Omaha, Nebraska 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 Original signed by Date ___5/8/03_____
(print) Bill Lowe
(title) Geologist

Supervisor Original signed by Date ___5/8/03_____
(print) Scott Marquess
(title) RCAP Branch Manager
EPA Region 7

Locations where References may be found:

___Region 7 RCRA Records Center_____
___901 North 5th Street_____
___Kansas City, KS 66101_____
_____
_____

Contact telephone and e-mail numbers

(name)_____Bill Lowe_____
(phone #)____913-551-7547_____
(e-mail)_____lowe.bill@epa.gov_____

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.