

Colorado Department of Health

Review and Comment

Historical Information Summary and Preliminary Health Risk
Assessment - Operable Unit 3, Sites 200, 201, and 202
Draft Final, April, 1991

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General Comments:

1) As with the Remedy Report for OU-3, this version of the Historical Information Summary is significantly better than the draft version submitted in November, 1990. Thank you for the improvements.

Specific Comments:

Section 2.0: At several points within this section, the text states that the levels of Plutonium contamination in the sediments of Great Western Reservoir are higher than in the sediments of Standley Lake. Since Great Western Reservoir does not lie downwind of the major wind vector (as indicated on the wind rose diagram), another source of the Plutonium is indicated. We presume that this source of Plutonium is the sediment released to GW Reservoir during the reconstruction of the "B" Series ponds. Please clear this up with some additional text.

Section 2.1.1: Comments to the original version of this document asked for detailed maps of each reservoir that shows the complete surface water system. For Great Western Reservoir this could include Lower Church Ditch, the Broomfield Diversion, McKay Ditch, the "A" and "B" series ponds and their respective purposes, etc. For Standley Lake, this could include the "C" series ponds and their respective purposes, the water supply ditch from Clear Creek, the above-ground pipeline diverting water from pond C-2 to the NPDES treatment facility, the Mower Reservoir ditch, etc. These maps would greatly enhance the understanding of the surface water systems, the conceptual model, and the contaminant fate and transport.

Section 3 1.1: The text states that the Plutonium contamination occurs in a distinct sediment horizon in each of the reservoirs and has been buried by subsequent sedimentation. Please expand the text to explain how thick the Plutonium contaminated layer is and approximately how deeply buried it is. The Division realizes that

these values will change from the deeper portions of the reservoirs to the shallow areas, but feel that a general description would enhance the text. In addition, some explanation of how this depth of burial affects the availability of the Plutonium to the release mechanisms would be helpful.

Appendix B - Table B.1: There are several errors on this table. In the fifth column (Ingestion), the second and sixth values down from the top are 2.BE-10 and 4.BE-12 respectively and should be 2.8E-10 and 4.8E-12. In the sixth column (Ground Surface), the first (top) value should be 1.6E-12, not 1.6E-02. In the seventh column (Air), the first value should be 2.0E-2, the third value should be 2.1E-2, and the sixth (last) value should be 2.0E-2. In the ninth column (External Exposure), the second value should be 6.1E-07 and the fourth value should be 2.6E-07. Please make these changes to the table.

Appendix B - Section 4.0: It would be very helpful to include the pertinent pages from Table C of HEAST in this section since they are referenced repeatedly.

Appendix C - Page C-3: In the last paragraph on this page, the values of absolute risk presented in the text reflect an addition error.

Appendix C - Table C.2: The values of absolute risk presented on this table reflect an addition error.

Since the values presented in the second column (Added Risk) of this table come from Table C.5 and have not yet been presented in the text previous to Table C.2, please note this either in some added text or on Table C.2.

Please add text explaining where the values presented in the fifth column (Increased Risk for Plutonium) come from.

Appendix C - Table C.5: Once again, as with the Remedy Report, this table shows that ingestion is a major contributor to the health risk. The question that obviously arises is whether or not the inhalation pathway conceptual model can be accurate if ingestion plays such a crucial role in the risk. Please explain this apparent discrepancy.