

RCRA RECORDS CENTER
FACILITY Schick Mfg Inc
I.D. NO. CTD052704335
FILE LOC. R-13
OTHER _____

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

**RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)**

Current Human Exposures Under Control



RDMS DocID 00100105

Facility Name: Schick Wilkinson Sword Facility
Address: 10 Leighton Rd., Milford, CT 06460
Facility EPA ID #: CTD 052704335

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?

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).

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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)?

| | <u>Yes</u> | <u>No</u> | <u>?</u> | <u>Rationale / Key Contaminants</u> |
|-----------------------------|------------|-----------|----------|--|
| Groundwater | <u>X</u> | ___ | ___ | <u>trichloroethylene (TCE), trichloroethane (TCA), and associated degradation products</u> |
| Air (indoors) ² | <u>X</u> | ___ | ___ | <u>TCE, TCA, and associated degradation products</u> |
| Surface Soil (e.g., <2 ft) | ___ | <u>X</u> | ___ | _____ |
| Surface Water | ___ | <u>X</u> | ___ | _____ |
| Sediment | ___ | <u>X</u> | ___ | _____ |
| Subsurf. Soil (e.g., >2 ft) | ___ | <u>X</u> | ___ | _____ |
| Air (outdoors) | ___ | <u>X</u> | ___ | _____ |

___ 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):

The Schick facility is a wet shaving products manufacturing facility that has been operating since 1960. A two-phased Site Investigation (SI) was completed at the Site to determine the nature and extent of groundwater and/or soil contamination on Site associated with potential release areas (PRAs) subject to RCRA Voluntary Corrective Action (VCA). The SI included a soil gas survey, direct-push boring installations for groundwater and soil sampling, groundwater monitoring well installations, low-flow groundwater sampling, and hydraulic monitoring. The Phase I SI Report (CRA, May 2002) and the Phase II SI Report (CRA, May 2003) provide comprehensive reports of the SI activities completed. Each of the tables and figures referenced in this form are included in the Phase I and II SI Reports.

¹Footnotes:

"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.

Phase I Tables 5.1 and 5.3 and Phase II Tables 4.1, 4.2, and 4.5 present a summary of the soil sample analytical data collected during the SI. The soil sample/boring locations are shown on Figure 3.1 of the Phase II SI Report. As shown in the tables, the only exceedence of the industrial/commercial (I/C) direct exposure criteria (DEC) set forth by the Connecticut Remediation Standard Regulations (RSRs) was for arsenic, detected in a sample collected from 3-5 feet below ground surface in the former Plating Lagoon Area. The RSRs allow the use of the 95% upper confidence level (UCL) of the data set to demonstrate compliance with the criteria, provided that no individual sample exceeds two times a criterion. Phase II Table 4.5 presents the 95% UCL for the arsenic concentrations in soil samples collected from the Plating Lagoon Area. As shown in Table 4.5, the 95% UCL demonstrates compliance with the I/C DEC for arsenic in accordance with the RSRs. No other soil samples (shallow or deep) contained contaminants at concentrations exceeding the I/C DEC.

Phase I Tables 5.2 and 5.4 and Phase II Tables 4.3 and 4.4 present a summary of the groundwater analytical data collected during the SI. The monitoring wells on Site are shown on Phase II Figure 2.2. As shown in the tables, concentrations of TCE, TCA, and their breakdown products were detected at concentrations exceeding the surface water protection criteria (SWPC) and volatilization criteria for an industrial/commercial facility (VC) in certain monitoring wells on Site. Phase II Figure 4.1 depicts the maximum detections of TCE in groundwater on Site.

Schick addressed exceedences of the VC for TCE and other volatile organic compounds (VOCs) in groundwater by implementing a bi-monthly air monitoring program. Phase II Tables 5.1 to 5.7 present the results for the indoor air monitoring program from December 2001 to February 2003. In the past year, indoor air samples contained concentrations of some volatile organic compounds (VOCs) at concentrations that exceeded the CT RSRs Target Indoor Air Concentrations (TIAC), but the concentrations have been below the Occupational Safety and Health Administration (OSHA) time-weighted average (TWA) standards for worker protection. There have been no exceedences of the TIAC or the OSHA TWA for any of the samples collected from June 2002 to February 2003.

During the Phase I SI, a focused soil gas survey was conducted along the southwestern property boundary of the Site. As presented in Section 2.0 of the Phase I SI Report, the results of the focused soil gas survey indicated that Site-related target VOCs are not migrating to the southwest to neighboring properties in the vadose zone at concentrations exceeding the most stringent residential criteria.

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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 ³ |
| Groundwater | No | No | No | Yes | | | Yes |
| Air (indoor) | No | Yes | No | | | | |
| 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):The Site is an industrial/commercial facility, and does not have a day care. The nearest residents to the Site are hydraulically upgradient of the Site, and the soil gas data have demonstrated that contaminated soil gas is not migrating onto the residential properties.

Groundwater in the area of the Site is not used as a drinking water source or for crop irrigation. The groundwater on Site discharges to the Indian River, which may be used periodically for recreational purposes, including fishing. Although the construction worker scenario does not represent a current use scenario at the Site, it was considered since it is possible for a construction worker to come in contact with groundwater when repairing utilities or new construction on Site.

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

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- 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."

X 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 human health risk assessment was completed for the Site as part of the Remedial Investigation and Risk Assessment Report (TRC, December 1999). The report stated that the cumulative cancer risk for the construction worker exposed during construction activities was 2E-04, higher than the target cancer risk of 1E-06. The report concluded that the groundwater exposure scenario (dermal contact) was the driver in this exposure scenario, based on the data available at the time. Additional data have been collected since 1999 and these data indicate that the concentrations in groundwater have decreased. However, the human health risk assessment has not been revised with these data.

Indoor air quality data (as discussed under Item 3, above) indicate that the concentrations of VOCs in the indoor air sporadically exceed CT TAIC for a few compounds but have never exceeded OSHA TWA criteria, based on data collected in 2001 and 2002. Therefore indoor air exposure is not reasonably expected to be significant. Schick typically posts results of indoor air sampling on health and safety notice boards in the areas of the facility where the samples were collected.

It is unlikely that human exposure to Site-related contaminants is significant via ingestion of fish from the Indian River. Groundwater data collected from shallow monitoring wells, using low flow sampling methodology, as opposed to those collected from direct-push borings, were used for this evaluation, as these samples are thought to better represent concentrations of contaminants in dissolved or colloidal particulate form that are actually traveling in groundwater. No constituents that are likely to bioaccumulate in fish tissue were detected in these samples.

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.

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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):


Although the human health risk assessment (TRC, December 1999) concluded that the cancer risk for a construction worker on Site exceeds the target cancer risk, the exposure scenario considered in the human health risk assessment did not consider the fact that personal protective equipment (PPE) can be employed to reduce or eliminate the dermal contact exposure pathway. Because the risk has been identified, construction workers will be required to wear appropriate personal protective equipment when working in the areas of higher contamination. This equipment may include splash guards, gloves, long sleeves and pants, and protective suits.

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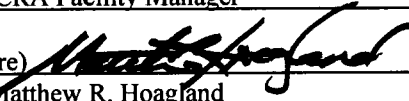
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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

- 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 Schick Wilkinson Sword, facility, EPA ID #CTD052704335, located at 10 Leighton Rd, Milford, CT 06460 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) 
(print) Stephanie Carr
(title) RCRA Facility Manager

Date 8/5/03

Supervisor (signature) 
(print) Matthew R. Hoagland
(title) Chief, RCRA Corrective Action Section
(EPA Region or State) EPA New England

Date 9/16/03

Locations where References may be found:

Phase I Site Investigation Report (CRA, May 2002)
Phase II Site Investigation Report (CRA, May 2003)

(Both reports are available at the EPA New England office, 1 Congress Street, Boston, MA)

Contact telephone and e-mail numbers

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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.