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:	Linde SJS LP (Scott, Kimberly Clark, Linde Air Products)
Facility Address:	50 West Powhatten Avenue, Tinicum, Pennsylvania 19029
Facility EPA ID #:	PAD000798504

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?

X	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 "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 "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).

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)?

	Yes	No	?	Rationale/Key Contaminants
Groundwater		X		See rationale below.
Air (indoors)[2]			X	See rationale below.
Surface Soil (e.g., <2 ft)		X		See rationale below.
Surface Water		X		See rationale below.
Sediment		X		See rationale below.
Subsurface Soil (e.g., >2 ft)		X		See rationale below.
Air (outdoors)		X		See rationale below.

_____ If no (for all media) – skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient support 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.

X If unknown (for any media) – skip to #6 and enter "IN" status code.

Rationale and Reference(s):

The information provided herein has been detailed in the Environmental Indicator (EI) Report, to which these checklists are an appendix. Any references to tables and figures provided in the discussion below refer to the tables and figures in the EI Report. Additionally, superscript numbers in the text herein apply to the reference documents presented in Appendix A of the EI Report.

Linde Air Products utilized the Site from 1937 to 1967 for manufacturing bottled gases and air products. From 1967 until 1972, Scott Paper Company utilized the Site for research and development of paper and paper pulp technology. From 1972 until 1980, Scott utilized the Site for development of disposable diaper covers and disposable paper cups. From 1980 until 1984, the Site was occupied by Scott's environmental and industrial hygiene laboratories. From 1984 until 1997, Scott (which was later renamed Kimberly Clark Tissue Company in 1996) utilized the Site for the development of "wet wipes".

In October 1997, the Site was sold to Linde Associates LP who owned the Site from 1997 until 2000. During this time, Linde Associates LP gutted the entire building to the outer walls and soil remediation work was completed. Once the remediation work was completed, the Site was sold to SJS Linde LP in July 2000. Since SJS Linde LP purchased the Site, the Site has been occupied by several office-type tenants.

[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 appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

Groundwater

Six monitoring wells (MW-1 through MW-6) were installed on-site in September 1997. Groundwater was collected from the six wells in October 1997, January 1998, April 1998, August 1998, November 1998, June 1999, and September 1999. The samples were analyzed for volatile organic compounds (VOCs). All concentrations were either non-detect or below the Pennsylvania Department of Environmental Protection (PADEP) Residential and Non-Residential Non-Use Aquifer Medium-Specific Concentrations (MSCs), with the exception of trichloroethene (TCE) (concentration of 250 ug/L) detected at MW-4 in October 1997 and TCE detected at MW-6 in October 1997, January 1998, and April 1998 (concentrations of 190 ug/L, 69 ug/L, and 66 ug/L, respectively, **Table 8, EI Report**). Vinyl chloride (concentration of 82 ug/L) was also detected above the PADEP Residential and Non-Residential Non-Use Aquifer MSCs at MW-6 in October 1997. The concentrations of TCE and vinyl chloride detected at these wells were below the MSCs during subsequent sampling events.

An aquifer use determination was performed in March 1998 and June 1999. It was concluded that the Site aquifer met the PADEP Act 2 criteria for non-use aquifers under the PADEP Land Recycling Program regulations. PADEP approved the Non-Use Aquifer Determination in June 1999. During the aquifer use determination, off-site water supply wells located within one-mile of the Site were summarized. Telephone interviews were conducted with the local water utilities to determine the current and potential for potable water sources in the vicinity of the Site. The following information was found:

- Telephone interviews revealed that there are currently no potable water wells or surface water intakes located within one-mile of the Site. There was also no reported plan for future development of water supplies within a one-mile radius.

- The area within 1,000-feet of the Site was served by the municipal water supply. No private water supply wells were identified within this area.

- One water withdrawal well was located in the Site quadrangle; however, it was more than one-mile from the Site.

- Ten test wells were located within one-mile of the Site; however, none were located within 1,000-feet of the Site, and all wells were identified as monitoring (test) wells.

- According to the United States Geological Survey (USGS) data, two water wells (owners are identified as the US Navy and Andrew Sakos) were located within one-mile of the Site; however, none of the wells were located within 1,000-feet of the Site, and the wells were listed as “not used”.

The Site and the surrounding areas are serviced by public water provided by Aqua Pennsylvania. Aqua Pennsylvania supplies water to 1.2 million people in several surrounding counties.

Transport modeling was also conducted in June 1999 as part of the aquifer use determination for the compounds of concern identified in groundwater at the Site. These included 1,1-dichloroethane (DCA), cis-1,2-dichloroethene (DCE), and TCE. MW-4 and MW-6 were used as the basis for the model. The modeling indicated that cis-1,2-DCE and 1,1-DCA would attenuate below their respective MSCs within 300 feet downgradient (west, in the direction of groundwater flow) of the Site and that TCE would attenuate below its MSC within 900 to 1,000 feet downgradient (west, in the direction of groundwater flow) of the Site.

It should be noted that because groundwater on-site is approximately five feet to seven feet below ground surface (bgs) (based on the identification of a sump in the basement of the building, Section 2.5.5 of the EI Report, and depth to groundwater measurements measured in 1997, Section 2.5.6 of the EI Report), there is the potential for on-site or nearby off-site receptors to come in contact with impacted groundwater during excavation activities during future construction or utility work (particularly in uninvestigated areas such as the solvent dip tank area).

Air (indoors)

The indoor air pathway to the on-site building and off-site neighboring residences was not evaluated per current regulations as part of the previous site investigations because this pathway was not part of the Act 2 regulatory program at the time the Final Report was submitted (2000). Therefore, to evaluate potential risks to indoor air quality at the on-site building and neighboring residential properties (located to the south of the Site), URS conducted a vapor intrusion screening in accordance with PADEP Guidance "Section IV.A.4 – Vapor Intrusion into Buildings from Groundwater and Soil Under the Act 2 Statewide Health Standard" (VI TGM), effective January 24, 2004, using analytical results of soil and groundwater samples collected at the Site from 1997 through 1999. Using the PADEP VI TGM, the vapor intrusion pathway can be evaluated using conservative default screening values calculated using Pennsylvania-specific parameters and the Johnson & Ettinger (J&E) Vapor Intrusion model. However, the default screening values can only be used in situations where impacted environmental media are located within 100 feet of an occupiable building, presuming the following conditions have been met:

- There is no separate phase liquid present;
- There are no preferential pathways for vapor migration from the impacted environmental media to the building(s); and,
- At least five feet of soil or soil-like (not sand) material must be present between the impacted media and the occupiable building.

Soil samples, consisting primarily of sand, were collected at depths ranging from two to seven feet bgs, within 100 feet of the on-site building. At least one organic compound (both VOCs and SVOCs) was identified in 11 of the 14 samples. Many of these compounds were detected between two and three feet bgs (**Table 11, EI Report**). While the concentrations of these compounds did not exceed the PADEP Non-Residential Direct Contact or Non-Use Aquifer Soil-to-Groundwater MSCs (PADEP approved a Non-Use Aquifer Determination submitted by RT in June 1999), the samples were collected from sample intervals shallower than five feet bgs, which does not meet the required assumptions for use of the default screening criteria. Thus, the default screening process cannot be used for soil at this Site.

Similarly, one or more VOCs and semivolatile organic compounds (SVOCs) were identified in each of the six monitoring wells during sampling events conducted between October 1997 and September 1999 (MW-1 through MW-6, **Table 8, EI Report**). The concentrations of VOCs and SVOCs detected in groundwater did not exceed either the PADEP Residential or Non-Residential Non-Use Aquifer MSCs to which they were compared, except at MW-6 where TCE concentrations exceeded both MSCs in 1997 and the first two quarters of 1998 and at MW-4 in 1997, where TCE concentrations exceeded both MSCs. Vinyl chloride was also detected in MW-6 above both MSCs in October 1997. There were no exceedances of any VOCs detected at MW-6 from August 1998 through September 1999 or at MW-4 from January 1998 through September 1999.

Therefore, to further evaluate the VI pathway on a site-specific basis, URS conducted several preliminary modeling exercises using the PADEP/USEPA-recommended J&E vapor intrusion model, the input and results for which are summarized below:

- Depth below grade to bottom of enclosed space floor (cm): 200 cm, the default value recommended by PADEP.
- Depth below grade to top of contamination (cm): Varies. For soil models, this depth was considered to be equal to 200 cm (i.e., no separation between the bottom of the enclosed floor space and the shallowest depth to soil impacted with the most constituents). For groundwater, this depth was considered to be 217.05 cm, 17.05 cm below the bottom of the enclosed floor space. This value represents the thickness of the capillary fringe as calculated by the J&E model. The model assumes the top of the capillary fringe is directly below the bottom of the enclosed space in contact with the soil, and that the entire thickness of the capillary fringe is uncontaminated.
- Average temperature (°C): 11.1 °C, the default value recommended by PADEP.

- Vadose zone soil type: Sand (S), as determined during on-site soil boring and monitoring well installations (see Section 2.5).
- Target risk for carcinogens: 1E-5, default value recommended by PADEP.
- Cumulative target risk for carcinogens: 1E-4, default value recommended by PADEP for site-specific vapor intrusion assessments.
- Target hazard quotient (HQ) for non-carcinogens: 1, default value recommended by PADEP.
- Averaging time for carcinogens (years): 70 years, default value recommended by PADEP.
- Averaging time for non-carcinogens (years): 30 and 25 years, default values for residential and non-residential scenarios, respectively, as recommended by PADEP.
- Exposure duration (years): 30 and 25 years, default values for residential and non-residential scenarios, respectively, as recommended by PADEP.
- Exposure frequency (days/year): 350 and 250, default values for residential and non-residential scenarios, respectively, as recommended by PADEP.

Non-Residential Scenario (Soil and Groundwater)			
Sample Evaluated	**Compounds Evaluated**	**Non-Residential Cumulative Carcinogenic Risk**	**Non-Residential Cumulative Hazard Quotient****
Soil SB-8; 3 ft bgs	Toluene, ethylbenzene, p-xylene*, 1,1-DCA, 1,1,1-TCA, Cumene, naphthalene, 1,2,4-TMB, 1,3,5-TMB, sec-butylbenzene**, tert-butylbenzene**, n-propylbenzene**	NA	20
Groundwater MW-6	1,1-DCA, 1,1-DCE, cis-1,2-DCE**, PCE, 1,1,1-TCA, TCE**, vinyl chloride	2.9E-04	3E-01
Residential Scenario (Groundwater Only)			
Sample Evaluated	**Compounds Evaluated**	**Residential Cumulative Carcinogenic Risk**	**Residential Cumulative Hazard Quotient****
Groundwater MW-6	1,1-DCA, 1,1-DCE, cis-1,2-DCE**, PCE, 1,1,1-TCA, TCE**, vinyl chloride	4.9E-04	4.2E-01

*The J&E model only allows for selection of o-, m-, or p-xylene, not total. The SB-8 scenario was conducted for each of the three xylene isomers. To provide the most conservative result, the isomer resulting in the highest HQ, p-xylene, was thereafter selected for calculation of the cumulative risk evaluation to represent total xylenes.
**Risk/HQ or risk-based soil or groundwater concentration is based on a route-to-route extrapolation.
bgs = below ground surface.
NA = Not Applicable; compounds evaluated are non-carcinogens.

The samples chosen for evaluation were selected based on the following rationale:

- The VOCs and SVOCs detected in the SB-8 boring at 3 feet bgs represented the most number of organic compounds detected in a shallow (less than five feet below grade) sample, thus representing a worst-case evaluation for soil, and
- The VOCs and SVOCs detected at MW-6 represent the most organic compounds detected at the highest concentrations in a shallow groundwater sample (several samples contained TCE concentrations that exceeded the PADEP Residential and Non-Residential Non-Use Aquifer MSCs), thus representing a worst-case evaluation for groundwater.

These site-specific modeling exercises indicate that, based on the available soil and groundwater data collected from 1997 through 1999, the VI pathway from soil and groundwater to indoor air of the current on-site building and neighboring off-site residences is potentially complete (results exceed target cumulative carcinogenic risk of 0.0001 and HQ of 1). However, it is unknown if natural attenuation of site constituents has occurred since data was collected, thus reducing the magnitude or completeness of the pathway. Further evaluation, either via collection of sub-slab vapor samples, indoor air sampling, and/or soil sampling with follow-up screening is warranted to provide a current assessment of this pathway and to determine if possible implementation of controls, such as building/vapor venting or pressurization or source removal, is warranted.

Lastly, exposure to on-site workers via the indoor air pathway can also be attributed to regular operations due to the usage of solvents, paints, etc (particularly in the Boston Coach Limo and All-State tenant spaces). It is presumed that this exposure was/is controlled by compliance with OSHA regulations; however, documentation of this nature was not reviewed as part of the scope of this EI.

Surface Soil (< 2 ft) and Subsurface Soil (> 2 ft)

According to information obtained from the Penn State Soil Map program and the NUS Report (1991), the Site is underlain by Made Land (ma), gravelly materials. This soil type consists of sand, gravel, and clay in various mixtures, but gravel predominates. The original soil has been disturbed, filled over, or otherwise destroyed. The physical properties of this soil type are extremely variable and site-specific; therefore, soil type must be determined in the field.

Soil sampling was performed at various areas of the Site in 1996 and 1998. Based on on-site soil borings and monitoring well installations, site soils consist mainly of medium to coarse sand.

In 1996, during the Phase II Investigation, soil borings were installed by RT at the following locations:

1. The area of the closed-in-place 5,000-gallon UST;
2. The septic tank area;
3. The waste chip storage area;
4. The 1,000-gallon closed-in-place UST located near the former garage;
5. The former drum storage area and waste storage shed area;
6. In the vicinity of the former liquid petroleum AST;
7. Near the pad mounted transformers;
8. Along the eastern, northern, and western property boundaries;
9. The closed-in-place 1,000-gallon UST located near the chemical storage room (interior); and
10. In the blue dye room (former garage).

Soil samples were only collected from the closed-in-place 5,000-gallon UST, the closed-in-place 1,000-gallon UST located near the former garage, the former drum storage area and waste storage shed, the transformer area, along the eastern property boundary (former location of Esschem), from the closed 1,000-gallon UST near the chemical storage room, and from inside the blue dye room (former garage). Soil boring depths ranged from two to 12 feet bgs. Soil samples were collected from various depths ranging from 2 feet bgs to just above the groundwater table, which reportedly occurred at 7.5 to nine feet bgs. The soil samples were analyzed for VOCs. The analytical results were compared to the PADEP Non-Residential Soil-to-Groundwater Pathway MSCs for Used Aquifers at that time (a Non-Use Aquifer Determination was sought after and granted by PADEP for the Site in June 1999). Several contaminants were detected above these MSCs. Naphthalene was detected above the MSC in the vicinity of the closed in place 1,000-gallon UST (B-9). Vinyl chloride and cis-1,2-DCE were detected above the MSCs near the former drum storage area and waste storage shed (B-7). URS has compared the available soil data to the most current PADEP Non-Residential Direct Contact and Non-Use Aquifer Soil-to-Groundwater Pathway MSCs (**Tables 2, 3, and 4, EI Report**). Based on these comparisons, none of the constituents detected in the soil samples were above these MSCs.

Approximately 753 tons of impacted soils were removed from the Site in 1997. Approximately 90 tons of soil was excavated from the area of the closed-in-place 1,000-gallon UST located near the former garage. The UST was also removed during the soil excavation. Approximately 663 tons of soil was excavated from the area of the former storage shed. Soil samples were collected from both excavations. Three soil samples were collected from the 1,000-gallon UST excavation and analyzed for PADEP no. 2 fuel oil parameters. The analytical results indicated that no. 2 fuel oil constituents were either not detected in the samples or were detected at concentrations below the PADEP Non-Residential Used or Non-Use Aquifer Soil-to-Groundwater MSCs. Eight soil samples were collected from the base and sidewalls of the former storage shed excavation. The samples were analyzed for VOCs and PAHs. Five of the soil samples were analyzed for RCRA metals. The sample results indicated that the constituents analyzed for were either not detected in the samples or were detected below the PADEP Non-Residential Used or Non-Use Aquifer Soil-to-Groundwater Pathway MSCs. URS compared the results to the most current PADEP Non-Residential Direct Contact and Non-Use Aquifer Soil-to-Groundwater MSCs (a Non-Use Aquifer Determination was granted for the Site in June 1999). None of the constituents were detected above these MSCs (**Tables 9 and 10, EI Report**).

Fourteen additional soil samples were collected in July 1998 from the following three areas:

- Outside the chemical storage area near the former 1,000-gallon AST,
- Near the former storage shed area, and
- Near the former 1,000-gallon UST located next to the former garage.

The soil samples were analyzed for VOCs, which included BTEX, naphthalene, and no. 2 fuel oil parameters. The analytical results were compared to the PADEP Non-Residential Non-Use Aquifer Soil-to-Groundwater MSCs. None of the detected constituents were found to be above these MSCs. URS compared these results to the most current PADEP Direct Contact and Non-Use Aquifer Soil-to-Groundwater Pathway MSCs (**Table 11, EI Report**). None of the detected constituents were identified above these MSCs. No other soil sampling has reportedly been conducted on-site.

Based on the information/data presented in the EI report, possible exposure pathways to impacted site-soils (if any remains on-site, particularly in uninvestigated areas such as the solvent dip tank area and the transformer area) include the following:

- On-site direct contact by non-residential receptors, which includes site workers, trespassers, and visitors;
- Leaching of contaminants to groundwater via the soil-to-groundwater pathway (discussed in Section 5.2); and,
- Volatilization from soil to the indoor air of the former Scott building (current leased office space, discussed in Section 5.1.2).

As previously discussed, comparison of the available soil sample results from 1996 and 1998 to the most current PADEP Non-Residential Direct Contact and Non-Use Aquifer Soil-to-Groundwater MSCs indicates that none of the constituents detected in site soils were above these MSCs. In addition, based on prior reports, it is presumed that contaminated soils have been removed from the Site, thus eliminating direct contact by potential receptors with impacted soil. If impacted soil remains on-site, direct contact by potential receptors (site workers, trespassers, visitors, and ecological receptors) is limited/eliminated since the existing building and asphalt covers approximately 85 percent of the Site. However, exposure to residual impacted soil by construction or utility workers is possible should the building be razed or the asphalt disturbed.

Surface Water

The closest surface body of water is Darby Creek, which is located approximately ¾-miles west of the Site. Darby Creek discharges into the Delaware River.

Kimberly Clark Corporation maintained a National Pollutant Discharge Elimination System (NPDES) Stormwater General Permit for Discharges of Stormwater from Industrial Activities to Darby Creek. This permit was issued by PADEP on September 30, 1996 and expired on September 30, 2001 (Permit ID: PAR140014). URS observed another

Application for Permit to Discharge Stormwater, dated September 1992, for Outfall 001, which was identified as a storm drain system. The storm drain system reportedly extended from the northern side of the western portion of the main building to the northwestern corner of the property.

As noted in the 1996 Phase I Environmental Site Assessment (ESA), sanitary and process wastewaters were collected by a series of interior floor drains, piped discharge points, and sumps. The wastewater was directed to a drainage line that extended from east to west on the northern portion of the Site. A lift station, located in the northwest corner of the parking area, moved the discharge to the sanitary sewer. Scott/Kimberly Clark was not required to pre-treat the wastewater prior to discharge; however, wastewater was monitored for pH and solids levels for Tinicum Township. No issues or violations were reported. The Facility's wastewater discharge permit was discontinued upon notification of the shutdown operations in 1996.

Wastewater is not currently generated on-site, and the Site does not currently maintain any wastewater discharge permits.

There is no documentation indicating that direct or diffuse releases from the Site have impacted surface waters (Darby Creek) in the vicinity of the Facility.

Air (outdoors)

No stack construction or air emissions have been documented for this Site; therefore, there is no exposure pathway or potential for release to outdoor air from this Facility.

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)

"Contaminated Media"	Residents	Workers	Daycare	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. Strikeout 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):

No rationale warranted.

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be "**significant"** (i.e., potentially[4] " unacceptable" levels) 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):

No rationale warranted.

[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.

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 a "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 a "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):

No rationale warranted.

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

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 (and 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 information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the_____ facility, EPA ID#_____, located at _____ 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."

X IN – More information is needed to make a determination.

Completed by: signed Date 6-21-10

Hon Lee

Project Manager – 3CL30

Supervisor: signed Date 6-21-10

Paul Gotthold

Associate Director, Office of PA Remediation – 3CL30

US 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:

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FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

Facility Name: SJS Linde LP, Scott, Kimberly Clark, Linde Air Products

EPA ID #: PAD000798504
Location: 50 West Powhatten Avenue, Tinicum, Pennsylvania 19029

CURRENT HUMAN EXPOSURES UNDER CONTROL (CA 725)