SWR 30112

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

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

Current Human Exposures Under Control

acility Name: Temple-Inland Forest Products Corporation
acility Address: 600 A. Street, Diboll, TX 75941
acility EPA ED #: TXD000821199

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.

ACKGROUND

efinition of Environmental Indicators (for the RCRA Corrective Action)

nvironmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond rogrammatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of e environment. The two EI developed to-date indicate the quality of the environment in relation to current uman exposures to contamination and the migration of contaminated groundwater. An EI for non-human cological) receptors is intended to be developed in the future.

efinition of "Current Human Exposures Under Control" EI

. positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there re no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of ppropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use onditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., te-wide)).

elationship of EI to Final Remedies

/hile Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-rm objectives which are currently being used as Program measures for the Government Performance and Results ct of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human xposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- r groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to rotect human health and the environment requires that Final remedies address these issues (i.e., potential future uman exposure scenarios, future land and groundwater uses, and ecological receptors).

uration / Applicability of EI Determinations

I Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e, CRIS status codes must be changed when the regulatory authorities become aware of contrary information).

p 1-5 is based on Temple-Inland's Nov 1999 self evaluation, and has been updated as appropriate.

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			Pentachlorophenol, DNAPL and creosote constituents
Air (indoors)[2]		X		
Surface Soil (e.g., <2ft)		X		
Surface Water	X			No known natural discharge to surface water.
Sediment	X			No known natural discharge to surface water.
Subsurf..Soil (e.g.,>2ft)	X			All soils in contact with contaminated GW or DNAPL
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 complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):
Groundwater contamination and creosote DNAPL resulting from infiltration from surface impoundments during the 1970's and 1980's. Impoundments were closed in place by stabilization of sludges and capping in 1992. Extraction and monitoring of subsurface contamination under Compliance Plan began September 1993. Highest concentration of pentachlorophenol in groundwater since 1993 was in shallow zone, 16.0 mg/l in well D17.

Evaluation of the RFI units was completed in 2001. All RFI Units except for the "Old Creosote Plant" either had no releases or the releases met Risk Reduction Standard 2. The most frequently occurring constituent at these latter units was formaldehyde.

See Semiannual and Annual Groundwater Monitoring Reports sent to EPA and TNRCC.

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.

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)

ontaminated Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
roundwater	No	yes	No	yes			No
ir (indoors)	No	~~yes~~ NO	No				
oil (surface, e.g., <2 ft)	___	___	___	___	___	___	___
~~urface Water~~	___	___			___	___	___
~~ediment~~	___	___			___	___	___
oil (subsurface e.g., >2 ft)				Yes			No
ir (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).

__X__ 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).
Site is within industrial complex owned by Temple-Inland Forest Products Corporation. No residential structures within area nor Day Care within one (1) mile. Workers that operate and maintain groundwater recovery system could contact contaminated media. Small office located at site for groundwater recovery system operators. No other buildings located over contaminated area. See site map.

[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"): of 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):
Exposures not expected to be significant, however, no data available as of 1999 to verify if exposures could be significant for soil (surface, e.g. <2ft) nor air (outdoors). Contaminated groundwater and DNAPL are not known to extend beyond industrial complex boundaries and should not impact non-industrial exposure routes. Horizontal and vertical extent of groundwater contamination and DNAPL determined in accordance with Compliance Plans CP-50113 requirements. Active recovery and monitoring of groundwater and DNAPL ongoing.

Evaluation of RFI Units was completed in 2001. The contaminated areas appear to be located within the site boundaries. The most significant contamination appears to be in subsurface soils and groundwater at the permitted landfills and at the RFI unit "Old Creosote Plant." Administrative controls at the plant help prevent current exposure.

[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 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):

X 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 Temple Inland facility, EPA ID # TXD 005821199, located at Diboll 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 _____ Date 1/9/2002
Lila Beckley
CA Program Manager

Supervisor _____ Date 1/11/2002
Ata-ur-Rahman
Manager, Corrective Action Section
TNRCC

Locations where References may be found:
Attach a copy of this facility's database printout. Highlight the reports which support the "YE" determination.

Contact telephone and e-mail numbers

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512 239-2130
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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.

RI updated 1/25/02