

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: Safety-Kleen Systems, Inc.
Facility Address: 650 Noble Drive, West Mifflin, Pennsylvania 15122
Facility EPA ID #: PAD982576258

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?

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 nonhuman (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., sitewide)).

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 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):

Safety-Kleen Systems, Inc. (Safety-Kleen) is a national solvent recycler and owns and operates the hazardous waste management facility located in West Mifflin Borough, Allegheny County, Pennsylvania. The 2.83-acre service center (facility) was designed to facilitate the handling and storage of wastes resulting from the services offered by Safety-Kleen. Under hazardous waste permit No. PAD982576258, the facility stores hazardous waste in containers and one aboveground storage tank (AST) and also functions as an in-transit storage (10-day) facility for various small quantities of hazardous and residual wastes. The in-transit wastes are stored in the in-transit waste storage area or a truck trailer. The facility is a large quantity generator of hazardous waste, primarily consisting of spent parts washer solvents, spent immersion cleaner, dry cleaning wastes, and paint wastes. The facility also operates a waste oil transfer facility under General Permit No. WMGR029G. The waste oil is destined to several facilities operated by Safety-Kleen. The waste oil mixture can contain water and antifreeze.

A meeting at the facility was held on July 10, 2014 to discuss EPA Region III’s Corrective Action process, the EI Assessment Program and the legislation driving this program. USEPA focused on determining if human exposures are controlled and groundwater releases are controlled. The site visit included an overview of areas to be observed and a tour of the facility.

Releases

September 22, 2005 Spill

On September 22, 2005, approximately 40 gallons of waste oil spilled onto the pavement during a waste oil pickup. The driver stated he assumed the center compartment was the same size as the rear compartment and he overfilled the center compartment. Waste oil ran from the top of the tanker down the overflow pipes and onto the pad. Safety-Kleen’s material handlers immediately responded and contained the spill on the concrete pad. All of the material was cleaned up using absorbent pads. The concrete was then pressure washed and scrubbed with soap. All waste water from the cleanup was contained and was placed into the waste water tank.

August 23, 2011 Spill

On Tuesday, Aug. 23, 2011, a tanker truck unloading spent solvent, accidentally spilled approximately 20 gallons onto the asphalt pavement. Apparently, the valve cap vibrated from its perch and struck and opened the relief valve. The driver immediately closed the valve. Absorbent was applied, and the area was pressure washed. All waste waters and absorbent were drummed for disposal. Safety-Kleen was concerned that waste solvent may have penetrated some cracks in the asphalt pavement. On August 24, 2011, Sunpro of Pittsburgh cored through the asphalt to collect one sample of the soil under the pavement. The sample was analyzed for VOCs and total petroleum hydrocarbons– oil range organics (TPH-ORO). Note: TPH-ORO are typically aromatics >C20–C35 associated with crude oil, heavy fuel oils, lubricating oils, waxes, and asphalt/pitch. No VOCs were detected; TPH-ORO was detected at 191 ppm. As a result of the release, the

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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cracks in the pavement were repaired (asphalt was sealed) to prevent any seepage that may occur should a similar incident occur in the future. On August 26, 2011, a general inspection was performed in response to the self-disclosure of the spill of spent solvent.

Groundwater:

The facility property and surrounding area is a former slag disposal site. Grasses, weeds, small shrubs and trees grow on/around the slopes of the slag pile. The facility obtains its water from the Pennsylvania American Water Company (PAWC) – Pittsburgh District which maintains an eight-inch water main on Noble Drive. The source of water for the PAWC is surface water from the Monongahela River, Becks Run and Aldrich intakes. There were no surface water intakes identified within 3 miles of the facility. The facility is connected to the municipal sanitary sewer system.

The floor of the building is epoxy-sealed and sloped to a self-contained concrete containment trench. Direction of groundwater flow in the bedrock units is unknown, but is expected to be generally to the north/northwest toward the Monongahela River. However, flow patterns are likely locally altered due to the presence of extensive mining activities in the vicinity of the facility. The facility has containment structures and blind sumps in place around their tanks and drum storage areas. The areas are routinely inspected for cracks and sealed.

The facility and the surrounding area obtain potable water from the PAWC. There are no known potable water wells within ½-mile of the facility. Therefore, it is concluded that the groundwater exposure pathway is not relevant, and no exposure pathway/release controls are necessary at this time.

There have been no known hydrogeological investigations conducted at the facility. There are no known or documented releases to groundwater during operations of the facility. Small spills that have occurred at the facility were limited to the warehouse/containment areas and paved areas. Two larger documented releases that occurred at the facility in 2005 (40 gallons of waste oil) and 2011 (20 gallons of waste solvent) as described above were immediately cleaned up with absorbent and the areas were pressure washed. There was no known release to groundwater resulting from either of these spills. Therefore, groundwater is not known or reasonably suspected to be contaminated 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.

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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):

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.

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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)?

_____ 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):

³ 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 implemented)?

_____ 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.

_____ 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):

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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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 Safety-Kleen Systems, Inc. facility, EPA ID # PAD982576258, located at 650 Noble Drive, West Mifflin, Pennsylvania 15122.
Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be reevaluated 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) [Signature] Date 4/1/15
(print) Kevin Bilash
(title) RPM
Supervisor (signature) [Signature] Date 4-1-15
(print) PAUL GOETZOLD
(title) _____
(EPA Region or State) _____

Locations where References may be found:

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

PADEP
South West Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222

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