

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: **AMP, Incorporated**
Facility Address: **1000 Wister Street, Harrisburg, PA 17104**
Facility EPA ID #: **PAD 980550172**

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)?

	Yes	No	?	<u>Rationale/Key Contaminants</u>
Groundwater		X		No record of contamination.
Air (indoors) ²		X		No record of contamination.
Surface Soil (e.g., <2 ft)		X		No record of contamination.
Surface Water		X		No record of contamination.
Sediment		X		No record of contamination.
Subsurface Soil (e.g., > 2ft)		X		No record of contamination.
Air (outdoors)		X		No record of contamination.

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):

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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Groundwater:

In 1996, AMP conducted a Baseline Environmental Site Assessment (BESA) to evaluate potential site contamination at some of its facilities. The Harrisburg facility was chosen because of its former plating operations. Based on the site reconnaissance, interviews, and file reviews, several potential areas of concern (AOCs) were identified. The AOCs included the former floor drain trenches, a former collection sump, and a former french drain used for cooling water discharge. Five monitoring wells, of which two were upgradient wells, were installed to evaluate groundwater quality. Groundwater samples were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Analytical results for VOCs and SVOCs were non-detects. Some metals were detected; however, the concentrations were below the Pennsylvania Statewide Health Standards. One aquifer was encountered at the facility. Groundwater flow direction below the technology building was to the northwest. The groundwater flow direction beneath the materials testing building is to the east-northeast with a flattened gradient. Currently, there is no regulatory requirement or the need by the facility to conduct groundwater monitoring at the site.

Most of the areas within a three mile radius of the facility are served by public water. The area west of the Susquehanna River is served by the Riverton Consolidated Water Company (RCWC) (now the Pennsylvania-American Water Company). The intakes for the RCWC are located on the Yellow Breeches and Conodoguinet Creeks, west of the site. The community of Harrisburg is served by the Harrisburg City Water Authority. Surface water is drawn from the Susquehanna River, which is approximately 3 stream miles upstream from the site. The city of Steelton, southeast of the site, is served by the Steelton Borough Authority (SBA) which obtains its water downstream from the Spring Creek confluence with the Susquehanna River, approximately 3.3 stream miles downstream of the site. The remaining public water supplier in the area is the Dauphin Consolidated Water Company (DCWC) (now United Water Company).

Surface and Subsurface Soils:

The 1989 Preliminary Assessment Report (PA) confirmed that a chemical spill in the central spill trench in the ferric chloride storage area of the chemical storage building was observed during a March 13, 1987 inspection. However, there was no indication that any chemicals or wastes had discharged from the chemical storage building. On March 17, 1987, PADEP conducted an inspection and recommended soil samples at the seam of the pavement in the loading dock area. Four soil samples were collected. Two samples were collected at the eastern and northern corners of the materials testing building, one sample was collected below the macadam layer beneath the loading dock area, and one sample was taken from the fence line. No volatile organic compounds were detected in any of the soil samples. Inorganics detected in the soil samples were below the Statewide Health Standards or were indicative of background conditions.

As part of the 1996 BESA investigation two soil borings were advanced: one in the former technology building and one near the loading ramp to the chemical storage building. The soil samples were analyzed for VOCs, SVOCs, and metals. Analytical results for VOCs and SVOCs were non-detects. Two metals were detected in the soil samples. The detected metal concentrations were above the Pennsylvania Soil to Groundwater Pathway Standards; however, groundwater results verified that metals detected in soil do not impact the groundwater. The detected soil metal concentrations were below the Pennsylvania Non-residential Ingestion Standards.

There were no significant releases of hazardous materials to soil at the facility that warrant an environmental concern or additional investigation.

Surface water and Sediment:

Due to poor drainage and chronic flooding in the northern boundary of the facility, AMP installed an underground drainage structure that collects some of the storm water and discharges it to the City of Harrisburg. The remaining storm water flows towards Spring Creek, a perennial stream located approximately 1,000 feet south of the site. Spring Creek flows approximately 1.5 stream miles before emptying into the Susquehanna River. The Susquehanna River is located approximately 0.5 mile west of the site. The Susquehanna River flows southwardly, eventually emptying into the Chesapeake Bay.

Two surface water sources are located more than 3 miles from the facility. None of the surface water bodies with water supply intakes receive drainage from the facility. No wetland areas greater than five acres in size were identified within a 3 mile radius of the facility. The facility lies outside the 500-year floodplain limits.

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The Facility has no records of any National Pollution Discharge Elimination System (NPDES) permit. Aside from the occasional storm water runoff discharges to Spring Creek, there is no record of significant impact or contamination to the local surface water bodies or sediment.

Air (indoors and outdoors):

The former AMP facility does not have any air permits on record. There have never been any air complaints or violations filed with PADEP. There have been no releases to outdoor air that would warrant an environmental concern or additional investigation. There have been no releases to site soils or groundwater relative to AMP's operations that would warrant a vapor intrusion assessment or concern.

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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 <u>Human Receptors</u> (Under Current Conditions)						
	<u>Residents</u>	<u>Workers</u>	<u>Day-Care</u>	<u>Construction</u>	<u>Trespassers</u>	<u>Recreation</u>	<u>Food</u> 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.

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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):

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 **AMP, Incorporated** facility, EPA ID# **PAD 980550172**, located at **1000 Wister Street, Harrisburg, PA 17104** under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

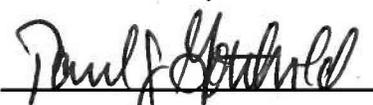
NO - “Current Human Exposures” are NOT “Under Control.”

IN - More information is needed to make a determination.

Completed by (signature)  Date 7/20/09

(print) KHAI M. DAO

(title) EPA PROJECT MANAGER

Supervisor (signature)  Date 7/21/09

(print) PAUL J. GOTTBOLD

(title) ASSOC DIR, OFFICE OF PA REM

(EPA Region or State) EPA

Locations where References may be found:

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Land and Chemicals Division
1650 Arch Street
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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.