Colorado Department of Health

Hazardous Materials & Waste Management Division

Comments

on

FINAL

PHASE I

RFI/RI WORK PLAN

FOR

ROCKY FLATS PLANT

700 AREA

Operable Unit NO. 8

DECEMBER 1, 1992

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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.

Specific Comments:

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.)

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

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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.

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.

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

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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.

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.

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.

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.

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 "Clean-out 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

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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.

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

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.

Section 2.5.3.1.1: IHSS 135, page 2-121, appears to be more related to Group II, 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 competed 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.

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.

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.

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

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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 a part of PAC 700-163.2 and hereby instructs DOE to plan an investigation of possible soil contamination.

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.

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 OU8 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.

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.

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

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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.

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 139.1(N), Figure 6-10, site may need to be adjusted since the NAOH tank is still present.

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).

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.

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?

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.

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

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.

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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.

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.

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.**

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