

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: Public Works Service Center, Roanoke City

Facility Address: 1802 Courtland Ave., Roanoke, VA 24011

Facility EPA ID #: VAD 123 725 350

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

The facility is located at 1802 Courtland Road in Roanoke, VA, 24012. The Public Works Service Center, for the City of Roanoke, Virginia (PWSC Roanoke) is a vehicle, street, and building maintenance facility, which includes warehousing, refueling, and fleet vehicle maintenance, and vehicle washing operations. The facility has approximately 245 individuals working there Monday through Friday and operates from 6:30 AM until 11 PM Monday through Thursday and 6:30 AM until 7 PM on Friday.

Facility construction started in 1974 on an approximately 20 acre parcel of former agricultural land. The facility property expanded to approximately 36 acres. However, at present, only 17 acres are utilized for the PWSC Roanoke; approximately 15 acres located at the southern portion of site are currently for sale by the City.

The facility utilizes the public water supply and sanitary sewer systems, which are operated and maintained by the Western Virginia Water Authority.

During a period from about the late 1970s to 1991, solid wastes and hazardous wastes were disposed of at the facility in the southern portion of the facility's site. Some waste was placed on the surface of the ground, and other waste was buried. The wastes disposed on-site included but were not limited to the following: contaminated soils, wood waste, automobile parts, waste tires, chain link fence, wood pallets, white goods, concrete with rebar, drum tops with bungs, license plate(s), road signs, metal tanks, pipes, pressure vessels, guardrails, 55-gallon drums and other containers. Some of the drums and containers contained solid waste, petroleum waste, and hazardous waste.

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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater		X		Clean closed in 2002
Air (indoors) ²		X		No indoor air issues identified
Surface Soil (e.g., <2 ft)		X		Clean closed in 2002
Surface Water		X		No evidence of release
Sediment		X		No evidence of release
Subsurf. Soil (e.g., >2 ft)		X		Clean closed in 2002
Air (outdoors)		X		No outdoor air issues identified

- 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):

- Groundwater - While current groundwater data was not found in EPA or VDEQ files, on SMWU (consisting of two HWMUs) has been closed as described below. The most current groundwater data found in files reviewed was from 2002. Groundwater monitoring wells were sampled and the data was statistically analyzed. An April 2002 Groundwater Monitoring Report indicated that organic and inorganic concentrations identified in the statistical evaluation did not exceed the MCL/ACL values. Groundwater was cleaned closed in 2002 for SWMU No. 2 – Middle Lot (included two HWMUs)
- Indoor/Outdoor Air – no indoor or outdoor air issues were identified.
- Surface/Subsurface Soil – Soil for SWMU No. 2 was clean closed in 2002.
- Sediment/Surface Water – while no sampling data was found for the Lick Run (approximately 1,300 feet south of the site), no evidence of releases was identified in EPA or VDEQ files.

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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)

<u>“Contaminated” Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food 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 (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 Public Works Service Center, EPA ID # VAD 123 725 350 , located at 1802 Courtland Ave., Roanoke, VA 24011. Specifically, this determination indicates that the migration of "contaminated" groundwater is 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 1/22/09
(print) Denis Zielinski
(title) _____

Supervisor (signature) _____ Date 1/22/09
(print) Luis Pizarro
(title) _____
(EPA Region or State) _____

Locations where References may be found:

US EPA Region III
Waste & Chemicals Management Division
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