

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: Conversion Systems, Inc. Research
Facility Address: 115 Gibraltar Road, Horsham, Pennsylvania 19044
Facility EPA ID #: PAD 064362940

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, 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 #8 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 "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated groundwater and contaminants within groundwater (e.g., non aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

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. Is **groundwater** 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 anywhere at, or from, the facility?

_____ If yes – continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

 X If no – skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown (for any media)– skip to #8 and enter "IN" status code.

Rationale and Reference(s):

The Conversion Systems Inc. facility ('facility') was situated in the Pennsylvania Business Campus at 115 Gibraltar Road, Horsham, in Montgomery County, Pennsylvania. The Site is located north of the intersection of Gibraltar Road and Township Line Road and can be found on the USGS Ambler, Pennsylvania 7.5-minute Topographic Quadrangle at 75° 08' 00" west longitude and 40° 10' 14" north latitude. The facility was identified as 25,000 square foot portion of an office building which Conversion occupied/rented from 1978 until December, 1989. Conversion reportedly utilized the space as an analytical laboratory and pilot plant for the treatment of hazardous waste. Samples analyzed by Conversion at the Site included (but were not limited to) paint waste and industrial sludges. Wastes were received and research was performed to determine potential uses and disposal methods for the hazardous waste. The number and types of tenants using this addresses' space since Conversion vacated the space in December 1989 is not known. The current occupant of 115 Gibraltar Rd. is TAC, a private company involved in the wholesale business of control systems and regulators.

Under the Part A Hazardous Waste Permit Application the facility could use S01 (container storage) and S02 (tank storage) to handle and store under USEPA identification number PAD 064362940 the hazardous wastes listed in their Part A application. NUS noted that at the time of the report in 1990, 14 of the wastes identified had been removed from the EPA list of RCRA hazardous wastes. Presently, 37 of 63 wastes listed on their Part A permit appear to have been de-listed since 1980.

On August 25, 1983, Conversion notified PADER of its intention to close their 2,500 gallon underground holding tank which had been used for rinse water wastes containing trace amounts of organic solvents and trace amounts of metals. A tank storage closure plan was submitted to PADER who acknowledged receipt and approved the closure plan in January 1984. PADER was notified on March 30, 1984, that the UST closure was complete. PADER confirmed the closure at a May 23, 1984, PADER inspection.

On March 2, 1983, PADER requested a Part B Permit Application. Closure plans for the hazardous waste work at CSI were submitted to PADER in November 1983 and September 1984 as part of the Part B application process. PADER acknowledged receipt of the plans in December 1983 and October 1984, respectively. Formal closure of the Site as a hazardous waste storage facility was due to company restructuring. CSI completed closure in February 1985. PADER inspected and approved the closure in April 1985. From April 1985 until December 1989 the facility operated as an analytical laboratory dealing only with non-hazardous materials.

NUS' 1990 PAR letter report does not identify any SWMU's. There is no record of reported releases at the Conversion facility.

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 appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

A detailed review of available files indicates that hazardous waste inspections had been conducted at the facility beginning in 1983. No violations were reported for this facility. Inspections occurring in August 1985, July 1988, September 1991, and January 1993 indicate certified clean closure was achieved on April 24, 1985. Inspections in 1991 and 1993 indicate that Conversion was not a hazardous waste generator or a TSD facility. A letter from NUS to USEPA, dated November 5, 1990, recommended that, based on the 1990 Environmental Priorities Initiative Preliminary Assessment Letter for the Site, no further action be taken at the Site under CERCLA. A Site Identification Deposition was issued for the facility in March 1991 with NFA status due to hazard ranking scores below the cutoff value. The last inspection performed on January 26, 1993, indicated that Conversion was no longer located at 115 Gibraltar Road.

Public water is supplied to the Area by the Aqua America Company of Philadelphia, Pennsylvania. Research through the PaGWIS website indicates there are three groundwater wells documented in the Pennsylvania Business Park complex. Two public wells (PaGWIS 27711 and 251873) are owned by the Horsham Water Authority and were installed to depths of 400 and 340 feet, respectively. An industrial well (PaGWIS 27702) owned by Willow Ridge Farm was installed to a depth of 600 feet. Thirty-seven (37) wells, ranging in depths of 10 to 410 feet, are located within a half mile radius of the Site. Twenty-nine (29) of those wells are monitoring wells installed at an Exxon/Mobil and a former Mobil Oil Station located on Rt. 611 (Easton Rd.) in Horsham.

There have been no known/documented releases to Site soils or groundwater relative to Conversion's former operations and therefore no detailed site-specific geologic or hydrogeologic studies have been conducted at the Site

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3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"¹ as defined by the monitoring locations designated at the time of this determination)?

- _____ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"²)
- _____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"²) - skip to #8 and enter "NO" status code, after providing an explanation.
- _____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

No rationale warranted.

¹ "Existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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4. Does "contaminated" groundwater discharge into surface water bodies?

- _____ If yes - continue after identifying potentially affected surface water bodies.
- _____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.
- _____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

No rationale warranted.

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5. Is the discharge of "contaminated" groundwater into surface water likely to be "insignificant" (i.e., the maximum concentration² of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration³ of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations³ greater than 100 times their appropriate "level(s)," and if estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing. .

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

No rationale warranted.

² As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented³)?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment⁴ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") – skip to #8 and enter a "NO" status, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown – skip to 8 and enter "IN" status code.

Rationale and Reference(s):

No rationale warranted.

³ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁴ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

_____ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):


No rationale warranted.


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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), 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).

 X YE – Yes, "Migration of contaminated Groundwater Under Control" has been verified.

 NO – Unacceptable migration of contaminated groundwater is observed or expected.
 IN – More information is needed to make a determination. *This information is based on information collected by URS from PADEP and USEPA files and discussions with representatives of PADEP familiar with the site.

Completed by: (signature)  Date 12-23-11
 (print) Grant Dufficy
 (title) RCRA Project Manager

Supervisor: (signature)  Date 12-27-11
 (print) Paul Gotthold
 (title) Assoc. Dir., PA Remediation, LCD
 (EPA Region or State) EPA Region III

Locations where References may be found

A list of all reference documents is appended to the EI Report. Copies of these reference documents can be found at USEPA's Region III office in Philadelphia or PADEP's Southeast Regional office in Norristown, PA.

Contact telephone and e-mail numbers:

(name) Grant Dufficy
(phone #) 215-814-3455
(e-mail) dufficy.grant@epa.gov

Facility Name: Conversion Systems, Inc.
EPA ID #: PAD 064362940
Location: Gibraltar Avenue, Horsham, Pennsylvania

MIGRATION OF CONTAMINATED GROUNDWATER UNDER CONTROL (CA 750)

