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: BASF Corporation
Facility Address: P. O. Box 457, Geismar, LA 70734
Facility EPA ID#: LAD # 040776809
LDEQ Agency Interest #: 2049

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 #8 and enter "IN" (more information needed) status code.

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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			Mercury, Monochlorobenzene, Bentazon Ethylene Dichloride, 2,4-Dinitrotoluene, Toluenediamine, TCE, Tetrachloroethene, vinyl chloride (as a daughter product), chloroform
Air (indoors)[2]		X		RFA/RFI
Surface Soil (e.g., <2ft)	X			Several detections of contaminants have been encountered at several SWMUs , but none are believed to be threats to Human Exposure at this time.
Surface Water		X		RFA/RFI
Sediment		X		RFA/RFI
Subsurface Soil (e.g., >2ft)	X			Same as groundwater
Air (outdoors)		X		RFA/RFI

____ If no (for all media) – skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing supporting documentation demonstrating that these "levels" are not exceeded.

X 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): An EPA led RCRA Facility Assessment (RFA) was completed in early 1991. Subsequently BASF began a RCRA Facility Investigation (RFI) in 1992. The RFI is currently 98% complete and BASF expects total completion in the near future. BASF has aggressively pursued remediation where necessary with RCRA Interim Measures at several SWMUs, The LDEQ was notified of this voluntary action by BASF and BASF has limited the risk of exposure through these actions. The LDEQ has developed a Risk Evaluation/Corrective Action Program (RECAP) to address risks to human health and the environment posed by the release of chemical constituents to the environment. This is LDEQ's primary statutory mandate for remediation activities. RECAP uses risk evaluation to: (1) determine if corrective action is necessary for the protection of human health and the environment, and (2) identify constituent levels in impacted media that do not pose unacceptable risks to human health or the environment, i.e. RECAP Standards. Currently, RECAP Standards have not been approved for the contaminants at the BASF facility. BASF has developed RECAP Standards for its Facility and submitted them for approval to LDEQ in June 2000 and March 2001. A No Further Action at This Time determination has been granted by LDEQ for one of the Facility's SWMUs.

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3. Are the **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]
Groundwater	no	no	no	no			no
Soil (surface, e.g., <2 ft)	no	no	no	no	no	no	no
~~Surface Water~~							
~~Sediment~~							
Soil (subsurface eg.,>2 ft)				no			no
~~Air (outdoors)~~							

Instruction for Summary Exposure Pathway Evaluation Table:

1. Strike-out specified Media including Human Receptors' spaces for Media which are non "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.

_X_ 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.

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.

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 (and attach appropriate supporting documentation as well as a map of the facility):

_X_ 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 BASF Corporation facility, EPA ID# LAD040776809, located at Geismar, Louisiana under current and reasonable 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) Date December 18, 2001
(print) Michael Bradley
(title) Geologist 3

Supervisor (signature) Date December 18, 2001
(print Douglas Bradford
(title) Geologist Supervisor
(EPA Region or State)

Locations where References may be found:

LDEQ Files / EPA Region VI Files
Gonzales Library
BASF Files

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