

Documentation of Environmental Indicator Determination
Interim Final 2/5/99
RCRA Corrective Action
Environmental Indicator (EI) RCRA Info code (CA725)
Current Human Exposures Under Control

Facility Name: Giant Resource Recovery, Inc.
Facility Address: 101 Solite Road, Cascade, VA 24069
Facility EPA ID #: VAD077942266

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.

Effective January 10, 2006, the Solite Corporation – Virginia Solite Division, Cascade facility and Permit, under EPA ID No. VAD046970521, was modified to incorporate the land, the facilities, and the closure and corrective action responsibilities, as applicable, of the GRR, Cascade facility and Permit under EPA ID No. VAD077942266. Therefore, this above transfer of ownership and control of the GRR facility will enable the CA for the above two contiguous Solite Holding, Inc. Cascade facilities to take place under EPA ID No. VAD046970521. The information presented below pertains to both VAD046970521 and VAD077942266.

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 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 RCRA Info as long as they remain true (i.e., in RCRA Info status codes must be changed when the regulatory authorities become aware of contrary information).

**Current Human Exposures Under Control
Environmental Indicator (EI) RCRA Info 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 | ✓ | — | — | _____ |
| Air (indoors) ² | — | ✓ | — | _____ |
| Surface Soil (<2 ft) | ✓ | — | — | _____ |
| Surface Water | ✓ | — | — | _____ |
| Sediment | — | — | — | _____ |
| Subsurf. Soil (>2 ft) | ✓ | — | — | _____ |
| Air (outdoors) | — | ✓ | — | _____ |

- _____ 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):

A limited soil sampling campaign was conducted in August 2004. The focus of the sampling program was on soil human exposures. Groundwater, surface water, and sediment were not addressed in this investigation but conclusions have been drawn from this data and previous sampling concerning impacts to surface and ground water. Inorganics at elevated concentrations were identified as being the primary contaminants of concern. Inorganics were present in surface and subsurface soils. The inorganics include arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel, vanadium, and zinc. The inorganics are not volatile; hence, Air, indoors and outdoors, is not a media of concern. The presences of both organics and inorganics in subsurface soils lead to the conclusion that ground water is most likely impacted by facility operations. Further evaluation of ground water and surface water quality will be conducted during the RFI.

Footnotes:

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.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRA Info code (CA725)
 Page 3

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)

| <u>Contaminated Media</u> | Residents | Workers | Day-Care | Construction | Trespassers | Recreation | Food³ |
|----------------------------------|------------------|----------------|-----------------|---------------------|--------------------|-------------------|-------------------------|
| Groundwater | ___ | <u>No</u> | ___ | <u>No</u> | <u>No</u> | ___ | ___ |
| Air (indoors) | ___ | ___ | ___ | ___ | ___ | ___ | ___ |
| Soil (surface, e.g., <2 ft) | ___ | <u>Yes</u> | ___ | <u>No</u> | <u>No</u> | ___ | ___ |
| Surface Water | ___ | <u>No</u> | ___ | ___ | ___ | ___ | ___ |
| Sediment | ___ | ___ | ___ | ___ | ___ | ___ | ___ |
| Soil (subsurface e.g., >2 ft) | ___ | <u>No</u> | ___ | <u>No</u> | <u>No</u> | ___ | ___ |
| 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. (potential contamination of subsurface soil and potential exposure pathway evaluation)
- ___ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

Since the site is a fenced, secured industrial site, the only potential exposure will be to plant workers and construction people. Due to market conditions, the Cascade facility is temporarily out of operation; no product is being produced. There is only a skeleton crew at the site and there is no construction taking place. The only exposure would be the few operations personnel moving existing stock piled product. Exposure would be limited to surface soils. There are no current potable ground water uses at the plant. The small (~3 foot wide channel) stream that transects the production area is not readily accessible or used for recreational or industrial purposes.

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

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

Page 4

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 expected not to be "significant."

If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

The exposure to surface soils will be during the moving of existing stock piled product. Exposure will be restricted to a few equipment operators only during the loading and/or unloading of product, which is a sporadic operation. That is, exposure will be confined to a few workers for a short period of time. In addition, earth moving equipment will be used to move the product; hence, workers will be isolated from direct contact with the surface soils. The no significant exposure is based upon the Cascade facility being out of operation. If the facility resumes operations, then the exposure significance will have to be re-evaluated. The findings of this preliminary investigation will be complemented by a forthcoming RFI.

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.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRA Info code (CA725)
Page 6

6. Check the appropriate RCRA Info 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 the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Giant Resource Recovery, Inc. facility, EPA ID # VAD077942266, located in Cascade, Virginia, 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 Ryan J. Kelly Date 9/14/10
(print) Ryan J. Kelly
(title) Corrective Action Project Manager

Supervisor Jutta Schneider Date 9/14/10
(print) Jutta Schneider
(title) Program Manager, RCRA Corrective Action and Groundwater
Office of Remediation Programs
(EPA Region or State) VA DEQ

Locations where References may be found:

VA Department of Environmental Quality, Office of Hazardous Waste

Contact telephone and e-mail numbers:

(name) Ryan J. Kelly
(phone #) (804) 698-4045
(fax #) (804) 698-4234
(e-mail) ryan.kelly@deq.virginia.gov

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.