DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action Environmental Indicator (EI) RCRAInfo code (CA725)

Current Human Exposures Under Control

Facility Name:	BOC Group, Inc.
Facility Address:	9502 Bayport Blvd, Pasadena TX, 77507
Facility EPA ID #:	TXR000052175

- 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?
 - $\frac{X}{I}$ 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 RCRAInfo national database ONLY as long as they remain true (i.e., RCRA Info 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		Х		
Air (indoors) ²		Х		
Surface Soil (e.g., <2 ft)		Х		
Surface Water		Х		
Sediment		Х		
Subsurf. Soil (e.g., >2 ft)		Х		
Air (outdoors)		Х		

- X 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):

Facility Description

The BOC Group Inc., Clear Lake Plant (BOC) is a captured facility located within the Celanese-Clear Lake Facility (Celanese). Celanese is located on a 1000-acre tract of land in Harris County, Texas. It is approximately three miles southwest of LaPorte, one mile southwest of the intersection of Bay Area Boulevard and Fairmont Parkway. The Celanese facility is within the drainage area of Segment No. 2421 of the San Jacinto-Brazos Coastal Basin, and operates as a 24 hour, seven days per week security manned facility. Land use within one mile is industrial, commercial, and recreational. Additionally, the BOC Group facility is surrounded by a gated, perimeter fence.

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.

Regulatory History

BOC is a registered Large Quantity Generator (LQG) of hazardous waste and operates an interim status Boiler and Industrial Furnace. BOC is a manufacturer of carbon monoxide (CO) and purchased the facility from Celanese in 2003. Celanese submitted a Class 1 modification on December 30, 2002 indicating that effective December 31, 2002, Celanese would sell its Carbon Monoxide Production Unit and associated assets, and lease the underlying land to BOC. Celanese's September 2003 RCRA Permit Application reflects that the facility and its associated hazardous waste tank and fuel fired heater are no longer owned or operated by Celanese. The BOC portion of the Clear Lake facility is limited to the CO Production Unit and its associated assets. Industrial and hazardous waste generated by BOC are stored, processed and disposed of on a shared basis in a permitted container storage waste management unit owned by Celanese.

There are four waste management units associated with the BOC facility. The 'interim status' boiler represents a pending additional unit. The waste management units include a 'less than 90 day' container storage area (NOR 001), a 'less than 90 day' tank (NOR 002), a miscellaneous storage container (NOR 004), and a waste water RCRA exempt surface tank (NOR 005). During a 2003 site investigation effort, there were no wastes being managed at these units. A summary of site features generated from a 2003 Inspection report indicates that these units are not RCRA permitted. According to a BOC representative, there are no solid waste management units or areas of contamination within the legal boundaries of the BOC facility area (Reference 4).

Boiler operation under interim status began in 1994 until December 2002, under the ownership and operations of Celanese Clear Lake. The most recent compliance test (as documented in 2003 references) was conducted on November 12 and 13, 2001. The test was conducted to demonstrate compliance with Adjusted Tier 1 metals, chlorine feed limits and CO emission limits. Based on the test, Celanese submitted a Certificate of Compliance for the Boiler to TCEQ on February 6, 2002. As of October 2004, the facility was in the process of acquiring a hazardous waste permit for the boiler. On February 17, 2003, BOC submitted a Part A application with the TCEQ for initial permitting of the Boiler which burns hazardous waste for energy recovery. The Part B application was submitted on August 25, 2003. Since the Boiler was owned and operated by Celanese until December 31, 2002, Celanese had submitted all prior materials required for the boiler regulations. On July 7, 2004, an initial draft permit, Hazardous Waste Permit No. 50391 was issued to BOC which was under review (as of October 22, 2004). Copies of the draft permit were not within the file materials reviewed. The most recent related information indicates that BOC had requested an extension for the submittal of 'Recertification of the Low Risk Waste Exempt Boiler (dated: September 21, 2004). The extension was granted by TCEQ since their permit process was still being completed. The extension was set for August 20, 2005.

Review of the hazardous waste permit renewal in response to BOC's application dated August 25, 2003, took place with a Transmittal of the Final Draft Permit on October 26, 2004. No additional information was found in available file materials. Attempts to reach a TCEQ representative who is knowledgeable on the BOC site were not successful.

Rationale

The facility is currently active with one pending permitted unit. The BOC Facility is located within the larger Celanese industrial facility. There has never been a notice of violation, or inspection result to indicate that the site has any history of spills or leaks. The most current information indicates that there has been no need for corrective action or post closure activities for the types of waste units associated with the Site. The site is subject to 40 CFR 265 Subparts AA, BB and CC requirements and has no indication of noncompliance during an October 2004 inspection. Given the information available, there is no evidence of a release of hazardous materials to any media.

References:

- 1. 2003, BOC Gases. Correspondence and Completed Notice of Registration Packet. Provided to TCEQ, from J. Merriam/BOC. Dated January 14, 2003.
- 2. 2003, BOC Gases. FAX Correspondence to US EPA from J. Merriam/BOC, Regarding: Property transfer between Celanese and BOC Group Inc. Dated February 21, 2003.
- 3. 2003, TCEQ. Texas Commission on Environmental Quality: Investigation Report: The BOC Group Inc, BOC Group Inc Clear Lake Plant. Dated November 17, 2003.
- 4. 2004, TCEQ. Texas Commission on Environmental Quality: Investigation Report: The BOC Group Inc, BOC Group Inc Clear Lake Plant. Dated October 07 12, 2004.
- 5. 2004, TCEQ. Texas Commission on Environmental Quality: Investigation Report: The BOC Group Inc, BOC Group Inc Clear Lake Plant. Dated October 22, 2004.
- 6. 2004, TCEQ. Correspondence regarding 'Transmittal of Final Draft Permit' for Industrial Solid Waste Registration No. 87184, EPA ID No TXR000052175. Dated October 26, 2004.
- 7. 2004, TCEQ. Interoffice Memorandum: Subject; Transmittal of Final Draft Permit. To Chief Clerk/TCEQ. Dated October 26, 2004.
- 8. 2004. TCEQ Correspondence to Mr. Richard McFall, BOC Group, Regarding: October 22, 2004 Inspection Report, dated November 16, 2004.

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 Groundwater
Air (indoors)
Soil (surface, e.g., <2 ft)</p>
Surface Water
Sediment
Soil (subsurface e.g., >2 ft)
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 <u>Pathway Evaluation Work Sheet</u> 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):

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**"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):

6. Check the appropriate RCRAInfo 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	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 BOC Group Inc.,
	Clear Lake Facility, EPA ID # TXR000052175 located at 9502 Bayport Blvd,
	Pasadena, 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."	
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IN -	More	information	is	needed	to	make a	a determi	nation.

Completed by	(signature)		Date
	(print)		
	(title)		
Researched by	(signature)	Kannen King	Date May 31, 2006
	(print)	Karmen King	
	(title)	TechLaw, Inc.	
Supervisor	(signature)		Date
	(print)		
	(title)		
	(EPA Region of	r State)	

Locations where References may be found:

Texas Commission on Environmental Quality File Room, Building E 12118 N IH 35 Austin, TX 78753 Filed Under: IHW 87184

Contact telephone and e-mail numbers

(name)	
(phone #)	
(e-mail)	

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.

RECOMMENDED FURTHER ACTIONS:

1. Available file materials do not indicate any history of release or remedial actions at this site. However, inspection reports more recent than 2004 were not found in available file materials. TechLaw attempted to reach a TCEQ representative to confirm our understanding of the site, but was not successful in reaching anyone. EPA may wish to further investigate with an appropriate Regional TCEQ staff member to verify the status of the facility and confirm there are no outstanding corrective action obligations at the site.