PHIIRI.FJB

RESPONSES TO COMMENTS ON LANDFILL CLOSURE PLAN

F. J BLAHA

ADMIN RECORD

A-0U07-000050

RESPONSE TO COMMENTS ON THE LANDFILL CLOSURE PLAN

SPECIFIC COMMENTS

1. Page 18, last paragraph

   This paragraph is confusing without a definition of a "lift elevation" and the basis for selecting the number of lifts throughout the landfill

Response

   The term lift was used as is typical of solid waste landfilling operations to mean the thickness of buried waste before it receives earthen cover. The lift represents the vertical depth of the working face. Additional clarification and explanation of lift and the basis for selecting the number of lifts through the landfill will be provided in the next revision or update of this closure plan

2. Page 19, Section 2 3.3, second sentence

   This paragraph contradicts the statement on page 16, third paragraph, that guidelines were set in February 1973 that established maximum concentrations for disposed radioactive materials, but did not eliminate them If the monitoring procedures superseded the 1973 guidelines, then this should be so stated

Response

   The possible contradiction in interpretation has been somewhat clarified in the final version of the closure plan This contradiction will be completely clarified in the next update of this closure plan. To summarize the control procedures, the radiation monitoring was intended to prevent the disposal of radioactive materials in the landfill since disposal of radioactive materials in the landfill was never intended

3. Page 59, second paragraph

   The first sentence of this paragraph is written in the past tense indicating that sampling locations have already been determined If this is the case they should be presented on a figure. If not, correct the tense of the sentence

Response

   The tense of the sentence has been corrected, and the section had been revised for the final version

GENERAL COMMENTS

1. The topic of post-closure ground water monitoring, as required by 6CCR 1007-3, Sections 265 117 and 265.310, is not at all addressed in this closure plan Relevant points such as the location of both alluvial and bedrock monitoring wells and long-term management of post-closure sampling must be discussed in a section dedicated to post-closure ground water monitoring. If post-closure monitoring of the landfill is contained within some other site wide monitoring document, then it should be referenced.

Response·

The topic of post-closure ground water monitoring is addressed in the closure plan by reference to the Post-Closure Care Permit. This permit is scheduled for submission to the State and EPA on October 5, 1988, and is being revised in accordance with the Notice of Deficiency (NOD) received on the Post-Closure Care Permit submitted to the regulators on November 26, 1986.

2. Section 5 of Appendix 5 discusses present ground water contamination resulting from the landfill operation. Issues concerning how this existing ground water contamination is to be cleaned up or even if it is necessary to provide mitigative action are not addressed Existing ground water contamination has a good chance of raising the public ire during review Therefore, a more critical analysis of existing conditions should be provided with an emphasis on the means available to clean up the exiting plume (i.e., pump and treat/dispose)

Response.

Section 5 of Appendix 5 had been extensively revised for the final submission to the State and EPA The final version discussed the possible ground water contamination in a much different perspective The point was made that the potential landfill impacts on ground water are not very pronounced, that in most cases current promulgated, interim, or proposed drinking water standards are not exceeded, and that immediate remedial actions do not appear warranted based on the current data Appendix 5 discusses how the proposed remedial actions will prevent or minimize problems, and how proposed remedial investigations will help determine any additional actions that may be necessary It is currently expected that many of these actions will be implemented, and the closure plan updated in order to reflect the actual conditions at the landfill, before the document goes out for official public comment

3. Overall, the quality of the document's presentation, particularly the appendices, leaves the impression of being put together in haste Time should be given to typing an filling in handwritten analysis notes with descriptive text, as well as improving figures, organization, etc

Response:

All handwritten notes and handwritten text changes have been properly typed and edited. The overall quality of the document had been significantly improved before the final submission to the DOE, CDH and EPA.

4. Page 59, third paragraph

It seems unnecessary and undesirable to randomly place just three samples within a sprayfield The natural variability within an area the size of a sprayfield might be better represented with a sampling geometry that maximizes the area sampled, i.e., triangular Random sampling is applicable in a statistical evaluation of contamination which is not the intent of the Phase I study, at least as stated in this section Reference to a standard sampling procedure or statistical design is needed here

Response

Section 3.1.2, which was commented on, had been revised to state that the samples will be taken in a biased manner along the previous locations of the spray irrigation lines. Since these lines were long and sprayed water over a considerable area, the specific locations sampled in these high application areas have been randomly selected. This type of sampling strategy had been discussed in some previous meetings with the State, EPA, and DOE and is appropriate for the type of waste disposed at this unit, and is also appropriate for the method of waste disposal

5 Page 62, Section 3 2 2, second paragraph

What is the rationale for randomly selecting two water samples within the east pond? If only two samples are taken, it would seem water quality within the pond would be better represented with one sample through the shallow western edge of the pond near the influx of surface seepage (i e , leachate) and another through the deeper eastern portion.

Response

The sampling of the pond had been revised and potential problems discussed in greater depth for the final version of this closure plan, but almost the entire discussion is now found in Appendix 5. Similar to the DOE comment, the routine monitoring of the landfill pond will be conducted at both the west end and at the east-end.

6. Page 70, second full paragraph

Provide a reference for the HELP computer model

Response

A reference for the "HELP" computer model has been provided in the reference section of the final version of the closure plan.

7 Page 80, second paragraph

Provide a discussion on the manner by which the estimated flow velocity within the riprap was obtained.

Response

A discussion of the manner by which the estimated flow velocity within the riprap was determined was provided in the final version of the closure plan. This discussion was provided in the section of the cap design that concerns erosion control.

8 Appendix A, Section 3 5 3.3, first paragraph

It is not clear why a new pair of wells is needed "at the base of the pond dam to characterize downgradient ground water quality" when the existing well pair 40-87, 41-87BR are located in the tributary just 100' below the dam Presumably discharge out of the base of the dam would be intercepted by this well pair in the drainage. The rationale for the new well pair should be discussed in terms of contamination that may or may not be detected in well pair 40-87, 41-87BR If the purpose is to establish point of compliance, then so state

Response

The Appendix referenced and commented on was a pre-existing document

that had previously been reviewed by DOE and submitted to CDH and EPA This document was included as an appendix for completeness Due to the above, additional discussion and explanation within this previous document is not possible or appropriate The closure plan and the site characterization in the final version of this closure plan discuss data needs and gaps and the reason for all proposed work. The referenced well pair that had been proposed and commented on were installed and are known as wells 40-87 and 41-87BR

9. Revised Landfill Sampling Plan, pp 4-6

The use of an alternate well sampling scheme (well IDs 101-87 through 114-87) is confusing. The well numbers should be made consistent with the rest of the document or at least explained.

Response

The alternate well numbering scheme referenced in this comment regarding the Revised Landfill Sampling Plan was simply an arbitrary numbering scheme for use in the sampling plan This sampling plan was developed in October 1987 for implementation in November 1987 Implementation in November 1987 did take place, and the wells were numbered in sequence with the other wells installed in 1987 Additional explanation of the relationship of this sampling plan to other activities was, as suggested, further explained in the document on the third page of Appendix A, of the Characterization Report (Appendix 6)

10. Revised Landfill Sampling Plan, page 3, last sentence

The assumption that the landfill has "largely dewatered" contradicts statements made on pages 38 and 103 of volume 1 that water level measurements in monitoring wells indicate that the ground water and leachate collection systems do not appear functional

Response

This comment points out an apparent contradiction The sampling plan referenced was developed in October 1987 and implemented in November 1987 One of the purposes of these sampling activities was to determine if the landfill had dewatered Due to implementation of the sampling plan, and the data it has generated, it has been learned that the ground water and leachate collection systems are not entirely functional The temporal relationship of the October 1987 revised sampling plan and the rest of the closure plan has been further explained on the third page of Appendix A, of the Characterization Report (Appendix 6)

11. Appendix 6, Section 3 1 2 1, last paragraph

This section makes a major assumption that the low permeability clay layer is uniform over the landfill site This paragraph should be supported by discussion the possibility of extending boreholes below 12 inches to evaluate the underlying clay layer thickness as well as the ubiquity of the clay layer and its range of thickness as observed over the site

Response:

This comment applies to a proposed sampling plan for future implementation. The presence of this clay layer at the Rocky Flats Plant has been supported by the appropriate reference, and reference to previous work in Section 3 2 1 of Appendix 4 of the final submission

12. Appendix 6, Section 3 1 2.2, first paragraph

The reason for selecting VOC samples at a 12 inch depth should be given Presumably these samples would be at the cobbly sandy loam/clay contact, but this should be so stated Observed VOC concentrations at soil contacts around the plant should be discussed if this is the reason for sampling at this horizon

Response

This comment applies to the depth of collection of soil samples for VOC analyses The reason for this depth of collection is given in Section 3 2 1 of Appendix 4 of the final submission

13 Appendix 6, page 9, Sections 3 2.1 and 3.2 2

Specify the type of water samples taken at the east pond grab or composite Justify the sampling mode and specify the water level(s) sampled

Response

The samples taken at the east pond are grab samples The samples are taken near the water surface at two points in the pond The west end of the pond should be first impacted by leachate, and the east end may show different water quality due to physical/chemical changes through the pond Section 5 4 of the Closure Plan, and the Conclusions and Recommendation Section of the Characterization Report, Appendix 6 will be modified in the next revision of the Closure Plan

14. Appendix 6, page 13, Section 3 5, first paragraph

The use of a 90% confidence level is considered as an alternative to defining the "vertical and horizontal extent of contamination". This statement confuses how a 90% c.l. is implemented in sampling since a statistically valid analysis at 90% c l can be conducted over multiple spatial sample points by way of multiple sampling at each point This section should discuss how a 90% c.l. will be achieved over the areas sampled in terms of the number of samples required at each point to establish confidence intervals

Response

The section requires clarification as stated in the DOE comment. The intent of this section is to describe how the horizontal and vertical extent of contamination will be identified Contaminated soil is that defined as contaminated at a 90% level of confidence based upon comparison with background soils. Section 3 4 of Appendix 4 will be modified in the next revision of the Closure Plan.

15 Revised Landfill Sampling Plan, page 3, first paragraph and Appendix 1

It is not at all clear how the drawdown curves in Figure 1-1 were derived The handwritten notes comprising Appendix 1 need to be expanded into a discussion clearly describing the equations used Also the use of the "proposed" well numbers (102-87 through 114-87) is confusing since Plate 4 labels them equivalent to existing wells.

Response

This comment pertains to the October 1987 sampling plan that was implemented in November 1987 The sampling plan was edited to simply state that a draw-down curve should be identified. Equations and references were deleted. Regarding well numbering nomenclature, please see the response to Comment #9.