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:	Pennsylvania Transformer Technology, Inc.
Facility Address:	30 Curry Avenue, Canonsburg, PA 15317
Facility EPA ID #:	PAD 004 339 297

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).

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			PCBs found in overburden & shallow wells
Air (indoors)[2]		x		See below
Surface Soil (e.g., <2 ft)	x			In 1977 & 1985 Aroclor 1260 found in soil
Surface Water	x			Seeps appear along Chartiers Creek
Sediment	x			See below
Subsurf. Soil (e.g., >2 ft)	x			In 1977 & 1985 Aroclor 1260 found in soil
Air (outdoors)		x		See below

____ 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):
There are two distinct areas at Pennsylvania Transformer Technology, Inc. (PATT)[formerly Cooper/McGraw-Edison] that have had historic PCB and VOC contamination. These two areas are the Building 20/25 area and the tank farm area.

Groundwater: In 1989 varying concentration of PCBs were detected from the overburden and shallow wells. PATT is required to submit semiannual reports as per a Compliance Monitoring System Plan (CMS) developed in 1993 and modified in a June 29, 2001 Consent Order and Agreement (CO&A) with the

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.

Pennsylvania Department of Environmental Protection (PADEP). The most recent *Building 20/25 Compliance Monitoring Activities Year End 2003* and *Tank Farm/Horizontal Well Compliance Monitoring Activities Year End 2003* reports show the following maximum contaminant concentrations:

Contaminant	Concentration Bldg 20/25 (ug/L)	Concentration Tank Farm (ug/L)	EPA MCL (ug/L)
PCB's (Aroclor 1260)	65,000	460	0.5
Benzene	310	non detect	5
Chlorobenzene	2,100	6.2	100
Cis-1,2-Dichloroethene	1,100	2,600	70
Tetrachloroethene	160	360	5
Trichloroethene	120	310	5
Vinyl Chloride	220	580	2

There is a localized layer of light non-aqueous phase liquid (LNAPL) under Building 20/25 ranging between 0.10 to 0.37 feet thick. There is also a layer of LNAPL under the tank farm area ranging between 0.11 and 1.29 feet thick.

Surface Soil: In 1977, an investigation by McGraw-Edison detected PCB Aroclor 1260 in soil samples at varying concentrations from 0.1 to 1,916 ppm in the immediate vicinity of a former Askarel tank area. In 1985, an investigation was performed by McGraw-Edison and Cooper that found PCB Aroclor 1260 in soil samples at varying concentrations from 0.16 to 6,400 ppm in the southwestern portion of the facility.

Surface Water: A PADEP NPDES permit issued in 1984 regulates outfalls from PATT and has shown reported maximum concentration's of PCB's over the past year of 1.1 ug/L (002), 2.3 ug/L (003), 3.3 ug/L (004), and 1.6 ug/L (005). The decontamination standard from 40 CFR § 761.79(b)(ii) for removing PCB's from liquid is <3 ug/L (ppb) for water discharged to navigable waters or a PCB discharge limit included in a permit issued under the Clean Water Act. Sampling results from PATT's *Building 20/25 Compliance Monitoring Activities Year End 2003* show non-detect for PCB's, TOC, and VOC's in their three stream samples (upstream sample #1, upstream sample #2, downstream sample). Seeps identified at "Guardhouse" have no monitoring data but are presently contained with jersey barriers and oil absorbent booms.

Sediment: Three separate sediment sampling events were performed by contractors for the previous owner's (Cooper/McGraw-Edison) between November 1986 and November 1988. The data shows maximum stream sediment and stream bank PCB concentrations of 5 mg/kg and 64 mg/kg, respectively. The stream bank sample was at the 2.0-2.5 foot interval. Outfall 002 discharges and has a collection basin where sediment has collected. No sediment testing has been performed to date in this area, therefore no levels can be stated to accurately determine impacts.

Subsurface Soil: In 1977, an investigation by McGraw-Edison detected PCB Aroclor 1260 in soil samples at varying concentrations from 0.1 to 1,916 ppm in the immediate vicinity of a former Askarel tank area. In 1985, an investigation was performed by McGraw-Edison and Cooper that found PCB Aroclor 1260 in soil samples at varying concentrations from 0.16 to 6,400 ppm in the southwestern portion of the facility.
Air (indoors/outdoors): The facility holds miscellaneous air permits an has adequate air pollution control equipment. The asphalt cap has eliminated exposure of contaminated soil through the air migration pathway.

References:

Building 20/25 Compliance Monitoring Activities Year End 2003
Tank Farm/Horizontal Well Compliance Monitoring Activities Year End 2003
Environmental Indicator Inspection Report for Pennsylvania Transformer Technology, Inc., October 21, 1999
* These references serve as the only references for the remainder of this document.

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__	_no__	_yes__			_no
~~Air (indoors)~~	___	___	___				
Soil (surface, e.g., <2 ft)	_no__	_no__	_no__	_yes__	_no__	_no__	_no
Surface Water	_no__	_no__			_no__	_yes__	_yes
Sediment	_no__	_no__			_no__	_no__	_yes
Soil (subsurface e.g., >2 ft)				_yes__			_no
~~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).

__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):
Groundwater: The area is serviced by public water supply. In January 1978, McGraw-Edison implemented a Pennsylvania Department of Environmental Resources (PADER now PADEP) approved closure plan which included the installation of a 185-foot long 5-foot deep subsurface concrete barrier wall on the west side of the facility to prevent possible leakage into Chartiers Creek. To work in conjunction with the barrier wall, in February 1992, Cooper signed a CO&A to install a 502-foot long groundwater interceptor trench with three active recovery sumps which collect total fluids from the soil migrating from the Building 20/25 area towards Chartiers Creek. In June 1993, Cooper entered into another CO&A to address historical PCB contamination in the tank farm area. The collection system which resulted form this CO&A consists of a 4-inch diameter 650-foot long slightly inclined horizontal groundwater total fluids

recovery well.

Surface Soil: In January 1978, McGraw-Edison implemented a PADER approved closure plan to install an asphalt cap that entombed the contaminated soil in an approximately 4,200-square foot area near the former Askarel oil tank and therefore no exposure to workers or public is present. A fence with guarded security also surrounds the facility preventing any unauthorized access.

Surface Water: Identified seeps are presently contained with jersey barriers and oil absorbent booms while awaiting approval to scope drainage pipes to try to remediate the releases. Due to Chartiers Creek being a high flash creek with water levels rising several feet in storm events, the containment system does become submerged and allow contamination to enter the creek. Fish are exposed to and can accumulate PCB's from the water.

Sediment: Three separate sediment sampling events were performed by contractors for the previous owner's (Cooper/McGraw-Edison) between November 1986 and November 1988. The data shows maximum stream sediment and stream bank PCB concentrations of 5 mg/kg and 64 mg/kg, respectively. The stream bank sample was at the 2.0-2.5 foot interval. Outfall 002 discharges and has a collection basin where sediment has collected. No sediment testing has been performed to date in this area, therefore no levels can be stated to accurately determine impacts. However, the collection basin eliminates the possibility of PCB contaminated sediment entering the stream through the outfall. Once in the environment, PCB's become associated with solid particles and enter the sediments. PCB is very resistant to breakdown and thus remains in river and lake sediments for many years. Fish are exposed to and can accumulate PCB's from the water, through contact with or ingestion of sediments, and in the food they eat.

Subsurface Soil: In January 1978, McGraw-Edison implemented a PADER approved closure plan to install an asphalt cap that entombed the contaminated soil in an approximately 4,200-square foot area near the former Askarel oil tank. A fence with guarded security also surrounds the facility preventing any unauthorized access.

[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"); 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)?

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):
Groundwater/Surface Soil/ Subsurface soil: There is no expected construction in the near future that would be within the identified contaminated areas. If plans for construction in any contaminated areas were to be performed, a Health & Safety Plan will be required to identify extent of the contaminated area and notify any workers of possible exposure.
Surface Water/Sediment: There has been a fish advisory for PCB's and Chlordane on Chartiers Creek since December 12, 1979. Exposure magnitude to contaminant concentrations does not pose a greater than acceptable risk because the natural creek topography of steep not easily accessible slopes and the rapidly moving creek eliminates a significant enough exposure time that could potentially cause a health risk. This information and advisory in conjunction with the remediation systems currently operating is sufficient information for the purpose of this EI to conclude that the human health exposures are under control.

[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):

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)

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 _Pennsylvania Transformer Technology, Inc._facility, EPA ID # _PAD 004 339 297_, located at _30 Curry Avenue, Canonsburg, PA 15317_ 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) /s/ Date 6-23-04
(print) Kevin Bilash
(title) RCRA Project Manager

Supervisor (signature) /s/ Date 6-30-04
(print) Paul Gotthold
(title) Chief, PA Operations Branch
(EPA Region or State) EPA Region III

Locations where References may be found:

RCRA File Room - 11th Floor
EPA Region III
1650 Arch Street
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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.