

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: Atlas Roofing Corporation
Facility Address: 60 Pacific Drive, Quakertown, PA 18951
Facility EPA ID #: PAD 096 847 835

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 Controls" 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"<sup>1</sup> 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>	_____	_____
Air (indoors) <sup>2</sup>	_____	<u>X</u>	_____	_____
Surface Soil (e.g., <2 ft)	_____	<u>X</u>	_____	_____
Surface Water	_____	<u>X</u>	_____	_____
Sediment	_____	<u>X</u>	_____	_____
Subsurface Soil (e.g., >2 ft)	<u>X</u>	_____	_____	<u>Total Petroleum Hydrocarbons</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 support 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. (In order to present a more complete picture of site conditions, the reviewer has chosen not to skip to #6.)

Rationale and Reference(s):  


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**See following page for response to Rationale and Reference(s).**

<sup>1</sup> "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).

<sup>2</sup> 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.

**Question #2 – Current Human Exposures Under Control  
Response to Rationale and Reference(s)**

*Groundwater*

There have been several releases at the facility with the potential to impact groundwater. In all instances the facility has promptly removed affected soil to eliminate further contamination. The one possible exception may be the underground piping associated with the former fuel oil tank that supplied the boiler. In 1993 it was determined that there was a leak in this piping. It was unknown how long the leak had been occurring or how much fuel oil was released. Two subsurface investigations were conducted and all accessible contaminated soil was removed. During one of the investigations perched groundwater was encountered. Two samples were collected; one was analyzed for Total Petroleum Hydrocarbons (TPH) and the other for benzene, toluene, ethylbenzene, and total xylenes. Low levels of TPH and total xylenes were detected. No additional actions were taken, as naturally occurring degradation processes were expected to attenuate remaining low contaminant concentrations to non-detectable levels within a relatively short period of time.

*Air (indoors)*

All air emission sources are routed to air emission control devices outside. Although there is no indoor air quality data there is no indication of indoor air contamination.

*Surface Soil (e.g., <2 feet)*

The only operations that take place outside are storage of raw materials and loading/unloading. There have been several releases to surface soil from storage tanks since the facility began operations in 1979. There is no current data for surface soil. However, all releases to surface soil have been remediated by excavation of contaminated soil. Although there are not confirmatory samples for every remediation, the potential for surface soils to be contaminated at levels above standards is limited.

*Surface Water / Sediment*

There is no surface water body in close proximity to the site. However, there is a drainage ditch and a retention pond. The only discharge from the facility is stormwater runoff (three outfalls). Only one release at the facility could have impacted the stormwater retention pond. This was the fuel oil leak discovered in 1993 that was in relatively close proximity to the stormwater retention pond. Approximately 4,800 tons of contaminated soil was removed from the area of this leak. The potential for surface water / sediment to be impacted at levels above standards is limited.

*Subsurface Soil (e.g., > 2 feet)*

The only subsurface soil sampling conducted at the facility was in relation to the leaking underground piping discovered in 1993. Although the facility excavated the majority of contaminated soil, two localized areas of contamination could not be excavated due to proximity to a water line. TPH concentrations in this area were above the Pennsylvania Department of Environmental Resources virgin fuel cleanup levels.

*Air (outdoors)*

When the facility began operations in 1979, numerous complaints were received in relation to air emissions. At one point the facility had setup a hotline to field these complaints. Over the years the facility has installed several air emission control devices (both under permit and voluntarily). Since that time complaints and violations have decreased despite the development of a nearby property for residences. There is no indication of outdoor air contamination at the site.

Reference: Environmental Indicator Inspection Report, Tetra Tech FW, August 2004

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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)

<b>"Contaminated Media"</b>	<b>Residents</b>	<b>Workers</b>	<b>Day-Care</b>	<b>Construction</b>	<b>Trespassers</b>	<b>Recreation</b>	<b>Food<sup>3</sup></b>
Groundwater	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Air (indoors)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Soil (surface, e.g., <2 ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Surface Water	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sediment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Soil (subsurface e.g., >2 ft)	No	No	No	Yes	No	No	No
Air (outdoors)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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):

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**See following page for response to Rationale and Reference(s).**

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

**Question #3 – Current Human Exposures Under Control  
Response to Rationale and Reference(s)**

*Residents*

Since the facility is fenced and contaminated soil is at depth, residents are not expected to be exposed to contaminated subsurface soils.

*Workers*

Workers are not expected to be exposed to contaminated subsurface soils since the only operations conducted outside are storage of raw materials and loading/unloading of materials.

*Day-Care*

There are no known day-care facilities near the facility.

*Construction Workers*

If intrusive operations were to be conducted at the facility for expansion or other reasons, construction workers could be exposed to contaminated subsurface soils.

*Trespassers*

The facility is fenced for access control. It is not anticipated that a trespasser would be exposed to contaminated subsurface soils given the depth to contamination.

*Recreation*

There are no known recreational areas near the facility.

*Food*

There are no known food supplies (i.e. fish or gardens) that could be affected by contaminated subsurface soils.

Reference: Environmental Indicator Inspection Report, Tetra Tech FW, August 2004

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"** (i.e., potentially<sup>4</sup> "unacceptable" levels) 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):

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The only exposure at the facility is for construction workers. It is expected that future construction activities would either not be of a duration that would constitute a significant exposure, or include proper health and safety procedures (i.e. personal protective equipment) to prevent exposure.

Reference: Environmental Indicator Inspection Report, Tetra Tech FW, August 2004

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<sup>4</sup> 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 a "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 a "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):

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 Atlas Roofing Corporation facility, EPA ID PAD 096 847 835, located at 60 Pacific Drive, Quakertown, PA 18951 under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

X  
\_\_\_\_\_

\_\_\_\_\_ NO – "Current Human Exposures" are NOT "Under Control."

\_\_\_\_\_ IN - More information is needed to make a determination.

Completed by:     (signature) /Griff E. Miller/  
\_\_\_\_\_ Date     6/3/13  
                          (print) Griff Miller  
\_\_\_\_\_ title) Remedial Project Manager  
\_\_\_\_\_

Supervisor:       (signature) /Paul Gotthold/  
\_\_\_\_\_ Date     6/4/13  
                          (print) Paul Gotthold  
\_\_\_\_\_ title) Associate Director  
\_\_\_\_\_ (EPA Region or State) EPA Region 3  
\_\_\_\_\_

Locations where References may be found:

\_\_\_\_\_ All reference documents are appended to the EI Report, which can be found at the  
\_\_\_\_\_ USEPA Region III office in Philadelphia and the PADEP Southeast Regional office in  
\_\_\_\_\_ Norristown.  
\_\_\_\_\_

Contact telephone and e-mail numbers:

\_\_\_\_\_ (name) Griff Miller  
\_\_\_\_\_ (phone #) 215-814-3407  
\_\_\_\_\_ (e-mail) [miller.griff@epa.gov](mailto:miller.griff@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.**