

**EPA Comments on the Final Phase I RFI/RI Workplan
for the Original Process Waste Lines (OPWL), OUS**

General Comments

In general, this workplan has improved considerably over the draft version. However, some problems and concerns still exist with the Field Sampling Plan (FSP) and the Baseline Risk Assessment (BRA) portions of the workplan.

The proposed FSP for this Phase I field investigation consists of a data compilation effort followed by stage 1 and stage 2 sampling activities. It is unknown at this point the extent to which the proposed stage 1 sampling activities would be impacted by new information on the OPWL which is to be gathered during the data compilation effort. For example, the number and location of the proposed test pits and boreholes may need to be changed due to logistical problems such as security requirements, heavy equipment access restrictions, etc. If it is determined that substantial modifications to the proposed stage 1 field sampling activities need to be made, then DOE should submit a technical memoranda for EPA and CDH approval.

EPA is concerned that the proposed FSP may not be adequate to fully characterize the OPWL. This is due to the following concerns: 1) the lack of analyses for PCBs and pesticides in stage 1 field sampling activities; 2) confusion on sampling intervals for investigation of pipelines (100 or 200 feet); 3) failure to specify the number of soil samples to be taken in each proposed test pit; 4) location of test pits based on the results of the surface soil radiological survey; 5) the proposal to drill boreholes only along the trench; and 6) the lack of a vadose zone monitoring program.

The possibility exists that PCBs were discharged to the OPWL. Therefore, assuming the absence of these contaminants at this stage is premature. It is EPA's position that the proposed analytical list for stage 1 sample analysis should include analysis for PCBs and pesticides. If it is determined that these contaminants are not present in the OPWL, then there would not be a need for their analysis during any subsequent field investigations.

Section 7.3.1 states that sampling interval along the pipeline alignments is going to be 200 feet. Later, in section 7.3.1.1 the text states that sampling interval along the pipelines alignments is going to be 100 feet. The FSP needs to clarify what the sampling interval is going to be. EPA prefers that 100 feet is used instead of 200 feet due to the possibility of past releases smaller than 500 gallons which may not travel as far and may not be detected if a 200-foot sampling interval is used.

The FSP needs to specify the number of soil samples to be

ADMIN RECORD

A-0009-000065

taken at each test pit. This must include number of soil samples to be taken in the ground surface, in the trench backfill directly beneath the pipe and in the native soil directly below the trench. It is important that the number of samples to be taken be sufficient to provide reliable information on the contamination of the OPWL.

It is unlikely that the OPWL have contributed to surface soil contamination. Therefore, using the surface soil radiological survey results for selection of sampling locations is not appropriate. DOE should acknowledge that the radiological survey will provide information useful from the safety standpoint and that it may not provide information on contaminated areas due to past releases from the OPWL. DOE should reevaluate the criteria for sampling locations to ensure that the OPWL will be characterized to the greatest possible extent.

This FSP proposes that for each test pit, boreholes would be drilled along the trench. In addition to this, the FSP needs to include the contingency to drill boreholes perpendicular to the pipelines at least for those locations where evidence of releases is encountered. Only in this manner, can DOE determine the direction and extent of the spread of a release.

This workplan fails to address characterization of soils within the vadose zone. This is a very important component of the FSP, since it would provide information needed to evaluate the extent of soil contamination within the vadose zone and to study the fate and transport of contaminants in the subsurface. It is EPA's position that the FSP needs to include a vadose zone monitoring program. EPA recommends DOE use the results of test pits and borehole sampling activities to focus vadose zone monitoring on areas which are found to be contaminated.

This workplan needs to explain how the risk assessment and environmental evaluation process, and the phase I/phase II scheme set up in the IAG fit together. While all field activities should be designed and conducted to support completion of a risk assessment and environmental evaluation, this phase I effort is restricted to source definition in support of closure. The information obtained will be utilized in assessing risk from this OU, but may not be sufficient to conclude that task nor to conduct environmental evaluations. Some exposure pathways may not be ready for full evaluation until after phase II when characterization information on other transport media such as ground water, surface water, air and biota is gathered.

In addition, the BRA presented in this workplan consists of a generic guidance or approach to be followed when evaluating the potential human risks and environmental impacts associated with a given site. Site-specific conditions are not discussed in detail nor are methods provided for dealing with site-specific conditions. The BRA needs to be revised to consider and discuss site-specific conditions and applicable approaches.

Specific Comments

Section 2.2.2.2, Operation, page 2-5. The text states that process wastes from the OPWL were forwarded to the process waste treatment facility (building 774). It is unclear whether wastes from all buildings using the OPWL were transferred to building 774. The text should state the extent to which OPWL waste was treated by building 774 and if any other treatment facilities were used.

Section 2.5.1, Conceptual Model, page 2-23. Soils and groundwater can both be directly impacted by a release of contaminants from the tanks and pipelines. This conceptual model should account for this possibility and should recognize that soils and groundwater can serve as a secondary contaminant sources.

Section 2.5.2.1, Pipeline Releases, page 2-26. This section states that the hypothetical plume for a 500 gallon release would extend approximately 300 feet along the trench. It is unclear how this 300 feet was calculated. This section needs to present the respective calculations.

In addition, the release volume of 500 gallons may be too liberal since smaller releases of highly concentrated contaminants would not travel as far and may not be detected if a 200-foot sampling location interval is used. Therefore, soil sampling locations should be located closer than 200 feet. DOE should re-evaluate and justify its assumptions concerning release volume and extent of the release.

Section 3.0, Applicable or Relevant and Appropriate Requirements. DOE is in the process of preparing a site-wide document defining all potential ARARs. EPA reserves the right to comment on this section until the draft document of potential site-wide ARARs is completed and submitted to the regulatory agencies.

Section 7.2.2, Analytical Rationale, page 7-2. This section states that PCBs and pesticides are not included on the phase I analyte list for OU 9. However, Table 2.6 states that, for some buildings, there is a possibility that PCBs were discharged to the OPWL. Also, the text states that the assumption regarding the absence of PCBs and pesticides could change in the future if they are detected. Yet if they are not being analyzed for, they can not be detected. Therefore, stage 1 sampling activities must include analysis for these contaminants. If it is determined that these contaminants are not present during stage 1, then analysis for these parameters can be omitted for stage 2 sampling activities.

Section 7.2.4.1, Objectives, page 7-4. One of the objectives listed in this section is to compile additional data for the identification of pumped (force-flow) waste lines. Earlier, in Section 2.0, the OPWL is described as using only flow under

gravity drainage. DOB should explain this inconsistency.

Table 7.1. Table 7.1 lists analytical parameters for stage 1 sampling activities at OU9. The table contains all wastes described as being transferred through the OPWL except for iodine, phosphate, and ammonium thiocyanate. These contaminants should be included in the analyte list.

Figure 7.1. Figure 7.1 depicts tentative sampling locations for OU9. The map does not show locations of past releases. The map should show the location of known releases from the OPWL.

Section 7.3.1.1. Stage 1 Investigation, page 7-7. This section needs to specify the number of samples per test pit to be taken from residue of pipelines, pipeline trench backfill and native soils beneath the pipeline trench.

Also, this section proposes a maximum spacing of 100 feet between each test pit to be excavated in areas where exact release locations could not be discerned from historical information. This contradicts section 7.3.1 which proposes a maximum spacing of 200 feet along pipeline alignments. This discrepancy needs to be resolved or explained.

It is more likely that surface soil contamination in the OPWL, if any, originated from other areas rather than from OPWL releases. Therefore, surface soil radiological survey should not be used to pinpoint test pit locations. Instead, field radiological survey should be used from the safety standpoint to avoid working or to take precautions when conducting field activities on a contaminated area.

If groundwater is encountered during the excavation of a test pit, EPA recommends taking groundwater samples. This would provide preliminary information on groundwater contamination which could be used when designing the Phase II FSP.

Section 7.3.1.2. Stage 2 Investigation, page 7-9. This section states that one of the objectives of stage 2 activities is to investigate the extent of contaminated vadose zone soils. However, the proposed field activities for stage 2 do not include a vadose monitoring program. This FSP needs to address vadose monitoring. EPA recommends that at least vadose zone monitoring be performed in areas found to be contaminated due to previous releases.

If contamination is encountered when excavating a test pit, then soil borings should be placed perpendicular to the pipeline, as well as along the trench. This is the only way to find out the extent and direction of the plume.

Section 7.4.2. Analytical Requirements, page 7-15. PCBs and pesticides must be included in the analytical parameter list during stage 1 activities. If it is determined that these

contaminants are not present in the OPWL, then analysis for these parameters must be omitted from stage 2 sample analysis.

Table 7.2. This table needs to be changed according to the comments on the FSP section.

Section 8.3.5. Exposure Point Concentrations, page 8-9. The risk assessment section discusses the use of models to describe the fate and transport of contaminants in determining exposure point concentrations. No specific models are mentioned. DOE should specifically reference models it may use to determine exposure point concentrations for the baseline risk assessment.

Section 9.1.3.1. Types, Condition, and Extent, page 9-10. The text states the control and management of the area for weeds allows limited plant growth. It should be noted that the application of herbicides could serve as a source of contamination for OU9.

Section 9.2.2.1. Collect and Evaluate Existing Site Data and Information, page 9-19. The text describes studies conducted at Rocky Flats on radionuclide uptake, retention, and effects on plant and animal, but does not provide a citation for the studies. References should be provided for all the studies to be used for basic information.

Section 9.3.2. DQOs for each activity, page 9-39: The text states that the general data quality objectives (DQOs) for the environmental evaluation are provided in section 9.1.2.3. There is no section 9.1.2.3 in the workplan and the discussion on DQOs should be provided.