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RESPONSES TO
COLORADO DEPARTMENT OF HEALTH COMMENTS
CONCERNING THE FINAL PHASE I
RFI/RI WORK PLAN DATED DECEMBER 1, 1992

ADMIN RECORD

ROCKY FLATS PLANT
700 AREA
OPERABLE UNIT NO. 8

U.S. DEPARTMENT OF ENERGY
Rocky Flats Plant
Golden, Colorado

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

ENVIRONMENTAL RESTORATION PROGRAM

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INTRODUCTION

The comments on the following pages were received from the Colorado Department of Health (CDH) as an attachment to U. S. Environmental Protection Agency, Region VIII cover letter dated January 14, 1993. These comments pertain to CDH's review of the document entitled Final Phase I RFI/RI Work Plan, 700 Area, Operable Unit 8 dated December 1, 1992. Responses follow each comment and indicate the position of DOE and the manner in which the comment was addressed. Also, where applicable, each response includes the disposition of the changes to the Final Phase I RFI/RI Work Plan dated December 1, 1992.

RESPONSES TO
COLORADO DEPARTMENT OF HEALTH COMMENTS CONCERNING THE
FINAL PHASE I RFI/RI WORK PLAN DATED DECEMBER 1, 1992
700 AREA
OPERABLE UNIT NO. 8

GENERAL COMMENTS:

1. The Division and EPA instructed DOE to incorporate selected PACs and PICs into all work plans, as identified in the Historical Release Report, per correspondence dated November 30, 1992 (G. Baughman & M. Hestmark to R. Schassburger). DOE may incorporate any PAC and PICS, specified in the referenced letter, directly into this work plan or submit a technical memorandum for their incorporation at a later date.

Response: Information regarding PACs and PICs will be addressed in a technical memoranda to the OU 8 Work Plan.

Specific Comments:

1. **Section 2.3.1:** Contrary to the statement in "Responses to Colorado Department of Health Comments Concerning the Draft Phase I RFI/RI Work Plan" (hereafter, Responses) the location of Building 730 has not been located and identified on each of the renumbered figures, i.e. Figures 6-4 and 6-5. Please locate and identify Building 730 on Figure 6-5. (Given the scale of Figure 6-4, Building 730 need not be labeled. Note: The renumbered figure in Section 2 is Figure 2-3, not 2-32; Building 730 is, however, identified on Figure 2-3.)

Response: Building 730 has been located and identified on Figure 6-4 and 6-5.

Figure 2-3 was improperly referenced as Figure 2-32 in the Responses at the top of page 7. The proper reference should be Figure 2-3

The location of IHSS 118.1 does not coincide between Figure 2-3 and 6-5. The location on Figure 6-5 appears to be in agreement with the recent information provided by Doty and Associates as indicated in the third paragraph of page 2-5. If the Doty location is the most reasonable, then Figure 2-3 needs to be altered to coincide with Figure 6-5. It appears that the concerns of the Division, as expressed in our third comment on this Section (See Responses, page 6), have not been considered in establishing the FSP. True, the FSP activities extend beyond either of the proposed IHSS boundaries, but it is not apparent

that surface flow direction, the impacts of underdrains, nor the direction of the release have be considered in laying out the FSP. These issues should be considered before actual field work is conducted to help focus the investigation and provide less reliance on a grid.

Response: IHSS 118.1 was relocated in Figure 2-3 to be consistent with the information presented in section 2.0 and with other figures in the work plan.

The proposed field work for IHSS 118.1 is part of the Stage 2 activities as described in the Final Work Plan and is considered adequate. Prior to implementation of Stage 2 activities, Stage 1 activities will be completed. Stage 1 primarily consists of detailed analysis of footing/under drains, surface water runoff, sanitary and storm sewer locations, and site walk throughs as described on pages 6-12 through 6-15 of the Final Work Plan. From this information Technical Memorandum 1 (TM 1) will be developed. TM 1 will supplement the FSP for Stage 2 activities and consideration will be given to modifying sampling locations and/or methods if applicable.

2. **Section 2.3.2:** According to the Responses, page 7, "Text has been changed to clarify the organic solvent and carbon tetrachloride tanks (emphasis added) are located in a bermed area...." Only the carbon tetrachloride tank is discussed in Section 2.3.2. The Division presumes that the carbon tetrachloride tank is the only one that leaked; however Section 2.5.3.3.1, page 2-133, continues to describe the source of contamination as "organic solvent tanks" and as a 30 by 70 foot area south of Building 776. Section 6.5.2 sheds some light on the issue by stating that carbon tetrachloride was released to the ground and that other solvents may have been stored at or adjacent to the site. Again the Division must presume that the "organic solvent tank" did not leak but may have contaminated the soil during filling operations. What should be done? First, if DOE is convinced that the 30 by 70 description is inappropriate it should be dropped from the discussion in Section 2.5.3.3.1 and replaced by the 30 by 20 foot description. Second, if the other solvents are an issue as discussed in Section 6.5.2, then they, and the tank that contained them, should be discussed in Section 2.3.2 as a "heads-up" to what FSP activities may be needed. Fortunately, in this case, we are concerned about organic solvents that require a common sampling approach; however, other IHSSs may require two or more basic approaches. Inconsistencies, such as those addressed above, must be removed from the document to ensure FSP adequacy.

-only one tank

-Ref. P. 6-39 Work plan

Response: *The issue of the source of information regarding organic solvent spills in this area, and the number of documents in which the original vague references to spills in this area is what has caused the confusion between the various sections of the work plan. The first references to spills in this area were documented in the 1985 CEARP Phase I report which presented recollections of Rocky Flats Plant (RFP) personnel regarding waste disposal, past releases, and spills at the RFP. These personnel had been interviewed and told that they would remain anonymous, and this was achieved. However, the preparers of the report did not utilize RFP engineering drawings, utility information, nor photographs of the plant to try to ensure that the recollections of interviewees were accurate. This, along with the fact that references to the personnel making the statements were specifically not included in the CEARP report, makes it nearly impossible to determine what an interviewee might have meant as opposed to what the interviewer thought the interviewee said. A great number of inaccuracies are known to be present in the CEARP Phase I report in terms of accurate location of release sites that were tied to some physical, and identifiable, location. This CEARP Phase I document discussed spills from organic solvent tanks in the south end of Building 776. In 1986 the release site was mapped as an area between Buildings 778 and 707. Building 778 is south of Building 776, and so already contradictions existed between what was written and what was indicated on drawings. However, when this site was investigated further it was found that there are, and have been, no organic solvent tanks in the south end of Building 776. It was found, though, that a carbon tetrachloride tank did exist in the area indicated as the release site in the 1986 mapping. No personnel were found that recollected spills of organics at the south end of Building 776, nor even in the general area in which the present carbon tetrachloride tank is located. It is also interesting to note that the supposed date of the organic spill from these tanks (1981) corresponds closely with the time at which the underground carbon tetrachloride tank (IHSS 118.1) was found to be leaking and removed. It is possible that the CEARP Phase I interviewee was confusing a number of different facts resulting in erroneous information tied to an existing tank that went into service about the time it is stated that it ruptured. The non-referenced nature of the CEARP Phase I report makes it impossible to re-contact the original interviewee and clear these concerns up. However, it is reasonable to expect that at times small spills or potential overfilling of the present carbon tetrachloride tank did take place. Based on the above it was determined that the most reasonable reconciliation of the available data was to identify the location of the present carbon tetrachloride tank as the IHSS. There should be no references to organic tanks in the south*

end of Building 776, nor to multiple tanks at all. The present carbon tetrachloride tank is located within a berm.

3. **Section 2.3.6:** Two releases are described for this IHSS. A 1976 release occurred adjacent to Building 727 while a 1990 release was located at Building 756 (Building 756 is not shown on pertinent figures). The 1976 release is represented to be within the area shown on Figure 2-8 while it appears the 1990 release is not mapped. Section 2.4.1.6 meanwhile indicates, probably correctly, that the IHSS consists of two non-contiguous areas. The two areas are shown on Figure 6-9. Building 756, described as the site of the 1990 release, is shown on neither Figure 2-8 nor Figure 6-9. Section 2.4.1.6 then references the 1990 release as being a 10 by 20 foot area east of Building 785, not 756. Building 785 is also not shown on the figures. Finally, the 1990 release is shown on Figure 6-9 as being east of a Building 783 which is never mentioned in the text. Is Building 785 really 783 or vice versa? Based on the confusing descriptions and omissions, which the Division has just attempted to unravel, we are not assured that the 1990 release is properly located. Clearly, the FSP is intended to sample for the 1990 release, but is it properly located? DOE must unravel this confusion, confirm that the 1990 release site is properly located, and update each section as necessary to provide a concise description.

Response: The current Building 779 cooling towers were built recently (1986) and are not on any drawing in this work plan. The 1990 spill was referenced to the building (cooling tower) closest to the spill. The references to Building 756 is simply an error that was not corrected, references to Building 756 should be to Building 785 or to the Building 783 Cooling Tower #2. Building 783 is the pump house for four Building 779 cooling towers. The cooling towers are known both by cooling tower numbers referenced to Building 783, and by building numbers assigned to the cooling towers themselves. So, Building 786 is also known as Building 783 Cooling Tower #1; Building 785 is also known as Building 783 Cooling Tower #2, Building 787 is also known as Building 783 Cooling Tower #3, and Building 784 is also known as Building 783 Cooling Tower #4. References to Building 783 are accurate since Building 783 is immediately west of the new Building 779 cooling towers. Building 785 does exist as does Building 783, and it is felt that the 1990 release has been accurately mapped. Building 783 is represented on Figure 6-9 somewhat larger than what it is in actuality. The smaller of the two indicated IHSS 138 areas on Figure 6-9 approximately corresponds to the 1990 spill. Figure 2-8 should be updated with the location of the

1990 spill, it currently only identifies the location of the 1976 spill. Figure 2-8 and 6-9 have been modified accordingly.

4. **Section 2.3.24:** The location of this IHSS remains suspect. The narrative, second paragraph, page 2-38 states that the IHSS should be at "a dock located in the southwest corner where Building 371 and Building 374 intersect." The "southwest corner" is presumed to be that of Building 374; however, Figure 2-26 shows the IHSS located on the southeast corner of Building 374. DOE must further resolve this inconsistency and determine the most appropriate location(s) for this IHSS.

Response: The difficulty with Figure 2-26 is that no differentiation is made between Buildings 371 and 374. In fact, the area on which "374" is located is really Building 371. Building 374's western boundary is located at approximately the western boundary for IHSS 188 indicated in Figure 2-26. So, the loading dock could be identified as in the area of the southeast corner of Building 371, or in the area of the southwest corner of Building 374. The location for this IHSS indicated in Figure 2-26 is accurate based on available information. Building 371 and 374 are shown labelled correctly on the base map of Figure 2-32. Other figures in Sections 2 and 6 all had the correct building configuration, however the labelling was incorrect. The applicable figures have been revised.

5. **Section 2.4:** The next to last paragraph of this section, page 2-40, contains a statement as follows: "when the upper tolerance limit was exceeded the concentrations were compared to the maximum concentration detected in background samples as an additional indicator of whether the concentration detected may be evidence of a release to the environment." If reference to maximum concentrations in background was considered significant, there would be no need or value in performing statistics. The Division will not support reference to maximum background concentrations as evidence against contamination.

Response: Comment acknowledged. Text has been added to Section 2.4 on page 2-40. The insert text has been typed in bold type and rather than reprint and repaginate Section 2.0, the added pages of text are printed to become page inserts following page 2-40. The inserts will also be document through DCN for Controlled Documents. If this method is unacceptable to either EPA or CDH, the entire section 2.0 will be reprinted and submitted at a later date.

6. **Section 2.4.1.3:** This section presents data on contaminants found in well P218089 at a distance 400 feet downgradient of the IHSS. The concluding paragraph on page 2-51 notes, however, that the lack of data "hinders any meaningful interpretation". If data from P218089 is not meaningful why discuss it and confuse both the regulators and the implementing contractor. It is acceptable to state, at the outset, that meaningful downgradient data does not exist. Then it is possible to focus on contaminants that are typical to process waste waters not contaminants that probably came from a different source. Please focus the workplan on real versus imaginary concerns by removing unnecessary discussions in this section and, as appropriate, other sections.

Response: The discussion concerning well P218089 is based on "factual" and best available information from existing data and chemical analyses. The discussion presents the compilation of available data in the area of IHSS 123.1. The "fact" that the well is 400 feet away and is the closest downgradient well is not meant to be confuse anyone, it simply provides a illustration of the magnitude of the data gaps in this area. Overall this information is of real value and most likely will be utilized as part of the later stages of the Work Plan concerning decisions on location of soil borings, piezometers, and monitoring wells.

7. **Section 2.4.1.9:** In the first paragraph of this section it is stated that "IHSS 144(N) consists of four underground waste holding tanks located..., in a small structure identified as Building 730. Section 2.3.9 points out that IHSS 144(N) is related to the tanks but is actually "the location of the cleanout plug overflow east of Building 730." (Please note, the Responses states that the "Cleanout plug is inside building and not covered in the Work Plan. Which statement is correct?) Section 2.4.1.9 should be clarified to ensure an understanding that the tanks are not being investigated as part of the operable unit. Section 6.5.9 suggests that the underground tanks themselves have leaked, however, this is not true based on the text of Sections 2.3.9 or 2.4.1.9. The tanks apparently backed up and flooded the vault in Building 776, but this is not the same as a leak or tank overflow at the site of the tanks, i.e., Building 730. Section 6.5.9 goes on to state that the ground surface west of IHSS 144(N) was also affected by the ruptured pipeline incident. If the tanks have actually leaked or overflowed then the FSP is totally inadequate for this IHSS. Also, if there is an additional area west of 144(N) then

DOE has yet another area to investigate. It appears that coordination between the authors of Section 2.3.9, 2.4.1.9, and 6.5.9 is weak, this must be resolved and the true focus of the investigation must be clarified.

Response: Regarding the four tanks themselves, it seems reasonable to expect that leakage from these tanks has taken place, regardless of whether such leaks have been documented or not. The text of Sections 2.3.9 and 2.4.1.9 should not be interpreted to say that the tanks did not leak. The tanks are below ground, and so waste will flow to them by gravity out of Building 776. The tanks, but not the vault in which they are contained, were overflowed in the course of fighting the 1969 fire, but this was not the source of soil contamination east of Building 701. Soil east of Building 701 was contaminated by leakage to the outside environment from inside the building. The text of Section 2.4.1.9 can be modified to clearly state that the tanks themselves are not a part of this OU investigation.

8. **Figure 2-9:** The Condensate Holding Tanks should be labeled IHSS 139.1(N) comparable to Figure 2-10.

Response: Figure 2-9 has been corrected.

9. **Figure 2-17:** The camera view point for this figure is questioned. If the light blue and white trailer in the photograph is T778A, it should be aligned east-west as shown on the drawing rather than north-south as suggested by the photograph. Since IHSS 150.4 adjoins the trailer, it is difficult to pinpoint the location from the photograph. Please verify the camera view point or whether the photograph is from this location.

Response: The light blue and white trailer in the picture is trailer T707B. However, T707B is not shown on the map, but has been added. The IHSS location and photo orientation for Figure 2-17 is correct and consistent with the revised location of IHSS 150.4 from the HRR and supporting documentation collected for OU 8 (see Appendix B vol. II of the Final OU 8 Work Plan). IHSS 150.4 is located just in front of the doorway of building 778 immediately to the right of the blue and white trailer. There is no building "T778A", the area labelled as "T778A" was a mistake carried over most likely from a digitizing mistake and then subsequent enlargement (electronically) of the building base map. Upon inspection of aerial photographs, other plant facilities maps, and field verification, the area between building

778 and 707 has been modified and corrected on Figure 2-17. This modification affects the building base maps as presented in the OU 8 work plan, however because the modification is relatively small in scale in relation to the other areas of interest at OU 8, replotting each figure in OU 8 is unwarranted. Instead the modification will be verified again and the correction will be passed along to the EG&G ERM Graphics and GIS department. They will then make the correction to the building base maps used by Environmental Restoration. Future usage of the building base maps, especially for Technical Memorandum, will then have the correction incorporated.

10. **Section 2.5.3.1.1:** IHSS 135, page 2-121, appears to be more related to Group II (*Group II is typo - should be Group III, see p. 2-112*), Above Ground Surface releases. As stated, "the only known release involved use of a ... cooling tower pond." "Overnight, some of the water leaked through the dirt dike and gate valve and drained into Walnut Creek." Clearly the FSP, Section 6.5.4, treats this IHSS as a surface release. It states that soil borings will be installed, but immediately contradicts this statement by adding "If soil borings are required...." The *requirement* that borings be completed presumably would depend on the proposed surficial soil samples. If IHSS 135 is, or has the potential for, a below ground release, borings are not optional.

Response: The primary reason for IHSS 135 being described within Group I releases is the inherent association of the Cooling Tower area to process waste waters and transport of those waters through underground piping. Both Group I and III classifications provide overlap with regards to leaks and spills. Though no recorded leaks have been documented as occurring from underground sources, the potential for below ground releases does exist. Section 6.5.4 which mentions the installation of soil borings has been changed to be consistent, however Technical Memoranda No. 2 will still specify the number and locations of the soil borings.

The discussion of IHSS 150.4, page 2-123, has not been updated to reflect that an overhead pipeline was found to be leaking thus resulting in radionuclides in the sump. This IHSS, therefore, is an Above Ground Surface release which appears to have secondarily affected soils below ground. Investigation based on both scenarios, Group I and Group III, is appropriate.

Response: The detailed description of IHSS 150.4 is presented in Section 2.4.1.13. The description of IHSS 150.4 in the following sections of the Work Plan is summarized from the previous more detailed historical account. Ambiguity exists over the interpretation of the description on page 2-83 of the "leaking process waste line located above the sump.", thus, IHSS 150.4 was already included in both Group I and Group III areas (see pages 2-123 and 2-135, also Figure 2-34).

11. **Section 2.5.3.1.2: Vadose Zone:** Vadose water, like surface water and ground water, is a transport medium. The vadose zone doesn't move, just the water in it. Please refer to vadose water in future revisions .

Response: Comment acknowledged. Future references will utilize vadose water as a transport media. The existing Work Plan will be upgraded using the Document Control Notice procedure for Controlled Documents.

12. **Section 2.5.3.3.1:** It is unclear why IHSS 163.2 is included in Group III, Above Ground Releases, when the issue is a buried concrete slab. The original site of the slab, approximately 30 feet north of Building 771, would qualify as a Group III release. The Division questions why the decontaminated slab is of apparent greater concern while its original location is not included in the investigation. The Historical Release Report for PAC 700-163.2 (IHSS 163.2) states that an environmental report for 1973 does not indicate impacts to the soil; however, this does not preclude the potential for soil contamination. Unless the slab provided viable secondary containment, the soil surrounding the slab warrants investigations. The Division and EPA has completed its analysis of PACs and PICs for inclusion into the various work plans. The Division considers the original site of the concrete slab to be part of PAC 700-163.2 and hereby instructs DOE to plan an investigation of possible soil contamination.

Response: IHSS 163.2 is categorized under Group III because the original incident leading to the contamination of the buried slab was an above ground release. The slab was subsequently decontaminated and buried. The concern for the buried slab is, where exactly is it located and was the decontamination of the slab sufficient. DOE acknowledges the concern for soil contamination in and around the original slab area, however this area already has complete investigative coverage by portions of IHSS 172 and IHSS 150.1 (see Figure 6-11). The investigation of these IHSSs already includes soil

sampling, soil gas surveys, radiation surveys, and potential soil borings. Efforts have been made to consolidate field sampling where overlap exists between individual IHSSs. If specific information about the original location of IHSS 163.2 is required or adjustment to the proposed sampling locations is necessary, the scheduled Technical Memorandum for OU 8 would provide the appropriate forum to disposition these concerns.

13. **Figure 6-5:** Since the sampling proposed around the Nitric Acid Dumpster is not specifically an investigation of IHSS 139.2, it would be appropriate to label the site "Nitric Acid Sampling" or a comparable wording. For the record, the Division specifically agrees that sampling of IHSS 139.2 is unwarranted given the fact that Hydrofluoric Acid has not leaked to the ground and filling operations are not conducted on site. Any contamination of IHSS 139.2, if present, would be from other operations not from the site's functions.

Response: Comment acknowledged. Future references to this area will be addressed as "nitric acid sampling". The existing descriptions in sections 2.4.1.8 and 6.5.8 provide sufficient clarity for the purpose of the sampling activities around the nitric acid dumpster.

14. **Section 6.2:** The statement is made in the first paragraph that "No data have been previously collected at OU8 IHSSs." However, the fourth bullet on page 6-4 states that "RFEDS analytical data that are applicable to OU 8 include the presence of the contaminants in quantities above the maximum background concentration for RFP" will be used as a rationale to select the analytes of concern. The first statement suggests that there is no applicable data. Furthermore, concentration levels below maximum background are not an appropriate rationale. Concentration levels below upper tolerance limits are an acceptable rationale but it would appear impossible to determine, from the RFEDS data, whether a given IHSS has concentrations above or below the tolerance limits. If DOE has actually eliminated an analyte of concern based on this maximum background rationale, the analyte must be added to the analyte list.

Response: The statement that "No data have been previously collected at OU 8 IHSSs." is a true statement and is illustrated in Figures 2-27 and 2-32. There is no attempt to imply that data outside or adjacent to OU 8 IHSSs were not considered. On the contrary a very thorough evaluation of the existing data was performed and this included a detailed review of RFEDS data. Equal consideration of all the

bulletized information presented on page 6-4 was given to select analytes of concern (see response to CDH comment number 5).

15. **Section 6.4.2.1:** Contrary to statements on pages 6-18 and 6-20 that vertical profile samples (VSPs) are proposed for exposed soils, it appears that some paved IHSSs are scheduled for VSP sampling. For example, note IHSSs 150.3, 150.4 and 150.7. Please review each IHSS and determine the appropriateness of VSPs at paved IHSSs.

Response: Comment acknowledged. Provisions are already built into the Work Plan for accommodating VSP locations that fall onto paved areas. Also, the VSP locations are dependant on the evaluation of the HPGe results. Each IHSS will be reviewed prior to field implementation and VPS locations adjusted accordingly. CDH and EPA will be updated on any changes to the FSP.

16. **Section 6.5.1:** Figure 6-5 shows, in addition to soil gas sampling locations, three surficial soil sampling sites, an HPGe station and associated Vertical Soil Profile (VSP) station. Neither the Stage 2 or 3 descriptions, page 6-39, discuss the latter sampling. Why are surficial soil samples being collected at this VOC site and why are they located only in the northern portion of the IHSS? Why is HPGe and VSP being conducted when there was no previous mention of radionuclides? Is it because radionuclides were above background in the downgradient well? If screening for radionuclides is needed, a discussion of the surficial soil sampling, HPGe and VSP should be discussed in this section.

Response: The sampling locations for surficial soil sampling, HPGe, and VPS are sampling efforts for IHSS 144(N) described on page 6-46. The location of these samples happens to overlap in the vicinity of IHSS 118.1.

17. **Section 6.5.7:** Section 2.3.7 states that the KOH tank is still present; consequently, sampling should be directed, if possible, to the specific location of spills based on fill connections, staining, surface flow direction, etc. The specified grid locations may and should be altered if such physical evidence permits a more focused sampling plan.

Likewise, the two locations of the southern most IHSS 139.I(N), Figure 6-10, site may need to be adjusted since the NAOH tank is still present.

Response: Comment acknowledged. Following field inspections the sampling locations may be altered depending on physical evidence. Both EPA and CDH will be advised prior to initiating sampling at new locations.

18. **Section 6.5.8:** It will be necessary to document in the RFI/RI Report that Hydrofluoric Acid was always and is presently stored in cylinders. Releases to air, only, must be substantiated or degradation of the acid in the environment must be confirmed to warrant a Finding of No Significant Impact (FONSI).

Response: Comment acknowledged.

19. **Section 6.5.12:** The implementation of the plan is questioned for this IHSS. The Division presumes that the surficial soil and soil gas samples will be taken from beneath the tunnel which will necessitate cutting through or removing the concrete slabs. It is unclear whether the surficial sampling will be of the subgrade material, if any, or of the native soil. It would appear to be appropriate to sample any subgrade material since it may have been contaminated as a result of leaks in the tunnel.

Response: No intrusive work e.g. cutting through concrete or removing slabs are contemplated, nor is access into the tunnel considered. Both options are limited primarily for health and safety reasons. However, work such as the soil gas survey would be oriented at an angle to the tunnel with access on the north side of the IHSS. Because of the physical limitations and restrictions for this particular IHSS, a more detailed approach will be addressed and included as part of Technical Memorandum No. 1 as described in Section 6.4.1.4. The implementing subcontractor will be required to provide innovative approaches to dealing with the intrusive work that will be required for IHSS 150.3.

Will it be possible to collect the Stage 3 soil borings and groundwater samples from within the tunnel to a sufficient depth or is drilling outside the tunnel contemplated?

Response: Soil boring locations will be determined from the initial staged activities and the specific locations are to be presented in Technical Memorandum No. 2 following Stage 2. Drilling will most likely occur outside of the tunnel.

Also, our understanding is that vertical soil profiles (VSP) are irrelevant to confirm HPGe readings when the area to be surveyed is covered with concrete or asphalt.

Response: Utilization of the HPGe in this case will be to confirm the presence/absence of potential radioactive contamination at the surface of the IHSS area.

DOE should clarify the implementation of activities for the benefit of field personnel and determine the need for VSPs.

Response: Part of the implementation process for the subcontractor will be to address special concerns and implement proposed solutions. Both EPA and CDH will be involved throughout these processes.

20. **Section 6.5.16:** Since the fuel oil tank is still present; sampling should be directed, if possible, to the specific location of spills based on fill connections, staining, surface flow direction, etc. The specified grid locations may and should be altered if such physical evidence permits a more focused sampling plan. Given the photograph on Figure 2-21, it does not appear possible to conduct sampling on the planned grid. Please verify the appropriateness of the plan.

Response: Comment acknowledged. The planned grid locations are outside the perimeter extent of the concrete slab as shown in Figure 2-21. Following field inspections the sampling locations may be altered depending on evidence of contamination and physical layout of the area. Both EPA and CDH will be advised prior to initiating sampling at new locations.

21. **Section 6.5.19:** The effectiveness of the NAI probe to determine radionuclide contamination within the asphalt of paved roadways or beneath the paved ditch is doubtful given the expected attenuation by the asphalt. Also, the planned VSPs are inappropriate for HPGe calibration for paved areas. However, surficial sampling of soil or sediment in the ditch and asphalt cores from the roadway may be useful in determining whether contamination still exists as a result of the spill. DOE must reformulate the investigation strategy and select options with the technical ability to detect radionuclides. Only the west and northbound lanes of the affected roadways need be investigated; this should effectively reduce the number of samples necessary to support an eventual ROD.

Response: The planned investigation of IHSS 172 is going to be further evaluated within Technical Memorandum No. 1. Since this investigation has the potential to affect a large area and also require intrusive work to obtain samples, application of the NAI survey was considered a good first step

of the investigation. Also, if CDH wants to limit the area of investigation to the northbound lanes and affected roadways, will the IHSS boundaries be formally changed by CDH or EPA for IHSS 172 or will the original IAG locations continue to be utilized.

22. **Section 6.5.21:** The description of Stage 2 activities does not fully coincide with those depicted on Figure 6-13. Specifically, radiological investigation of the outfall and 400 linear feet of unlined ditch are not shown. The Division notes that the location of IHSS 184 has been changed such that the unlined ditch, as shown in the draft work plan, may warrant a revised investigation approach. Based on the description in Section 2.3.23, DOE must determine where the wash water was discharged to the "unlined ditch" and conduct HPGe and sediment sampling along the ditch until HPGe results indicate the stream to be uncontaminated. Whether steam cleaning occurred in building 991 or outside, the fate of potential contaminants in wash water discharges appears to be more significant and warrants a clearly defined investigation. Nevertheless, it remains appropriate to investigate the possible outside wash area in a manner which reflects surface conditions at the time of such activity. In Stage 1, DOE must determine whether soil sampling beneath the asphalt is appropriate or gather evidence for submission in the RFI/RI Report that mitigates the need for such sampling.

Response: Details for an approach to this area will be determined and summarized as part of Stage 1 and the Field Sampling Plan will be included in Technical Memoranda No. 2 in Stage 2. If sampling is warranted, it will be performed in Stage 3 of the investigation.

23. **Section 8.0:** In the Responses document, page 32, the following statement was given concerning DOE's future ecological land use plans and on-site residential use. "At the 8/24/92 meeting DOE stated that a scenario considering on-site residents in the industrial area as not reasonable for the future land use and risk assessment." Although the above statement was made, it was not accepted by the Division as reported in the minutes to the 8/24/92 meeting, dated 11/5/92. **The OU8 RFI/RI Report will not be approved if the residential use scenario is omitted from the Baseline Risk Assessment.**

Response: Application of the residential scenario is not reasonable for the Rocky Flats Plant industrial area given the current and probable future uses of the site. Thus, a quantitative evaluation of the residential scenario will not be incorporated in the baseline risk assessment for OU 8.