DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo code (CA725)

Current Human Exposures Under Control

Facility Name:	Vopak Logistics Services, USA Inc.
Facility Address:	2759 Battleground Road, Deer Park , Texas
Facility EPA ID #:	TXD097673149

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
___ **I**f 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 RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo 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		No evidence of contamination – see Facility Description Below
Air (indoors)[2]		x		" "
Surface Soil (e.g., <2 ft)		x		" "
Surface Water		x		" "
Sediment		x		" "
Subsurf. Soil (e.g., >2 ft)		x		" "
Air (outdoors)		x		" "

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.

___ 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):

Facility Description

Vopak is previously known as Empak, Inc. and is owned by Vopak Terminal Deer Park Inc. Vopak provides environmental services for tankers in areas of tank truck and rail car cleaning, purging, treating and disposal of

[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.

waste. The facility treats and disposes of wastewater generated by the storage terminal's cleaning operations, ballast, and tanker cleaning, as well as other industrial sources. The facility is classified as a commercial treatment, storage and disposal (TSD) facility (HW 50025), and operates a commercial underground injection well under permit WDW-157.

The Vopak facility was built in late 1960s as a tank farm before it upgraded to a waste water treatment plant and separated from the terminal to its present status as a waste services operation. According to a January 24, 2001 Investigation Report, Vopak is on a 12- acre site at 2759 Battleground Road, Deer Park, Harris County, Texas, west of the Houston Ship Channel. Land use within one mile radius of the site is industrial, commercial and recreational. According to the Part B application, dated September 10, 2004, the plant is adjacent to the San Jacinto Battleground and State Park and is bordered by the Houston Ship Channel. In addition to the solid waste registration, Vopak has air quality account (HG0224P) and wastewater permit (WQ0001731) with TCEQ. According to Docket No. 96-0934-IHW, Executive Director's Response to Hearing Request regarding a Class 2 Permit Modification, the facility is on a 4.5 acres tract. A revised Notice of Application and Preliminary Decision for HW Permit Modification, dated March 11, 2003, indicates the facility is on a 5.4720 acres.

The original HW Permit was originally issued on October 14, 1992, with several modifications over the following years. The 1992 Permit indicated five SWMUs required investigation under the Corrective Action Provisions of the Permit. A renewal permit was issued December 23, 2003. This permit indicated there were no units requiring investigation under Corrective Action Provisions of the Permit; however, the RCRAInfo Comprehensive Permitting Report indicates this permit was issued with HSWA Corrective Action (CA) scheduled. The most recent modification to the permit is a Class III Permit Modification, dated March 13, 2006.

According to the January 24, 2001 Investigation Report, Vopak's Notice of Registration (NOR) lists 72 waste management units consisting of 55 active units, six closed units and 12 units not yet constructed. The active units comprise 44 permitted tanks, three permitted waste compactors; one permitted deep injection well; one permitted wastewater treatment plant; permitted container storage areas; and three less-than -90-day units. Permitted RCRA active units have been designed with secondary containment systems. Closure certifications were available in the files for the closed units; all of which were tanks. No information in the available files indicated any historical or active regulated land based units (landfill, surface impoundments, etc). According to the Part B Application, Facility Sitting Summary, point source discharge and effluent rainfall are regulated by Permit No. TPDES01731. No information in the available files indicated significant uncontrolled releases or contamination to any media exceeding Texas Risk Reduction Program PCLs.

The five SWMUs listed in the 1992 permit and Table of Contents of the RFI Work Plan are:

- Truck Unloading Sump B-1
- Truck Unloading Sump B-2
- Wastewater Sump
- Filter Area (Road North of 1A and 1B Pad)
- Deepwell Injection (DWIS) Sewers and Sumps

It is assumed, based on the 2003 renewal permit, that no further action was required for these units. This assumption is supported by the RCRAInfo Comprehensive Corrective Action Report (CCAR) which indicates the CA process is terminated – no further action dated February 18, 1997. The CCAR also indicates a history of public notice on proposed remedy (November 22, 1996). No file information was available to support these entries on the CCAR. Telephone conversations with the TCEQ Permit Writer and the Remediation Section conducted on April 24, 2006 confirmed that the facility has no historical or ongoing remediation or corrective action.

References:

- HW Permit No. 50025, dated October 14, 1992.
- RCRA Facility Investigation for EMPAK, INC., dated December 1992 "(Cover page and Table of Contents

only were available. Text of report was not found in available files).

- Investigation Report, Vopak Industries, CEI Conducted on November 27, 28, and December 4, 2000, dated January 24, 2001.
- Investigation Report, Vopak Industries, IHW-Underground Injection Control Investigation Conducted on November 12and 19, 2001.
- Revised Notice of Application and Preliminary Decision for Hazardous Waste Permit Modification, Permit No. HW 50025; mailed March 11, 2003.
- HW Permit No. 50025, Renewal, dated December 23, 2003.
- RCRA Part B Application, Vopak Industries, submitted on September 10, 2004.
- RCRAInfo Comprehensive Permitting Report, run on December 22, 2005, Vopak Logistics Services, USA, Inc.
- RCRAInfo Comprehensive Corrective Action Report, run on December 28, 2005, Vopak Logistics Services, USA, Inc.
- Final Draft Permit Modification, HW Permit No. 50025, Vopak Logistics Services, dated March 13, 2006
- Communication Log; Ann Anderson, TechLaw Inc. with Mr. Chau Vo, TCEQ dated April 24, 2006.
- Communication Log, Ann Anderson, TechLaw, Inc. with Ms. Lyla Bechley, TCEQ dated April 24, 2006.

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							
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.

___ 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):

[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)?

___ 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):

[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):

6. Check the appropriate RCRAInfo 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 Vopak Logistics Services, USA Inc. facility, EPA ID # TXD097673149, located at 2759 Battleground Road, Deer Park, Texas 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) _____ Date _____
(print) _____
(title) _____

Researched by (signature) Ann L. Anderson Date 4/21/06
(print) Ann Anderson
(title) TechLaw, Inc.

Supervisor (signature) _____ Date _____
(print) _____
(title) _____
(EPA Region or State) _____

Locations where References may be found:

Texas Commission on Environmental Quality
File Room, Building E
12118 N IH 35
Austin, TX 78753

Filed under: SWR 30567 and IHW Permit 50025

Contact telephone and e-mail numbers

(name) _____
(phone #) _____
(e-mail) _____

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.

Recommended Action Items

1. Follow-up with state PM to verify corrective action for five SWMUs identified in 1992 Permit was completed.
2. Follow-up with state PM to investigate discrepancies in facility size. Facility appears to be connected to adjacent Vopak Terminal, which may be the source of variations in facility size.