DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

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

Facility Name: Chemours (formerly DuPont) Washington Works
Facility Address: State Road 892, DuPont Road, Washington, WV, 26181
Facility EPA ID #: WVD 04 587 5291

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

__X__If data are not available skip to #6 and enter "IN" (more information needed) status code.

Additional data is needed to determine the extents of groundwater, soil, sediment and surface water contaminated with PFAS via air deposition in the vicinity of Washington Works.

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 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)?

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

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[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) 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 Table - Potential Human Receptors (Under Current Conditions)

Contaminated Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Soil (surface, e.g., <2 ft)							
Soil (subsurface, e.g., >2 ft)							
Groundwater							
Surface Water							
Sediment							
Air (indoors)							
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

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

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

Rationale and Reference(s):

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

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 cannot 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.

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

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 If unknown (for any potentially unacceptable exposure) - continue and enter "IN" status code

Rationale and Reference(s):

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 - "Current Human Exposures Under Control" has been verified.

_____ NO - "Current Human Exposures" are NOT "Under Control."

__X__ IN - More information is needed to make a determination.

Completed by

SUSANNE HAUG
Digitally signed by SUSANNE HAUG
Date: 2023.12.15 10:45:39 -05'00'

Susanne Haug
Remedial Project Manager

Supervisor

MOSHOOD ODUWOLE
Digitally signed by MOSHOOD ODUWOLE
Date: 2023.12.17 12:20:30 -05'00'

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Chief, Corrective Action Section - West

Contact
Susanne Haug (haug.susanne@epa.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.