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Public Health and Environment
Materials and Waste Management

Comments on

DECISION/RECORD OF DECISION FOR
THE OFFSITE AREAS
January 1997

- 1 In the second sentence of the Declaration Statement on page 2, the use of the term "on-site" is confusing since the term normally refers to areas within RFETS boundaries
- 2 The final sentence of the Declaration Statement should be revised to indicate that this CAD/ROD will be reviewed in five years
- 3 Under the signature line for CDPHE on page 3, replace Tom Looby with Howard Roitman, who is Director of the Hazardous Materials and Waste Management Division rather than the Office of Environment
- 4 The last sentence of the third paragraph on page 4 is incorrect. Please re-write the sentence as follows "Water from Pond C-2, located in the Woman Creek drainage ~~and~~ which drains water from the 881 Hillside south of the industrial area, is pumped to Woman Creek."
- 5 Please modify the first sentence of the second paragraph on page 5 as follows "Portions of OU 3, as a result of accidental releases from RFETS in the past and routine operations in the early years of plant operations, contain low-level deposits of radionuclides."
- 6 In the third paragraph on page 5 it states that the 903 Pad "may be" responsible for some of the radionuclides in OU 3. The next paragraph says that the holding pond reconstruction "may have" contributed to radionuclide deposits and "may have" resulted in resuspension of sediments containing radionuclides. In the Proposed Plan and later in this document, OU 3 radionuclide contamination is definitively attributed to these two sources. Therefore, "may be" and "may have" should be replaced with more affirmative language.
- 7 The list of entities which provided comments in the first sentence in the Highlights of Community Participation section should include the City of Broomfield.
- 8 To be clearer and more complete, two of the bulleted items at the bottom of page 6 should be modified.
1st bullet - "Point source discharge and stormwater monitoring conducted under the Site's National Pollutant Discharge Elimination System (NPDES) permit (which

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currently does not regulate plutonium and americium), issued pursuant to the Clean Water Act,”

3rd bullet - “Surface water monitoring conducted pursuant to RFCA (effluent from the Sewage Treatment Plant is currently not monitored),”

- 9 The term “bedrock geology”, which is consistent with the RFI/RI Report, should be used rather than “subsurface geology” in the second paragraph in the Geology and Hydrogeology section on page 7 The Arapahoe Formation, for example, is exposed at the surface in the vicinity of Standley Lake
- 10 The last sentence in the first paragraph on page 8 should be modified to read, “Water from Pond C-2 is pumped to Woman Creek ”
- 11 The third paragraph on page 11 mentions that reservoir sediments samples were compared to background data for stream sediments This comparison is a limitation of the RFI/RI Report which should be acknowledged here or in a discussion of uncertainties mentioned in comment #19 below
- 12 In the last sentence in the second paragraph under “Other Environmental Media Surface Water, Groundwater and Air” on page 12, the standard for Mower Reservoir should be changed to 0.15 pCi/L to correspond to the new Segment 4 standard
- 13 The last sentence in the third paragraph under “Other Environmental Media Surface Water, Groundwater and Air” on page 12 mentions “upper-bound mean background values” It is assumed that these values are the 95% UCL on the arithmetic mean, but this should be specified
- 14 The last sentence in the fourth paragraph under “Other Environmental Media Surface Water, Groundwater and Air” on page 12 states that the “over the vast majority of OU 3” resuspension is not a problem This summary statement should state where resuspension was determined to be a potential problem, even if only “rarely ”
- 15 The paragraph at the top of page 14 mentions the two exposure scenarios evaluated in the HHRA and lists the “additional exposure pathways” included for the residential scenario For the sake of clarity, the basic exposure pathways for both scenarios should also be listed, so that readers can understand how complete the assessment is
- 16 The second paragraph on page 14 implies that residential exposures were included because of DOE’s desire to assess even remotely possible scenarios since future land use assumptions are uncertain The City of Broomfield prefers that this paragraph acknowledge their request to have these scenarios included
- 17 The second sentence of the fourth paragraph on page 14 is in error This statement would apply only to non-radionuclides which were not assessed For radionuclides, slope factors are based on average risks and therefore are not “upper bounds of excess cancer

risk ”

18 The last sentence of the fourth paragraph on page 14 should be re-written to state that excess lifetime cancer risks which are below or within the one in ten thousand (1 x 10⁻⁴) to one in one million (1 x 10⁻⁶) range are considered protective of human health

19 This document is written as though there is no longer any uncertainty as to the safety of the offsite areas. The limitations and uncertainties inherent in the RFI/RI investigation need to be acknowledged. The RFI/RI Report, which is the basis for this decision, included an uncertainty analysis. This uncertainty analysis should be summarized or referenced in a separate paragraph or within the conclusions of this document in order to fully describe the limits of the decision-making basis. Acknowledging that the data analyzed for the RFI/RI was limited serves to protect all of the parties to this decision document. Specific examples follow

a) Groundwater data was collected from two wells in OU 3, which were installed to assure that no contamination was getting past the dams. The document should state that only limited OU 3 groundwater data exists. The conclusion that contamination in groundwater at the Site will not reach wells in OU 3 is based on the assumption that all contaminated groundwater at the Site emerges to surface water, and is contained and monitored before leaving the Site.

b) This document should state that non-radionuclide chemicals were not analyzed in OU 3 soil, which is consistent with the OU 3 Work Plan. This was done because the assumption was made that any non-radionuclides would pose a lower risk than the radionuclides in soil, and would be cleaned up along with the radionuclides during any remedy. Beryllium is especially important, since it is a site-related chemical which may cause an allergic-type sensitization that is not dose-dependent in a small susceptible portion of the population. The draft report, *Estimated Exposure and Cancer Risk from Beryllium Released to the Air from the Rocky Flats Plant* (Radiological Assessments Corporation, February 1997) references several studies conducted on beryllium in soil in the Rocky Flats area including *Analysis of Selected Metals in the Surficial Soils of OU2*, which was produced for the OU 3 RFI/RI Report. All of these studies conclude that beryllium concentrations in the soils around RFETS do not appear to be above background.

c) Because background lake sediment data was not available or collected for the RFI/RI study, the reservoir sediments were compared primarily to stream sediment data. Lake and stream sediments, however, are not strictly comparable because of differences in flow conditions, etc. This limitation should be included in the uncertainty section of the document.

d) The potential for transport of radionuclides to offsite areas remains uncertain. The actinide migration studies currently being conducted will consider issues that may alter our understanding of transport mechanisms for radionuclides. This document

should acknowledge that if the conclusions of this study impact the data upon which the no-action decision is based, the decision will be re-visited

- 20 The final sentence of Response to Comment #8 on page 21 is inappropriate for a decision document This sentence should be deleted or replaced with a statement that the OU 3 CAD/ROD does not affect the status of the Settlement Agreement