

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: Alon USA
Facility Address: IH-20 at Refinery Road, Big Spring Texas
Facility EPA ID #: TXD 008013468

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

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)
Page 2

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 Contaminantes</u>
Groundwater	X			Groundwater plumes delineated during Agreed Order implementation
Air (indoors) ⁽²⁾		X		All facilities are maintained with positive pressure. Buildings are not located over SWMUs.
Surface Soil (e.g. <2ft)	X			Exceedances of background values in RFI investigations to-date
Surface Water		X		Stream investigations have not indicated any constituents above detection limits
Sediment		X		Stream investigations have not indicated any constituents above detection limits
Subsurf. Soil (e.g. >2 ft)	X			Exceedances of background values in RFI investigations to-date
Air (outdoors)		X		No identified levels above protection standards

_____ 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.

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):_

GROUNDWATER

	<u>Appropriate Level</u>
• 1,2-dichloroethane	0.005 mg/l
• benzene	0.005 mg/l
• toluene	1.000 mg/l
• cresols	1.83 mg/l
• 2,4-dimethylphenol	0.73 mg/l
• pentachlorophenol	0.001 mg/l
• pyridine	0.036 mg/l
• antimony	0.006 mg/l
• arsenic	0.050 mg/l
• barium	2.0 mg/l
• chromium	0.10 mg/l
• nickel	0.10 mg/l

SOIL

	<u>Appropriate Level</u>
• antimony	10 mg/kg
• arsenic	0.5 mg/kg
• barium	36 mg/kg
• chromium	2.0 mg/kg
• lead	5.2 mg/kg
• nickel	4.9 mg/kg
• 2,4-dimethylphenol	0.66 mg/kg
• 2-methylphenol	0.66 mg/kg
• 4-methylphenol	0.66 mg/kg
• phenol	0.66 mg/kg
• naphthalene	0.66 mg/kg
• benzene	0.005 mg/kg
• toluene	0.005 mg/kg
• ethylbenzene	0.005 mg/kg
• xylenes	0.005 mg/kg
• styrene	0.005 mg/kg

References (submitted to the TNRCC)

- *Compliance Plan CP-50140, 1998 Annual Report*, RMT report RR23823, submitted to the TNRCC January 21, 1999.
- *Third Quarter 1999 Agreed Order Corrective Action and Sampling Report*, RMT report RR26385, submitted to the TNRCC October 21, 1999
- *Fourth Quarter and Annual Summary for 1999, Agreed Order Corrective Action and Sampling Report*, RMT report RR27022, submitted to the TNRCC January 21, 2000
- *First Quarter 2000 Status Report, January through March 2000*, RMT report RR27935, submitted to the TNRCC April 21, 2000
- *Second Quarter 2000 Status Report, April through June 2000*, RMT report RR28376, submitted to the TNRCC July 21, 2000
- *Fourth Quarter 2000 Status Report, October through December 2000*, RMT report RR29875, submitted to the TNRCC January 21, 2001
- *First Quarter 2001 Status Report, January through March 2001*, RMT report RR30522, submitted to the TNRCC April 21, 2001
- *Compliance Plan CP-20140, Semiannual Report, July 2001 through December 2001*, RMT report RR34153, submitted to the TNRCC January 21, 2002.
- *Compliance Plan CP-20140, Semiannual Report, January 2002 through June 2002*, RMT report RR35388, submitted to the TNRCC July 21, 2002.
- *RCRA Facility Investigation Report under the Phase I Priority Program Subphases 1 and 2*, RMT report RR20538, submitted to the TNRCC January 1998
- *RCRA Facility Investigation Report under the Phase I Priority Program Subphases 3 and 4*, RMT report RR21499, submitted to the TNRCC March 1998
- *RCRA Facility Investigation Supplemental Report under the Phase I Priority Program Subphases 1 and 2*, RMT report RR23678, submitted to the TNRCC December 1998
- *RCRA Facility Investigation Report under the Phase I Priority Program Subphases 5 and 6*, RMT report RR30698, submitted to the TNRCC November 1999
- *Corrective Measures Implementation Report for Priority Program Phase I, Subphases 1, 2, and 3 Solid Waste Management Units*, RMT report RR29313, submitted to the TNRCC November 2000
- *Corrective Measures Implementation Report for Priority Program Phase I, Subphase 5 Solid Waste Management Units*, RMT report RR32201, submitted to the TNRCC August 2001

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).

²Recent 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)**

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)

“Contaminated” Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	No	No	No	No	No	No	No
Air (indoors)							
Soil (surface, e.g., <2 ft)	No	No	No	No	No	No	No
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)	No	No	No	No	No	No	No
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.

- 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

Rationale and Reference(s)

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

Page 6

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 the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the **Alon USA**, facility, EPA ID #**TXD 008013468**, located at **IH-20 and Refinery Road, Big Spring Texas** 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.

Reviewed by (signature) _____ Date _____
Mike Zilai
Environmental Specialist, Alon USA

Supervisor (signature) _____ Date _____
Gordon Leaman
Health, Safety, and Environment Manager

Locations where References may be found:

- **Texas Natural Resource Conservation Commission, Austin Texas**
- **Alon USA, Big Spring Texas**
- **RMT, Inc Austin, Texas**

Contact telephone and e-mail numbers

Mike Zilai, Environmental Specialist
Alon USA
915-263-9364
mike.zilai@alonusa.com

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.

NOTE: Checklist was prepared by company. TCEQ Project manager and team leader review and concurrence 2/28/2003.

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

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 ALON USA facility, EPA ID # TXD008013468, located at Big Spring, TX 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) [Signature]
(print) Gary Beyer
(title) Project Manager

Date 2/28/03

Supervisor (signature) [Signature]
(print) Jason Wang
(title) Team Leader
(EPA Region or State) Texas

Date 2/28/03

Locations where References may be found:

Attach a copy of this facility's database printout. Highlight the reports which support the "YE" determination. n/a (see check)

Contact telephone and e-mail numbers

(name) Gary Beyer
(phone #) (512) 239-2361
(e-mail) gbeyer@tceq.state.tx.us

FINAL NOTE: THE PURPOSE OF THE HUMAN EXPOSURES EI IS TO QUALITATIVELY SCREEN EXPOSURES BASED ON CURRENT LAND AND GROUNDWATER USE. A "YE" DETERMINATION DOES NOT END THE CORRECTIVE ACTION PROCESS. THE EI MAY BE CHANGED AT ANY TIME AS NEW INFORMATION BECOMES AVAILABLE.

TCEQ acceptance evaluation.
RCRA Info update facility 8/2002
file to Wiley 3/5/03
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