

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Allion Chemical Company, Incorporated

Facility Address: 109 Darby Commons Court Folcroft, PA 19032

Facility EPA ID #: PAD 020075347

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])

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 “Migration of Contaminated Groundwater Under Control” EI

A positive “Migration of Contaminated Groundwater Under Control” EI determination (“YE” status code) indicates that the migration of “contaminated” groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original “area of contaminated groundwater” (for all groundwater “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, GPRAs). The “Migration of Contaminated Groundwater Under Control” EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water 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 “levels” (i.e., 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 - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

Figures, tables, and superscript references cited herein apply to those items presented in the FINAL Environmental Indicator Inspection Report October, 2008. Additionally, acronyms applied in the following checklist responses are defined in the “Glossary of Acronyms” in the EI Report.

The Allion Chemical Company, Incorporated (which changed its name in 1986 to, and is also referred to as, Nova Consultant, Ltd.) facility (‘Facility’), was situated in the Folcroft Industrial Park in Folcroft, Darby Township, Delaware County, Pennsylvania. The facility’s former location can be found on the USGS Lansdowne, Pennsylvania 7.5-minute Topographic Quadrangle at -75° 16’ 17” west longitude and 39° 53’ 29” north latitude. The Georgetown building, which was constructed by Henderson Builders in 1977 on land purchased in 1975, is approximately 44,300 square feet in size and is one of several buildings in the industrial park complex. Prior to construction, the land was a series of farms and/or woods whose owners are unknown. Allion was the first occupant to lease a 3,500 square foot office and warehouse space within the Georgetown Building. The building is currently owned by the Henderson Group in Media, Pennsylvania. Nova moved in January 1996 and is currently located in Wilmington, Delaware. The two most recent tenants of the former Facility were an aluminum siding and window manufacturing businesses, respectively. The number and types of tenants since the Facility was vacated in January, 1996 is not known.

The Facility purchased water-treatment chemicals for blending and redistribution and operated at the Facility from 1977 through 1996. The chemicals arrived in 55-gallon drums and different chemicals were blended to create a new product and/or chemicals were diluted based on specific needs. The general process included transferring a specific amount of the chemical(s) to another 55-, 30-, or 5- gallon container and then diluting or blending the chemical(s). An on-site laboratory was used to run standard water treatment tests on customer wastewater samples for quality assurance purposes. The laboratory sink received small amount of wastewater samples and standard reagents.

In the early 1980s, two 110-gallon mixing tanks were used at the facility for chemical blending and dilution. A floor drain was located underneath the pad where the two 110-gallon mixing tanks were located. In 1980 or 1981, a 2,000 gallon wastewater neutralization tank was purchased and placed within a concrete containment structure. The tank was used to neutralize wastewater produced through a cleaning process using soda and caustic ash. In 1981, the Facility began processing alkaline wastewater. This was discontinued in 1983 or 1984 and the Facility stopped using the 2,000 gallon tank in 1984. All pipes and drains for the Nova facility had a permitted connection to the DELCORA sewer system. The 2,000 gallon tank discharge pipe and 110-gallon mixing tank area floor drain were cemented over in 1989. According to a June 4, 2008 URS phone interview, all tanks and piping were removed when the Georgetown Building was vacated in 1996.

An NUS 1990 Preliminary Assessment Report identified the following five SWMUs: inactive 2,000-gallon waste

_____ 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).

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neutralization tank and associated drain lines; two 110-gallon raw product dilution tanks and associated drain lines; slop sink and associated drain lines; raw product drum spill area and dumpster; and, the laboratory sink and associated drain lines. There is no record of reported releases from any of these SWMUs.

Public water is supplied to the area by the Aqua Water Company of Philadelphia, Pennsylvania. Any residents/facilities within the vicinity of the Facility that are not serviced by public water are assumed to use groundwater obtained from private water supply wells. Research through the PAGWIS website indicates that there are no groundwater wells documented in the Folcroft Industrial Park. However three wells, ranging in depths of 19 to 228 feet, are present within a half-mile radius of the Site. Eight wells, with depths ranging from 10 to 500 feet, exist within a one-mile radius.

There have been no known/documented releases to soils or groundwater relative to former operations and therefore no detailed site-specific geologic or hydrogeologic studies have been conducted at the Facility, nor is there evidence available to presume that such work is warranted.

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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"² 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):

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):

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be "**insignificant**" (i.e., the maximum concentration³ 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)?

² "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.

³ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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_____ 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 judgement/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 concentration³ 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 groundwater "levels," the 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):

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 implemented⁴)?

_____ 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-assessment,⁵ 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.

4 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.

5 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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_____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, 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):

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):

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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).

YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the **Allion Chemical Company, Inc.** facility, EPA ID # **PAD 020075347**, located at **109 Darby Commons Court Folcroft, PA 19032**. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

NO - Unacceptable migration of contaminated groundwater is observed or expected.

IN - More information is needed to make a determination.

Completed by

(signature)



Date 1/28/09

(print)

Kevin Bilash

(title)

RCRA Project Manager

Supervisor

(signature)



Date 1-28-09

(print)

Paul Gottfried

(title)

ASSOC DIR, PA REMEDIATION

(EPA Region or State)

EPA REGION 3

Locations where References may be found:

USEPA Region III
Land and Chemicals Division
1650 Arch Street
Philadelphia, PA 19103

PADEP
Southeast Regional Office
2 East Main Street
Norristown, PA 19401

Contact telephone and e-mail numbers

(name)

Kevin Bilash

(phone#)

215-814-2796

(e-mail)

bilash.kevin@epa.gov