

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: Safety-Kleen Systems, Inc. (Former Bristol Service Center)

Facility Address: 2146 King Mill Pike Bristol, VA 24201

Facility EPA ID #: VAD981042955

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

Safety-Kleen's Former Bristol Service Center is located on approximately 2 acres of land, approximately 1,000 feet northeast of the intersection of King's Mill Pike and Valley Drive in Bristol, Washington County, Virginia. This Safety-Kleen facility actively operated as a permitted hazardous waste management facility between August 1981 and June 1994. The facility operated as a large quantity generator of hazardous waste and processed and stored four types of hazardous wastes: spent mineral spirits, spent immersion cleaner solvent, paint wastes, and dry cleaning wastes. The site was an accumulation point for spent solvents generated by Safety-Kleen's customers and a distribution center for reclaimed solvents for delivery to customers; fresh (recycled and reclaimed) solvents were stored in drums and a large storage tank. Waste solvents and used oils were regularly shipped from this service center to either a regional Safety-Kleen recycling center or a contract reclaimer.

During Safety-Kleen's operational years, several SWMUs were maintained at the site including a Drum (Container) Storage Area; Paint Waste Shelter; Waste (Spent) Mineral Spirits Storage Tank; Return and Fill Stations; Waste Oil Storage Site; Former Truck Washing Area/Mineral Spirits Spill Site; Trash Dumpster; and Soils Underlying Return and Fill Stations.

Several releases and the presence of contamination have been documented at the site. A release of an unknown quantity of mineral spirits to the surrounding soils occurred at the Return and Fill Stations. Approximately 200 cubic yards (yd³) of soil with mineral spirit concentrations as high as 630 mg/kg were removed during efforts to upgrade the Return and Fill Stations in 1987. However, residual concentrations of mineral spirits (i.e., 1.3 mg/kg to 8.6 mg/kg) remained in the soil underlying this area. The 1992 RCRA Part B Application noted several releases in 1988, including 60 gallons of waste mineral spirits, a 10 gallon leak of mineral spirits from a drum, and an 80 gallon release during pumping operations. A subsurface assessment conducted in August 1990 concluded that mineral spirits existed in the gravel crusher run between the asphalt cap and the soil to the east of the wet dumpsters at the Return and Fill Stations. On April 24, 1990, a transfer hose split and released approximately five gallons of waste oil from the Waste Oil Storage Site. Spills ranging from 10 to 100 gallons also occurred at the Former Truck Washing Area/Mineral Spirits Spills Site, according to a 1991 Draft Phase II RCRA Facility Assessment Report.

At the time of the August 27, 2008 site visit, the site of the Former Bristol Service Center was being occupied by a printing company.

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).

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

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		SWMUs were clean closed and facility is inactive – GW contamination is not expected
Air (indoors) ²		x		SWMUs were clean closed and facility is inactive
Surface Soil (e.g., <2 ft)		x		Required Soil Remediation has been Achieved
Surface Water		x		Water body/Creek in Vicinity; No Impacts Expected
Sediment		x		Water body/Creek in Vicinity; No Impacts Expected
Subsurf. Soil (e.g., >2 ft)		x		SWMUs were clean closed and facility is inactive
Air (outdoors)		x		Inactive Facility

- 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):

The former Bristol Service Center operated by Safety-Kleen maintained a number of SWMUs. Although groundwater monitoring wells have not been installed, contamination above appropriately protective levels is not suspected for this site. Prior to closure in 1994, the majority of SWMUs and AOCs were concrete or asphalt to limit the potential for impacts to underlying groundwater. Currently, the majority of the site is either covered by the former warehouse building or is paved.

Groundwater, surface soil, and subsurface soil is not known or reasonably suspected to be contaminated above appropriately protective risk-based levels at Safety-Kleen’s Former Bristol Service Center. Similarly, there is no indication of releases that would have reached surface water or sediment in the vicinity of the site. As Safety-Kleen is no longer operational at the facility, there is no indication of current air emissions that would negatively impact indoor and/or outdoor air quality. Several air inspections were completed because of complaints. However, these inspections did not document visible emissions or odors.

According to Safety-Kleen representatives, there were no wells on the facility property when Safety-Kleen operated the facility and potable water was provided by the local public water supply (PWS) system. In addition, all sanitary wastewater generated at the facility was discharged to the sanitary sewer system for subsequent treatment at the local publicly-owned treatment works (POTW) system.

The former Container Storage Area, SWMU No. 1, was a 680 ft² area utilized to store drums of immersion cleaner, dry cleaning waste, and bottom sediment from the Spent Mineral Spirits Storage Tank. SWMU No. 1 was located within the warehouse building. According to Safety-Kleen representatives, this unit was curbed, epoxy-coated concrete, and provided with secondary containment that was lined with steel and had a sump to collect liquids. Closure for this unit was granted on July 9, 1999 based on hazardous constituent concentrations in the final rinse water sample meeting risk-based closure standards. The concrete unit was certified to be intact during closure.

SWMU No. 2, the former Paint Waste/Flammable Waste Shelter and Transfer Pad were utilized to store paint waste and other flammable wastes prior to shipment off-site. This SWMU was a 20-foot by 15-foot self-contained metal shelter with secondary containment pans on a concrete pad. Closure for this unit was granted on July 9, 1999 based on hazardous constituent concentrations in the final rinse water sample meeting risk-based closure standards.

The former Waste Mineral Spirits Storage Tank, SWMU No. 3, was used to store mineral spirits. This was an Aboveground Storage Tank (AST) with concrete secondary containment. During closure, SWMU No. 3 was found to be structurally sound (i.e., no cracks, gaps, etc.). Closure for this unit was granted on July 9, 1999 based on hazardous constituent concentrations in the final rinse water sample meeting risk-based closure standards.

The facility maintained a former Return and Fill Station, SWMU No. 4, at the site that consisted of a steel dock structure that housed wet dumpsters/drum washers. Prior to 1987 this unit was present over asphalt that was determined to be cracked. This unit was upgraded in 1987 to include steel containment pans and a concrete pad. The December 7, 1998 Closure Plan for the Return and Fill Station included the planned excavation of approximately 2,000 tons of impacted soils in the loading dock area in front of the SWMU (to a depth of 4 to 6 feet to bedrock). On August 18, 1998, the VDEQ completed a closure verification inspection of this permitted unit. As noted in a July 9, 1999 VDEQ letter, the Return and Fill Station achieved clean closure through a residential risk-based determination.

Limited information was available in relation to the Former Waste Oil Storage Site (SWMU No. 5), Former Truck Washing Area/Mineral Spirits Spills Site (SWMU No. 6), and Former Trash Dumpster (SWMU No. 7). Minor releases of waste oil occurred at the Former Waste Oil Storage Site. Available information indicates that all units at the facility achieved clean closure.

SWMU No. 8, former Return and Fill Station, was designated as a separate unit based on the identification of contaminated soil underlying SWMU No. 4. A subsurface assessment conducted in August 1990 concluded that mineral spirits existed in the gravel crusher run associated with this unit. All contaminated soils were removed as part of the closure of SWMU No. 4.

Several releases and the presence of contamination have been documented at the site. A release of an unknown quantity of mineral spirits to the surrounding soils occurred at the Return and Fill Stations. Approximately 200 cubic yards (yd³) of soil with mineral spirit concentrations as high as 630 mg/kg were removed during efforts to upgrade the Return and Fill Stations in 1987. However, residual concentrations of mineral spirits (i.e., 1.3 mg/kg to 8.6 mg/kg) remained in the soil underlying this area. The 1992 RCRA Part B Application noted several releases in 1988, including 60 gallons of waste mineral spirits, a 10 gallon leak of mineral spirits from a drum, and an 80 gallon release during pumping operations. A subsurface assessment conducted in August 1990 concluded that mineral spirits existed in the gravel crusher run between the asphalt cap and the soil to the east of the wet dumpsters at the Return and Fill Stations.

On April 24, 1990, a transfer hose split and released approximately five gallons of waste oil from the Waste Oil Storage Site. Spills ranging from 10 to 100 gallons also occurred at the Former Truck Washing Area/Mineral Spirits Spills Site, according to a 1991 Draft Phase II RCRA Facility Assessment Report. Safety-Kleen's Former Bristol Service Center is located on approximately 2 acres of land, approximately 1,000 feet northeast of the intersection of King's Mill Pike and Valley Drive in Bristol, Washington County, Virginia. This Safety-Kleen facility actively operated as a permitted hazardous waste management facility between August 1981 and June 1994. The facility operated as a large quantity generator of hazardous waste and processed and stored four types of hazardous wastes: spent mineral spirits, spent immersion cleaner solvent, paint wastes, and dry cleaning wastes. The site was an accumulation point for spent solvents generated by Safety-Kleen's customers and a distribution center for reclaimed solvents for delivery to customers; fresh (recycled and reclaimed) solvents were stored in drums and a large storage tank. Waste solvents and used oils were regularly shipped from this service center to either a regional Safety-Kleen recycling center or a contract reclaimer.

In summary, documentation for SWMUs and AOCs indicate that all permitted hazardous waste management units (HWMUs) were "clean closed" to the satisfaction of the Virginia Department of Environmental Quality (VDEQ) in accordance with the approved Closure Plan, dated December 7, 1998. In addition to the closure of the permitted HWMUs the Closure Plan also addressed removal of contaminated soils from the facility identified based upon previous release documentation and a pre-closure soil sampling program that was conducted at the site in May 1994. The Closure Plan included the planned excavation of approximately 2,000 tons of contaminated soils in the loading dock area in front of the SWMU No. 4, Former Return and Fill Stations, to a depth of 4 to 6 ft to bedrock. Closure Report information documentation and certifications were submitted to the VDEQ. A closure verification inspection of the facility's HWMUs

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was conducted on August 18, 1998. In accordance with the VDEQ letter, dated July 9, 1999, the facility achieved “clean closure” under the RCRA Regulations that is protective of human health and the environment. All wastes were removed and manifested from the facility site for subsequent off-site treatment and disposal. All equipment was decontaminated and all contaminated soils were removed to confirmatory levels so to meet residential risk criteria and standards. All former decontaminated equipment was removed from the facility site and was either disposed in accordance with the Regulations or used at another Safety-Kleen facility.

The Safety-Kleen facility has been inactive since 1994. The site was reportedly vacant between 1995 and 1998. At the time of the August 27, 2008 site visit, the site of the Former Bristol Service Center was being occupied by a printing company.

For additional information see the February 13, 2009 Final Site Visit Report for the Safety-Kleen Systems, In. Facility.

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

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 TablePotential **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 Safety Kleen Inc.(Former Bristol Service Center) facility, EPA ID # VAD 981 042 955, located at 2146 King Mill Pike, Bristol, VA 24201. 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) SIGNED Date 3/17/09
Denis M. Zielinski
Senior RPM

Supervisor (signature) SIGNED Date 3/18/09
Luis Pizarro
Associate Director, Office of Remediation
EPA Region III

Locations where References may be found:

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