

U.S. EPA Comments
Draft Phase I RFI/RI Workplan
Walnut Creek Drainage (OU 6)
April 1991

GENERAL COMMENTS

The Workplan submitted is generally quite good, considerably better than those received previously, particularly in regards to EE portions. The draft will require some substantial revisions, in accordance with the comments below, before it can be approved. In addition, revisions must be coordinated and updated consistent with the latest, ongoing revisions of the SOPs, and the Final EE plan for OU 5.

Project planning (as described in Section 5.1) must be completed during preparation of this document. The results of this process and the findings as to what RFI/RI work is required to support a Record of Decision should form the core of this plan, not be developed later, when it will only lead to unproductive revision and review cycles, as is now happening on other plans.

The plan presented alludes to use of an iterative approach to completion of the RFI/RI, wherein early information is used to target later investigatory activities. There is nothing wrong with this approach, but this draft plan is not at all clear how, when, or by whom decisions will be made on alternative investigatory activities, or even what some of these activities may be. The final Workplan for OU 6 must lay out what is thought to be the entire scope of investigation needed to support a ROD, based on a thorough review and evaluation of all existing pertinent information. Groundwater screening using hydopunch-type techniques, or similar tactics, can be employed to assist well placement and support this approach, as has been proposed in the OU 2 alluvial investigation. However, the decision points, procedures, and alternative actions must be clearly delineated, in their entirety, in this submittal; otherwise EPA will be unable to grant Workplan approval. The RFI/RI Workplans must at a minimum implement the activities identified in IAG Table 5: Preliminary RFI/RI Workplan for Previously Identified Inactive Sites. Knowingly leaving important aspects of an investigation to a later date is not justifiable solely because the IAG can accommodate later Phases of investigation.

The investigation plan contains two glaring technical weaknesses, which could lead to an inability to adequately evaluate important contaminant migration pathways. First, there is no discussion of air emissions or data, and no plan for monitoring or evaluating this media as an exposure pathway. Second, the plan contains no means of evaluating potential migration through the vadose zone. Since very limited groundwater

monitoring is proposed for many of the sites, the RFI/RI should include soil moisture profiling and (where appropriate) vadose zone monitoring.

The baseline risk assessment section describes the risk assessment process in terms so generic as to provide no meaningful plan for assessing baseline risk at this particular site. Specific methods must be evaluated or developed for assessing risk under prevailing conditions at RFP. The substantial existing information regarding this site's important contaminants, exposure pathways, and potential receptors has apparently not been evaluated, or at least is not discussed here, and must be if this plan is to be adequate.

SPECIFIC COMMENTS

Section 2.1, Page 2-8; The description of pond B-3 indicates it receives "intercepted groundwater from a seepage area near the Solar Evaporation Ponds." It is not clear if this is a reference to the french drain water. If so, this is not consistent with our understanding that this flow is recirculated to the Solar Ponds. Please clarify this passage to indicate what water is being talked about and confirm its disposition.

Section 2.2; The site characterizations presented here say very little, if anything, about groundwater. Since potential contaminant migration via groundwater in valley fill alluvium is and will continue to be a major concern, this seems a serious omission. The data available to characterize this potential pathway must be collected and thoroughly evaluated. Further investigations required to support decisions on possible groundwater control/cleanup actions in this area must be identified in this plan.

Section 2.2.4, Page 2-16; The stated basis for evaluation of surface water conditions is data that is two years old and, for unexplained reasons, still unvalidated. The text indicates samples have been taken since 1989, and continue to be taken, including some from new stations. This data apparently gets released to outside parties in periodic reports and meetings. Other groups within EG&G/DOE are evidently using it for decision making. This information must be provided to support the RFI/RI workplan.

Section 2.2.5, Page 2-19; The "estimated" depth of valley fill alluvium beneath the A series ponds is only a guess unless it is based on something more than the reported thickness in Well 1286. This statement must be substantiated or qualified.

Table 2-7; The units on this table need to be checked against the text and against Table 2-6.

Section 2.3.4, Page 2-31; This section does not discuss the sediment data presented. It also makes reference to "all other" radionuclides being "at background levels". It would be useful to discuss the implications of the sediment data, and to specify what radionuclides were analyzed. A negative finding is as important as a positive one; more to the point, EPA is not aware that "background levels" have been adequately defined even now, they certainly were not as of the date of the reference cited. Data must be provided regardless of the state of validation to support statements within the workplan.

Section 2.8.2, Page 2-49; Given that residues from fires were reportedly stored in this area, the analytical list may need to be expanded to include possible products of combustion and residues, such as dioxins. Failure to do this must be justified in the plan.

Section 2.8.2, Page 2-50; The old triangle area was extensively reworked during construction of the PSZ. No mention is made in this history of when or how this occurred, even though this will affect both the investigation design and the results. An analysis of the disposition of potentially contaminated materials must be provided. This information and an evaluation of what changes in approach it warrants must be added.

Section 2.8.2, Page 2-51; The "miscellaneous equipment" stored at the site may have included transformers. Can the nature of this equipment be substantiated? In any case, given recent sediment analysis results from ditches within RFP, expanded investigation of the possible presence of PCBs in the Walnut Creek soils/sediments is appropriate.

Section 2.11; In general, the conceptual models seem much too anxious to "write off" entire pathways based on very sweeping assumptions and thin reasoning. At this stage, a pathway must be considered potentially complete until proven otherwise. Workplans must be designed to verify or refute the completeness of potential pathways. Inherent in the conceptual model should be a consideration of the likelihood that the IHSS constitutes a "Source" in the true sense of the word, an area that is likely to continue releasing contaminants and contributing to their spread into previously unaffected areas. This determination is based on the history of use, specifically the nature of activities conducted and materials deposited at the site. The field sampling plan should then be designed to distinguish "source" from "affected" areas, as they may require different types and degrees of response.

Section 2.11.1, Page 2-65; The completely unsubstantiated assertion that precipitation "tends to run off to the drainages, so there is little infiltration", in no way justifies ignoring the groundwater pathway. Unless this "tendency" can be documented

and quantified through infiltration or soil moisture measurements, contaminant migration to groundwater must be assumed to be possible and the investigation designed accordingly. Hurr, 1976, indicates high infiltration rates for the Rocky Flats Alluvium, up to 7.35 inches per hour. More direct findings will be required to show that infiltration in the North and South Spray Fields is not also high.

Section 2.11.4, Page 2-66; Please see comments on Section 2.11.1. The assertion that contaminant migration to groundwater is not of significant concern must be substantiated. This is the purpose of the field investigation.

Section 2.11.6, Page 2-67; Please see comments on Section 2.11.1. The fact that the unit is on a slope doesn't prove anything, least of all that the groundwater pathway can be ignored.

Section 2.11.7, Page 2-67; The completion of removals and placement of cover in some areas does not mean the surface is clean. The RI may establish that it is, but that has not been determined. Surface water and air must be considered potential pathways. Similarly, continued migration from residual contamination in subsurface soils cannot simply be assumed to be unlikely. This must be considered a potential pathway until reliable information is available to discount it.

Section 2.11.8, Page 2-68; The groundwater pathway at this site may be of particular importance, as penetration of plutonium into the soil, perhaps facilitated by detergents in the outflow, is indicated by existing information.

Section 3.2; The ARAR analysis process must evaluate chemical specific ARARs, Location Specific ARARs and Action Specific ARARs. A summary of how these various ARARs are evaluated in the RI/FS process is as follows:

- Chemical specific ARARs are proposed during the draft and final RFI/RI workplan and report and are finalized during the draft and final CMS/FS report.

- Location specific ARARs and preliminary remediation goals are proposed during the draft and final RFI/RI report and are finalized during the draft and final CMS/FS. The remediation goals are based on risk assessment, proposed ARARs and the NCP.

- Action specific ARARs are finalized during the draft and final FS.

The workplan must be written to accommodate this process. Failure to do so will result in an inadequate RI report.

Tables 3-1 and 3-2 are missing SDWA values for Strontium 90

and Tritium. A footnote for gross alpha needs to be added explaining that this excludes uranium. It should be noted that the 4mrem/yr for gross beta is a screening level. This screening level can be used to calculate the maximum concentrations of the cesium isotopes. It is beneficial to identify the maximum values for the contaminants present in the operable unit in this table.

Newly promulgated (1/30/91) MCLs and MCLGs are relevant and appropriate and are not TBC. These standards may be considered as applicable on the date they become effective. TBC values in Tables 3-1 and 3-3 must be changed, where appropriate, to meet this rule. Background for a particular parameter is also considered an ARAR and not TBC until an ACL is established for that parameter.

The sampling and analysis plan must be written to allow evaluation of the data in regard to the ARAR values and the 10⁻⁶ point of departure in the risk assessment. This should also be established as a DQO.

Section 3.2.3, Page 3-27; The state construction standard for plutonium in soil must be considered as a chemical-specific ARAR.

Potential ARAR values for radionuclides need to be revised in Table 3-1 to reflect the effective state standards for ground water which are the same for the Woman Creek surface water segments. RCRA Appendix 9 constituents need to be listed as potential ARARs.

Units within Tables 3-1, Table 3-2 and Table 3-3 need to be uniform for comparability. It is beneficial to list maximum concentrations of parameters for all media on the tables (see OU1 Workplan, Section 7).

Section 3.2.6, Page 3-29; Item (C) in the listing must be changed to read "...in cumulative risk in excess of 10⁻⁶ and not 10⁻⁴. The NCP reference was interpreted incorrectly. The sampling and analysis protocols need to be adjusted for evaluation of the data in regard to the 10⁻⁶ risk level. It is not required that clean up levels be established in the workplan but it is necessary to establish sampling and analysis protocols that will be sufficient to evaluate the 10⁻⁶ point of departure.

Table 4-1; The description of "Data Need" confuses the issue of source characterization with delineation of the nature and extent of contamination emanating from a source. A plume is an effect, not a cause, and therefore not a source. The sampling and analysis efforts should be specifically selected for and targeted at one purpose or the other.

Section 4.1.3, Page 4-2; Several probable sources of air contaminants are identified within this OU, and air is shown as a

pathway in Figure 4-2. Yet there is no mention of air quality as a data need, and the FSP does not include any provisions for air monitoring. If this data is being obtained from another monitoring program, this must be described, and an evaluation provided to demonstrate adequacy of that program to support the OU 6 decision-making process. Otherwise, appropriate air monitoring efforts must be identified and described as part of this plan, and implemented under the OU 6 RI effort.

Section 5.1; As stated in the general comments, the activities described here should be completed during preparation of the subject document. This should include a compilation of information obtained from reviewing the "existing reports" referred to. At some point, the revising and rethinking has to stop and the work has to begin. The plan can incorporate alternative actions, such as installing or skipping a particular well location based on intermediate findings and decision points; but it must lay out the full anticipated scope of activities required to support a Record of Decision.

Section 5.3, Page 5-2; It is also important to note that while IAG milestones for this OU do not extend beyond the Phase I RI, this is not justification for not completing an investigation which can support a final ROD for this OU. Failure to obtain all required data through execution of the program described in this plan is not in DOE's best interest, and may make it impossible to meet DOE clean-up targets.

Section 5.4, Page 5-4; Coordination with laboratories in designing and running the analytical program is paramount. Poor performance in this area is the surest road to a bad RFI/RI. There is considerably more to this job than sending off samples and waiting for results, as described here. Consideration should be given to using an organizational structure which assigns certain persons specifically to this responsibility.

Section 5.5.1, Page 5-5; This one short paragraph is the only mention found of modeling. If modeling is really going to be used as extensively as this paragraph would suggest, a much more thorough discussion of the particulars of this effort is required. This must include a description of the models to be used, how they will be applied, and how this is being coordinated with similar efforts in other areas of RFP.

Section 5.7, Page 5-9; The number of alternatives to be retained for detailed analysis depends on the nature and complexity of the problems they are intended to solve. It is inappropriate to set a limit of 10 before the RFI/RI has started.

Section 7.1; During the scoping session for this plan, reductions in sampling density in several areas (old outfall, triangle, and soil dump) from that specified in the IAG Table 5 were generally

agreed to be appropriate, but only with the understanding that if "hot spots" were located, the "extra" points would then be used to better identify their extent. Additionally, if DOE does not believe that the RFI/RI Workplan proposed will support a ROD, these inadequacies should be addressed in the RFI/RI Workplan. The rationale stated here does not reflect this understanding, or provide any mechanism for how it would be implemented. The IAG scope of work specifies (Section VI. B) that the work plans should anticipate the need for additional data, and provides a mechanism for amending the plan with a technical memorandum describing the additional efforts to be completed when such need arises. This section must be revised to reflect this procedure, and provide a means of incorporating reasonably foreseeable needs for additional field efforts within this Phase I RI.

Section 7.1.3, Page 7-3; Item (2) indicates composites will not be used for volatile or semi-volatile analytes. This represents a change from our understanding of the SOPs, and must either be changed or explained in an SOPA.

Section 7.1.3, Page 7-4; If the analytical list is going to be site-specific (contrary to our understanding based on recent discussions) it must be laid out in detail. Simply saying that half the samples will be analyzed for Pesticides/PCBs is not adequate. Which samples these will be and why/how they were or will be selected must be included in the RFI/RI Workplan.

Section 7.2.2, Page 7-11; It is stated that sediment samples will be collected in the creek from building 118 to Indiana street. Neither of these landmarks is labeled on the referenced figure.

Section 7.2.4, Page 7-21; The stated purpose of the well located in the Soil Dump Area is to characterize bedrock geology, but it is not shown as a bedrock well on the figure. This discrepancy must be corrected.

Section 7.3, Page 7-30; Recent discussions of subsampling, sample intervals, and compositing techniques (and associated changes in the sampling SOPs) must be reflected in the final plan.

Section 7.3.2, Page 7-32; Several basic questions posed by EPA at recent meetings about the analytical programs at all OUs remain unanswered (like where the analyte list came from and how will TICs be handled). DOE has also proposed a scheme for reducing the analytical list in some areas, and it is not clear if this applies to OU 6. Results of these discussions must be incorporated in the final plan.

Table 7-12; This appears to be the same table as 7-8. They are not both necessary.

Section 7.3.2, Page 7-40; The soil gas analytical parameters for

IHSS 165 should include likely breakdown products of TCE, such as 1,2-dichloroethene and vinyl chloride.

Section 8.1, Page 8-1; In the first dot list, a determination is made of which exposure pathways present or contribute to an unacceptable risk. Remediation is then targeted at appropriate media. Exposure pathways are not remediated.

Section 8.2, Page 8-3; The text states that "Existing analytical results taken from other sources will be accepted as suitable for risk assessment purposes." The indefinite meanings of "other sources" and "as suitable" allow numerous interpretations of this statement. Please understand, data that fails to meet acceptance criteria under the QA/QC protocols established for this program cannot be used in risk assessment.

Section 8.3, Page 8-3; The number of TICs is not the only, nor the most important criteria mentioned in EPA guidance for determining how TICs are handled. EPA has requested that a TIC evaluation procedure be developed and incorporated in the SOPs/QAPjP. This document must be revised to be consistent with those procedures, when developed.

Section 8.3.1, Page 8-4; Please correct the text to read that exposure scenarios developed in the baseline risk assessment will include current and potential future receptors.

Section 8.4, Page 8-6; Discussion of uncertainty inherent in toxicity assessment seems more appropriate in the uncertainty analysis section, which should come after risk characterization, as it does in practice.

Section 8.6, Page 8-7; The meaning of the phrase "reasonable minimum exposure conditions" must be clarified and the use to which this abstraction will be put defined. EPA guidance specifies use of a "reasonable maximum" exposure scenario.

Section 9; It is our understanding that the EE plan presented here has been superceded by subsequent revisions to the approach to EE's as reflected in EE plans for OUs 1, 2, and 5 submitted 12 June 1991. Thus no specific comments are made here. In making revisions, please refer to comments provided in the ongoing EE review meetings, and those submitted 03 July 1991 on the Phase I Work Plan/EE Plan for OU 5.

QAA COMMENTS

Section 3.1.3, Page 8; The target for completeness is 100%, the minimum acceptable is 90%.

Table 2, Page 16; Equipment rinsate blanks are required at the rate of 1 per 20 samples or 1 per day, whichever is greater.

Section 5.0, Page 20; In this and all other areas, references to the site-wide QAPjP should include specific section numbers.

Table 3, Page 24; Please check the list of metals shown for GFAA analysis. What is Pg?

Section 12.1, Page 25; Specifications for types of field measurement equipment in the QAA should be consistent with the SOPs (4.2), which these are not.

Appendix A, Pages 31-33; Please check units and chemical names, several of them contain errors.