**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:** | American Metals Corporation (AMC) |
| **Facility Address:** | 1000 Crocker Road, Westlake, Ohio |
| **Facility EPA ID #:** | OHD 004 528 873 |

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 #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).

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 | | | 1,1-Dichloroethene, cis-1,2 Dichloroethene, vinyl chloride, methylene chloride, cadmium, nickel |
| Air (indoors)[2] | | X | | |
| Surface Soil (e.g., <2 ft) | | X | | |
| Surface Water | | X | | |
| Sediment | | X | | |
| Subsurf. Soil (e.g., >2 ft) | | X | | |
| Air (outdoors) | | 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.

_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):

During the facility investigation performed in 1993, soil, sediment, surface water, and groundwater samples were collected from solid waste management units and areas of concern, including a landfill, settling basin, perimeter ditches and two drum storage areas. (Reference Final RCRA Facility Report, April 1994). Results of the investigation were used for a site-specific risk assessment. The risk assessment performed to evaluate the need for remediation is based on a cumulative 1X10 (-4) carcinogenic risk and a hazard index of 1. The risk assessment considered industrial, construction and maintenance worker exposures, and children potentially exposed to sediments. State and Federal drinking water standards were selected as protection

[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.

standards for groundwater and in developing cross- media protection standards. Surface water protection standards were based on Ohio promulgated standards.

Groundwater Monitoring Results

| Constituent | Detected Amount in Groundwater | Protection Standard |
|---|---|---|
| 1,1-Dichloroethene | 12 parts per billion | 5 parts per billion |
| cis-1,2-Dichloroethene | 250 parts per billion | 70 parts per billion |
| methylene chloride | 69 parts per billion | 5 parts per billion |
| vinyl chloride | 45 parts per billion | 2 parts per billion |
| cadmium | 38 parts per billion | 5 parts per billion |
| nickel | 518 parts per billion | 100 parts per billion |

The risk assessment discussion contained in the Final Corrective Measures Study Report (October, 1996) identified the following:

- Landfill: Landfill contents exceeded protection standards for bis(2-ethylhexyl)phthalate, Arochlor 1260, OCDD, total HpCDD, and zinc. The landfill (11,102 cubic yards) was removed and disposed off-site in November, 2002.
- Soils in the grid plant drum storage area and former sanitary sewer exceeded protection standards for methylene chloride, 1,1,1-trichloroethane, cadmium and lead. In November, 1996, 377.92 tons of soil exceeding protection standards was removed and disposed off-site as an interim measure. The removal substantially reduced the concentrations of volatile constituents in the groundwater. (Reference Soil Confirmation Sampling and Groundwater Monitoring Results, October 1998 (January, 1999) and Volatile Organic Compound Source Removal , Interim Action, Interim Measures Final Report (April, 1998, and Addendum March, 1999).
- Surface Water was evaluated and contaminant levels are below Ohio Surface Water Quality Standards).
- Sediments in the southern and western drainage ditches and settling basin do not exceed protection standards.

Following EPA's Subsurface Vapor Intrusion Guidance (draft 11/02), groundwater monitoring wells screened across the water table surface were evaluated for potential vapor intrusion concerns. Levels of 1,1-Dichloroethene and methylene chloride exceeded Maximum Contaminant Levels in one monitoring well. Following the guide, the proximity of inhabited buildings to this well was evaluated. The only inhabitated building within 100 feet of this well is used for American Metal's manufacturing operations. The highest concentration of contaminants in the groundwater from sampling conducted in 1999 was compared to the guide's target media-specific concentrations calculated to correspond to an incremental lifetime cancer risk of 1x 10 (-5) and a hazard quotient of 1. Contaminant levels in the groundwater are below the concentrations provided in the table. (Reference Groundwater Monitoring Results, American Metals Corporation, May 1999).

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)~~ | ___ | ___ | ___ | ___ | ___ | ___ | ___ |
| ~~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.

**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):
There are no human exposures to groundwater. No residential or municipal wells are located on or in the vicinity of the facility . Lake Erie is the source of water supplied to residents and businesses. Institutional controls in the forms

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

of a deed notice and RCRA 3008(h) Consent Order will continue to limit on-site groundwater use and additional groundwater monitoring will be conducted.

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 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 American Metals Corporation facility, EPA ID # OHD 004 528 873, located at 1000 Crocker Road, Westlake, Ohio 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) _____ Date _____
(print) Tamara Ohl
(title) Environmental Scientist

Supervisor (signature) _____ Date _____
(print)
(title)
(EPA Region or State) EPA Region 5

Locations where References may be found:

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**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.**