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SUPERFUND DIVISION

January 6, 1999

DAVID
MONROE

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135943

John Cook
Superfund Section
U. S. Environmental Protection Agency, Region VII
726 Minnesota Ave.
Kansas City, KS 66101

Site:	CLEBURN STREET WELL
ID #:	NED981499312
Break:	3.4 OUS
Other:	1-6-1999

RE: Baseline Risk Assessment Addendum Report, Cleburn Street Well Superfund Site, Grand Island, Nebraska, prepared by Remediation Technologies, Inc., October 1998.

The Nebraska Health and Human Services System (NHHSS) has reviewed the above referenced document and would like to offer the following comments to ensure consistency with U. S. Environmental Protection Agency (U. S. EPA) guidance:

- Executive Summary, second paragraph.** To be consistent with U. S. EPA guidance the term "*chemicals of interest*" should be replaced, throughout the document with the term "chemicals of concern".
- Executive Summary, forth paragraph, second, third and fifth sentence.** The word "acceptable" should not be used to qualify the risk associated with a site. It should be left to the discretion of the reader. Please remove these qualifying statements.
- Executive Summary, last sentence.** In accordance with U. S. EPA guidance, at a minimum, a screening-level ecological risk assessment must be performed. A screening-level ecological risk assessment requires completion of Steps 1 and 2 of the *Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessment (1997)*. In addition, please refer to U.S. EPA, OSWER Directive #9285.17.
- Table ES-1.** Please add a footnote to the table that indicates the source of the toxicity data presented.
- A glossary should be included in the document for risk-related terminology.
- Page 3-1, 3.2.1 and 3.2.2.** Soil gas is listed as an exposure medium in Figure 3-1 along with soil and ground water. It should, therefore, be included in the discussions provided in these subsections.
- Page 3-2, third bullet.** Dermal contact with soil should also be listed under "direct contact activities".
- Page 3-3.** Please add a subsection (3.3.3) for surface water.
- Page 3-3, 3.4.** There is no reference to figure 3-1 in this section.



10. **Page 3-3, last paragraph.** Please remove the last sentence of this paragraph and add information on the complete pathways to be evaluated (i.e. ingestion/inhalation/dermal contact of ground water and dermal contact with soil).
11. **Page 3-4, 3.4.3.** Please remove the word "*directly*" from the first sentence in this subsection. In addition, to be consistent with U. S. EPA risk communication guidance, no risk estimation should be referred to as a "*worst case*" estimate.
12. **Page 3-4, 3.4.4.** The last sentence in this subsection should read "*As a result, inhalation of VOCs from the commercial use of ground water is not evaluated.*" This statement would not conflict with the third sentence in the paragraph that states "*...inhalation of VOCs from the commercial use of ground water is a potential pathway...*".
13. **Page 3-4, 3.4.5.** Is there construction going on at the site currently? Only a current or a future construction scenario needs to be evaluated, not both.
14. **Page 3-5, first paragraph.** The date for the Exposure Factors Handbook should be 1997, rather than 1996.
15. **Page 3-5, 3.6, first paragraph, last sentence.** This statement conflicts with Appendix A, which presents both current and historic data. Please clarify.
16. **Page 3-6, third bullet, third sentence.** The words "*does not*" should be replaced with the words "do not".
17. **Page 3-7 forth and fifth sentences.** Please re-word these sentences and make reference to the carcinogenic or noncarcinogenic effects of a chemical rather than referring to a chemical as "*a potential carcinogen*" or "*a noncarcinogenic chemical*".
18. **Page 4-1, 4.1 and 4.2.** No inhalation RfDs or inhalation SFs are available from IRIS, HEAST or NCEA. Reference concentrations and unit risks are presented. Please show the formulas for their conversions.
19. **Page 5-2, 5.2.** The discussion provided in this section should indicate that the quantitative risk estimates might be under-estimated because the risk associated with exposure to these chemicals was not included.
20. **Page 5-2, 5.3.** The word "*significant*" should be replaced with the word "adverse".
21. **Page 7-1.** Same as comment #3.
22. **Tables 2-2 to 2-9.** For footnotes "N" and "C" please replace the word "*compound*" with the word, "effect".
23. **Table 2-10, Header.** Please change the words "*Chemicals of Interest*" to "Chemicals of Concern".
24. **Table 3-1.** Please note in the comment section which pathways are re-evaluated in the addendum. For example, pathways for future on-site residents were evaluated in the 1993 BRA and in the addendum.
25. **Table 3-2.** Do not use scientific notation for the exposure parameters.
26. **Table 3-2.** The averaging time, for both noncarcinogenic effects and carcinogenic effects, should be reported in days. The CTE and RME carcinogenic averaging times should be the same (365 d/y x 75 yr). In addition, please refer to section 8.2 of the EFH for potential adjustments to the dose-response relationships used in the derivation of URs, if necessary.

27. **Table 3-2.** The adult body weight for both the CTE and the RME should be 71.8 kg.
28. **Table 3-2.** The exposure time – indoors, for the RME child resident should be 18.4 hr/day and 5.6 hr/day for the outdoor exposure time. Professional judgement can be used for the CTE values.
29. **Table 3-2.** The total body surface area for the child resident should be 7200 cm² for both the CTE and the RME (EFH Volume 1, p. 6-15).
30. **Table 3-2.** The GW exposure time (time spent bathing) for the RME child should be 0.33 hr/day. Professional judgement can be used for the CTE values.
31. **Table 3-2.** The NHHSS would recommend inhalation rates of 8.4 m³/day indoor (50% resting and 50% sedentary activities) and 26.4 m³/day outdoors (50% light and 50% moderate activities) for the child RME and CTE resident.
32. **Table 3-2.** The CTE child resident body weight should also be 15.5 kg.
33. **Table 3-2.** The soil ingestion rate for the RME child resident should be 400 mg/day.
34. **Table 3-2.** The NHHSS would recommend an inhalation rate of 13.25 m³/day for both the RME and the CTE adult resident.
35. **Table 3-2.** The recommended indoor exposure time for the RME adult resident is 21 hours/day. The value recommended for outdoor exposure time is 4 hours/day. Professional judgement can be used for the CTE values.
36. **Table 3-2.** Please include a footnote for “ssl,96”.
37. **Table 3-2.** The NHHSS would recommend an indoor inhalation rate of 0.5 m³/hr for both CTE and RME adults (sedentary activities), and an outdoor inhalation rate of 2 m³/hr (50% moderate and 50% heavy activities).
38. **Table 4-1.** Inhalation RfDs and SFs are not shown in IRIS or HEAST, and are not available from NCEA. Please show the formulas for conversion of RfCs and URs to these values.
39. **Table 5-2.** What values are used for the chemicals without MCLs?
40. **Appendix A, page “Soil 0-15 Feet”.** Following this cover page is soil data collected at depths greater than 15 feet. Please clarify.
41. **Appendix A, tables.** Please include definitions for “SS”, “SB” and “MW” in the footnotes of each table.
42. **Appendix A, tables.** Please provide definitions for all of the laboratory qualifiers in the footnotes of each table (in particular UJ and J).
43. **Appendix A, Table A-2.** Please adjust the column spacing.
44. **Appendix A, Table A-4.** Please provide definitions for all of the laboratory qualifiers in the footnotes (in particular J and JB).
45. **Appendix B, tables.** Please provide definitions for all of the laboratory qualifiers in the footnotes (in particular J).
46. **Appendix C, page C-1.** Please include a statement in the text that action taken at this site will be based on an estimate of the RME and that the CTE is provided for perspective only.
47. **Appendix C, page C-1.** The RME does not represent a “worst case” exposure. Please include the correct definition from RAGS.
48. **Appendix C, C.2.** It is very difficult to confirm the intakes calculated in this report (Appendix D) when the intake formulas shown in this section are not also

- accompanied by all of the intake variables. Please include the actual spreadsheet calculations for each of the intake equations presented.
49. **Appendix C, page C-2, C.1.1.** Please elaborate as to why a child resident was not included in this evaluation.
 50. **Appendix C, page C-3, C.1.3.** Two values are described for the CTE exposure duration, 6.6 years and 7 years. Please clarify. In addition, no exposure frequency is shown for the CTE.
 51. **Appendix C, page C-5, C.2.** The averaging time for carcinogenic effects should be $75 \text{ yr} \times 365 \text{ days/yr}$.
 52. **Appendix C, page C-5, C.2.** Please add the words "from ground water" at the end of the second bullet.
 53. **Appendix C, page C-6, C.2.2.** Please provide separate sections for inhalation of volatiles from soil and from ground water, or provide more discussion in this section on the two separate evaluations of exposure.
 54. **Appendix C, page C-13.** The t-statistic is used to calculate the 95% UCL of the arithmetic mean if the data is normally distributed. Environmental sampling data is rarely normally distributed. Please include information on the shape of the distributions and use the H-statistic for those distributions that are log-normally distributed (U. S. EPA, *Supplemental Guidance to RAGS: Calculating the Concentration Term*, 1992).
 55. **Appendix C, page C-14, groundwater section.** The NHHSS would recommend selecting representative wells to determine the risk from exposure to ground water, rather than, combining the data into east and west portions of the site. Individual wells would best represent a potential source of exposure.
 56. **Appendix C, page C-17, C.3.2.4.** Please show the formula for calculating the indoor air concentration of volatiles from the ground water concentration. As written it appears that the ground water concentration was multiplied by the Andelman constant and then decreased by half to account for the average transfer efficiency into air by typical household water uses. One of two approaches are recommended by NHHSS to evaluate the risk associated with inhalation of ground water volatiles. For the evaluation of whole house exposure to ground water volatiles the water concentration is multiplied by the Andelman constant presented (which takes into account differences in transfer efficiencies). The exposure time is then the amount of time spent indoors. If exposure to showering is evaluated the bathroom volume and the showering transfer efficiency (0.9, Andelman 1990) must be utilized in estimating the volatile concentration in the shower. The exposure time would then be the amount of time showering (U. S. EPA, *Assessment of Risk from Exposure to Volatile Organic Compounds During Showering*, 1992).
 57. **Appendix C, tables C-1 to C-8.** Please highlight which concentration is used as the exposure point concentration for each of the chemicals.
 58. **Appendix C, tables C-1 to C-8.** Same as comment #46.
 59. **Appendix C, tables C-5 to C-8.** Please include units for the concentrations presented.
 60. **Appendix D.** Please include the page numbers for the intake formulas and the variables used to calculate these values as a footnote to each of the tables.

61. **Appendix E.** The formulas for determining noncarcinogenic effects (Intake/RfD) and carcinogenic risks (Intake x SF) should be shown as a footnote to each of these tables. The risks should also be summed as stated in the text and to be consistent with U. S. EPA guidance. It would also assist in the review of these calculations if page numbers were also included for the intake and toxicity values used.
62. This document is an addendum to a document that is inconsistent with U. S. EPA guidance and contains calculation errors (as outlined in the NHHSS letter of September 2, 1998). It is recommended that these items be addressed in the addendum, or that the addendum supersedes the original baseline risk assessment (once the above comments are addressed).

If you have any questions, or if I can assist you with another project, please do not hesitate to call me at 402-471-8880.

Sincerely,



Susan Dempsey
Risk Assessor

xc: Adi M. Pour, Ph.D.
State Toxicologist

Ken Maas
NDEQ

NOTES ON SUB

MARY

① Addendum - needs to stand alone.
- NEED TO CHANGE NAME FROM Addendum
TAKES AN AMENDMENT TO AOC

② DO WE NEED PART D? DAVID WILL DECIDE

③ NEED ECO

CAN WE DO IT IN HOUSE (SCOTT)

TALK TO DAVID