40-8948

OhioEPA

State of Ohio Environmental Protection Agency

Southeast District Office

2195 Front Street, Logan, Ohio 43138
TELE: (614) 385-8501 FAX: (614) 385-6490

February 9, 1996

RE: GUERNSEY COUNTY
SHIELDALLOY
MSL #430-1072
DERR CORRESPONDENCE

Jim Valenti
Environmental Manager
Shieldalloy Metallurgical Corporation
12 West Boulevard
Newfield, NJ 08344

Patrick Lee
Cyprus Foote Minerals Company
9100 East Mineral Circle
Englewood, CO 80122

RE: REMEDIAL INVESTIGATION (RI) COMMENTS FOR SECTION 6 (HHRA)

Dear Sirs:

The Ohio EPA (OEPA) has completed its review of Section 6 of the revised remedial investigation (RI) for the Shieldalloy, Cambridge, Ohio site dated December 5, 1995. A rapid review is being conducted on this document in order to assist Shieldalloy in meeting its desired deadlines. The attached comments utilized input from the Ohio Department of Health (ODH).

Per the Consent Order for Preliminary Injunction (COPI) Section IX, Paragraph 21, the revised RI Section 6 (HHRA) is hereby disapproved. Please correct the deficiencies and incorporate all changes, additions, and/or deletions within fourteen (14) days.

If you have any questions, please feel free to call me at this office.

Sincerely,

Olen Ackman
Site Coordinator
Division of Emergency Remedial Response

OA/jmd

cc: Walt Shields, PTI
C. Scott Eves, SMC
Robert Karl, AGO
Catherine Stroup, Legal
Jennifer Wendell, USEPA Region V
Mike MacMullen, USEPA Region V
Jim Kennedy, USNRC
Jim Webb, ODH
Ruth Vandergraf, ODH

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NRID

HUMAN HEALTH RISK ASSESSMENT
for
SECTION 6

GENERAL COMMENTS

1. General comment number five of the Ohio EPA October 2, 1995 comment letter requested that drinking water be included in the overall hazard index for future scenarios using any contaminants which are above background. The response to comments (December 7, 1995, GC5) explains that it is the focus of the risk assessment to assess the most critical exposures which influence the results and thus the remedial action decisions. Without just cause, exposure pathways cannot be eliminated from the risk assessment. All pathways evaluated for risk must have the resulting hazard quotient added to the overall hazard index. This applies to air and water pathway. Please revise specific comments (SC 7, 10, 11, 12, 42) as presented in the Ohio EPA October 2, 1995 comment letter.

2. The response to specific comment one (SC1) notes that additional information on the air modelling performed by ENSR was to be submitted in the December 7, 1995 submittal. This information was not included in the submittal. Upon receiving the information specific comments 1, 8, 14, 15, 25, 26, 34 will be reviewed further.

HUMAN HEALTH RISK ASSESSMENT
for
SECTION 6

SPECIFIC COMMENTS

1. Section 6.2.2 Review of Site Background Data, pg. 6-5, last paragraph: The text is unclear as to whether the last sentence in the paragraph is referring to those measurements taken only at the Holiday Inn or it is inclusive of all the measurements taken at both the Holiday Inn and onsite. Please delineate exposure rate ranges between those exposure rates measured onsite and those exposure rates measured at the Holiday Inn.

2. Page 6-6, Section 6.2.3, third paragraph third sentence: Please delete "highly unlikely" from the sentence and replace with , " unlikely in the near term.".

3. Page 6-6, Section 6.2.3, second to last sentence: Table CPM/MSM-1 notes that Aroclor 1254 was detected at 13 mg/kg. This exceeds the value presented in the USEPA District III RBC table for soil. The USEPA reports that Aroclor 1254 has risk based concentrations at 1.6 mg/kg for residential and 41mg/kg for industrial. Please revise the text and table to present this data and evaluate its impact on the site.

4. Page 6-7, Section 6.2.3, first incomplete sentence: Please add the following to the end of this sentence, "...for direct contact.". Additionally please note that the maintenance shop area , including MW-25, will be addressed as a separate area in the FS

5. Page 6-12, Section 6.3.2, second bullet: Although most of the slag at the Site has a large geometry, some of the material is either powdery or dusty. Please evaluate incidental ingestion and inhalation for the occupational and trespasser scenario. The Ohio EPA has expressed concerns in the past with a potential scenario of a child or adult obtaining a piece of the slag and carrying that piece of slag with them. What would the radiological health hazards be if this individual were to either inhale dust from the slag, incidentally ingest slag particles, or carried the slag with them?

6. Page 6-13, Section 6.3.2.1 Please strike," indicate that current and future contact with CoCs in groundwater is highly unlikely." from the text. Revise the sentence as follows,

" Evaluations are described as follows in Sections 4.2.1 ..." .

7. Page 6-16, Section 6.3.2.2, third paragraph, second sentence: Please include a reference to the information used to derive the results for the turbidity levels in drinking water compared to filtered surface water samples.

8. Page 6-18, Section 6.3.2.3: The response to comments (SC13) notes that a screening level evaluation of the potential effects of vanadium consumption by livestock and thus human consumption of livestock is being prepared. Please include.

9. Page 6-20, Section 6.3.2.4, third paragraph, second sentence: Since revisions have been made to the air model the current modelling is not "worst case". Please revise.

10. Page 6-25, Section 6.3.4, third paragraph: Please note in the text which exposure point concentration for dermal contact with surface water was used to calculate the HI.

11. Page 6-30, Section 6.3.4.2 and Table 90: Please revise the exposure frequency for dermal contact. The exposure frequency for the hypothetical future onsite residential scenario and onsite occupational scenario must be revised to 230 days/year for occupational and 330 days/year for hypothetical onsite resident. These frequencies represent a reasonable maximum, exposure frequency, considering offsite vacation days and snow covered ground days.

12. Page 6-35, Section 6.3.4.4, first paragraph, first partial sentence: The text does not provide adequate justification for the exposure frequency used for the hunter/trapper scenario. The offsite recreational user scenario uses 25 days/year and the hunter trapper scenario uses 17 days/year. Please recalculate the hunter/trapper scenario using 25 days/year.

13. Page 6-36, Section 6.3.4.6, Table 95: Please present, in Table 95, the exposure assumptions used to calculate the intake (carcinogenic effects) for the future hypothetical onsite residential scenario.

14. Page 6-38, Section 6.3.4.7, last bullet: This bullet estimates the exposure rate of an individual walking past the East Slag Pile at a receptor point 70 feet from the pile (i.e., the distance from the pile to the access road). According to Table 107, **Summary of Exposure and Risk Estimates for the Radiological HHRA**, the external exposure rate for the Hypothetical Future Onsite Resident for all age groups is 0.15 uR/Hr (Shieldalloy determined this value from the ratio of the Microshield readings multiplied by the fence TLD readings). Actual measurements performed by OEPA/ODH and the NRC show exposure rates in this area to be approximately 6 uR/Hr and 5 uR/Hr (The NRC value is the average of the two measurements taken by the NRC and it takes into consideration that the background readings were not subtracted from the measurements), respectively. The difference between the OEPA/ODH and the NRC readings, and Shieldalloy values are on the order of a factor of 40 and 33, respectively. These orders of magnitude in direct radiation measurements affect the Upper Bound Lifetime Excess Cancer Risk Estimates as reported in Table 107. Therefore, Shieldalloy should use actual measurements rather than values extrapolated from Microshield and TLD readings.

15. Page 6-39, Section 6.3.4.7, first and second bullet: The reasons presented for excluding the East Slag Pile from the Microshield simulations are unreasonable. Current construction in the vicinity of the Site demonstrates that construction in the wetlands is not an unlikely scenario. During the January 31, 1996 conference call the probability of an individual(s) constructing either an industrial/commercial facility or residential facility adjacent to the East Slag Pile (assuming the ESP was graded level) was discussed as unlikely considering the elevation of the surrounding topography and the elevation of a 100 year flood. This does not appear to be unlikely considering that the Pilot Plant is located in the this same floodplain. Please evaluate the exposure of a resident living adjacent to the ESP as well as a workplace adjacent to the ESP. The

home and workplace should be located at the intersection of the plant access road and ESP entrance. The dose should be calculated using the Ohio Department of Health October 31, 1995 survey data of the ESP.

16. Page 6-46, Section 6.4.1 first paragraph, third sentence: Please include the ATSDR 1991 reference for manganese cited in the response to comments.

17. Page 6-46, first paragraph, forth sentence: Please explain why the oral absorption for all other chemicals was revised from 1 percent to 0.1 percent.

18. Page 6-75, Section 6.5.1.3, footnote: Use the 95% UCL of the mean or maximum for surface water. There is not adequate justification to eliminate the elevated readings in surface water which is found at many locations. Include findings in the text.

19. Page 6-80, Section 6.5.1.3, first paragraph: The response to comments (SC45) is acceptable. However, please clarify in the text that , in this case, the use of maximum is statistically valid and not overly conservative from a statistical standpoint.

20. Page 6-81, Section 6.5.1.3, second paragraph, third sentence: The text notes that the total hazard index is 0.2 while Table 108 shows that HI=1 for this scenario. Please correct this inconsistency.

21. Page 6-89, Section 6.6.2.2, second paragraph, third sentence: Please revise "best" to "may" in the text. Also correct similar language elsewhere in the document.

22. Table 94: The exposure frequencies need to be consistent with those shown in Table 90 for each scenario. Please revise the tables accordingly.