**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:** Firestone Fibers and Textiles Plant
**Facility Address:** 105 Winston Churchill Drive, Hopewell, Virginia 23860
**Facility EPA ID #:** VAD00311 2588

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).

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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)?

| | Yes | No | ? | Rationale / Key Contaminants |
|---|---|---|---|---|
| Groundwater | X | ___ | ___ | chlorinated volatile organics compounds, |
| Air (indoors)[2] | ___ | X | ___ | _____ |
| Surface Soil (e.g., <2 ft) | X | ___ | ___ | chlorinated volatile organics compounds, |
| Surface Water | | _X__ | ___ | _____ |
| Sediment | ___ | | ___ | _____ |
| Subsurf. Soil (e.g., >2 ft) | X | ___ | ___ | chlorinated volatile organics compounds, |
| 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):

**Groundwater**: Chlorinated Volatile Organics Compounds(CVOCs) have been detected in groundwater samples from Monitoring wells located on the property and adjacent property to the North owned by LG&E Energy (formerly owned by Firestone ). Recent Data (2001) is similar to observed historical concentrations, and the highest concentration were observed in samples from well ASMW-01, which is located in the center of the property. The highest concentration detected to date in ASMW-01 was 210 ppb of 1,1 DCE. The MCL for 1,1 DCE is 7ppb.

The closest water supply is located approximately two miles southeast (hydraulically downgradient) of the property and is used for industrial purposes only. There is no onsite use of water; the plant has been shut down since early 2000.

**Surface & Subsurface soil**: Lead contaminated soil was found during an environmental study performed by the facility in relationship to a property transfer (LG&E Energy) in the early 1990's. The contaminated soil was removed from the site.

There has been some limited soil sampling for CVOCs, with only very low concentrations of CVOCs detected. There has been no source identified to date. With the low levels of CVOCs in groundwater, there may not be a discernable source area.

**Surface Water**: There is a man-made ditch for rain run-off on the property. There are no natural surface water features on-site. Groundwater flows toward the southeast, in the direction of Bailey Creek (approximately 6000 feet from the facility).

References:


Report of Soil Remediation, Firestone Fiber, dated March 1990, prepared by Woodward-Clyde Consultants

Stabilization Initiative Inspection Report on Firestone Fiber for EPA , dated September 1995..

Focused groundwater Investigation Report, Firestone Fiber Plant, dated February 19, 2001, prepared by Premier Environmental Services.

Site inspection by EPA in October 2001.


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.

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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**

Potential **Human Receptors** (Under Current Conditions)

| **Contaminated Media** | Residents | Workers | Day-Care | Construction | Trespassers | Recreation | Food[3] |
|---|---|---|---|---|---|---|---|
| Groundwater | No | | | | No | | |
| Air (indoors) | | No | | | | | |
| Soil (surface, e.g., <2 ft) | | No | | | No | | |
| Surface Water | | | | | | | |
| Sediment | | | | | | | |
| Soil (subsurface e.g., >2 ft) | | | | | No | | |
| Air (outdoors) | | No | | | | | |

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.

__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 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):

**Potential human receptors** include:

**Trespasser** – The former Firestone Fiber site(now owned by Honeywell) has been closed since early 2000. There currently exists a chain link fence around the entire property. The buildings on the property are closed and secured. There is a permanent guard on duty at the entrance to the facility. The adjoining property (LG&E Energy) is an active facility, however the property is surrounded by a chain link fence with security guards. The likely hood of trespassers is very low. The facility is in an area that is predominately industrial.

**Resident** – There is no exposure from groundwater at the site to residents. The closest water supply is located approximately two miles southeast (hydraulically downgradient) of the property and is used for industrial purposes only. There is no onsite use of water; the plant has been shut down since early 2000.

**Workers** - Since the plant has been shut down since early 2000, there is no worker pathway at the Former Firestone site. Since a portion of the Firestone Fiber property is owned by LG&E Energy (sine early 1990's), the source of CVOCs could potentially be located near the chain link fence that separates the property. EPA performed a site visit in October 2001 to evaluate potential pathways. Based on EPA's inspection, there are no viable pathways for worker exposure. Most of the plant is asphalt capped, and the remaining areas are grass covered . Grass covers the area closest to the Firestone Fiber property. The grass covered areas are in the remote sections of the plant , where there is no worker activity.

References:


Report of Soil Remediation, Firestone Fiber, dated March 1990, prepared by Woodward-Clyde Consultants

Stabilization Initiative Inspection Report on Firestone Fiber for EPA , dated September 1995..

Focused groundwater Investigation Report, Firestone Fiber Plant, dated February 19, 2001, prepared by Premier Environmental Services.

Site inspection by EPA in October 2001.


[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."

_____ 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.

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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):_____

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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):

_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 Former Firestone Fibers and Textiles Plant facility, EPA ID # VAD 00 311 2588, located at 105 Winston Churchill Drive, Hopewell, Virginia, 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 06-07-02
(print) Michael Jacobi
(title) Remedial Project Manager

Supervisor (signature) _____ Date 06-07-02
(print) Robert E. Greaves
(title Chief, General Operations Branch
(EPA Region or State) EPA, Region 3

Locations where References may be found:

EPA, Region III, RCRA Fileroom, 11th Floor,
1650 Arch Street, Philadelphia, PA. 10103-2029

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**