

R-014-208.3

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**RESPONSE TO THE U.S. EPA COMMENTS K-65
DECANT SUMP TANK REMOVAL ACTION WORK
PLAN**

12-11-90

**DOE/USEPA
8
REPORT**

K-65 Decant Sump Tank Removal Action Work Plan

1. U.S. EPA Comment:

The Work Plan states that it is consistent with OSWER Directive 9360.0-03B, Superfund Removal Procedures -- Revision 3. This directive helps determine when a removal action is appropriate but has limited discussion of areas to be addressed in a remedial design (or removal action) work plan. OSWER Directive 9355.0-4A, Superfund Remedial Design and Remedial Action Guidance, should be reviewed and used in future remedial design (removal action) work plans.

Response:

No modification required. The format or content of Removal Action Work Plans are not defined in any current EPA guidance documents. At the FMPC, Removal Action Work Plans are commitments as stated in the CERCLA Consent Agreement, Section IX subpart B. The OSWER Directive 9355.0-4A, Superfund Remedial Design and Remedial Action Guidance will be referenced for generation of Remedial Design/Remedial Action (RD/RA) Work Plans. Also, it should be noted that the above referenced guidance document pertains to Fund-financed Remedial Design/Remedial Actions. The RD/RA at the FMPC are not Fund-financed activities.

2. U.S. EPA Comment:

As discussed in the Superfund Remedial Design and Remedial Action Guidance, a preliminary design submission (approximately 30% complete) should be submitted.

Response:

No modification required. As stated previously, the above referenced guidance document pertains to Fund-financed Remedial Design/Remedial Actions. The design activities will be completed in accordance with best engineering practices, applicable DOE orders, and the 1990 CERCLA Consent Agreement.

3. U.S. EPA Comment:

U.S. EPA Superfund Remedial Design and Remedial Action Guidance requires cost estimates to be completed and submitted at the preliminary and final design stages.

Response:

No modification required. As stated previously, the above referenced guidance document pertains to Fund-financed Remedial Design/Remedial Actions.

4. U.S. EPA Comment:

Time-frames should be expressed in calendar days, not working days.

Response:

Will modify schedule.

5. U.S. EPA Comment:

Eighty five working days to complete this removal action appears to be excessive. Specific activities seem to have been allocated an excessive time period when considering the description in the work plan.

Response:

Will modify schedule based on the current method presented in the revised work plan.

6. U.S. EPA Comment:

The work plan does not specifically address the type of treatment. The discussion of treatment in the work plan seems to describe initial treatment in the general sump area. If this is correct, it is unclear how the decant sump liquid will be collected to undergo ion exchange treatment. In addition, the work plan does not explain what will necessitate treatment of the decant sump tank liquid by ion exchange.

Response:

Will modify. The decant sump liquid sample taken in October 1990 was analyzed for the Full Hazardous Substance List (HSL) Parameters and total radionuclides. The preliminary sample results indicated that there are no appreciable amounts of volatile or semi-volatile organic compounds present in the decant sump liquid. The work plan will present the required water treatment consistent with the available analytical data. An existing water treatment facility at the FMPC will be utilized.

7. U.S. EPA Comment:

If VOC treatment is required then the schedule and activities to be completed will need to be submitted to EPA.

Response:

No modification required. A decant sump liquid sample taken in October 1990 was analyzed for

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the Full Hazardous Substance List (HSL) Parameters and total radionuclides. The preliminary sample results indicated that there are no appreciable amounts of volatile or semi-volatile organic compounds present in the decant sump liquid.

8. U.S. EPA Comment:

Section II - 1.0, Page 1 Paragraph 3: Although it requires no action on the part of DOE, it is interesting to note that this section of the work plan states that there is no reason to believe the integrity of the underdrain system, decant tank, or corrugated pipe have been compromised. This is contrary to the information provided by DOE in a September 26, 1990 meeting concerning the sampling of the decant sump tank.

Response:

No modification required. There is no data which would indicate that the integrity of the system as a whole has been compromised which would affect the operability of the system. Also, there is no data indicating that there has been a break in the system which could release water to the surrounding soil.

9. U.S. EPA Comment:

Section II - 4.0, Page 2, Paragraph 7: This section mentions treatment of the liquid for volatile organic compounds (VOCs) but does not provide any specific treatment processes. The work Plan must at a minimum present treatment options.

Response:

Will modify. The decant sump liquid sample taken in October 1990 was analyzed for the Full Hazardous Substance List (HSL) Parameters and total radionuclides. The preliminary sample results indicated that there are no appreciable amounts of volatile or semi-volatile organic compounds present in the decant sump liquid. The work plan will present the water treatment consistent with the available analytical data.

10. U.S. EPA Comment:

Section III - 2.0, Page 3, Paragraph: The tank was reportedly sampled on October 5, 1990 (teleconference with U.S. DOE and Westinghouse on October 4, 1990). The schedule in attachment 1 to this work plan reports it will take 22 days to complete analysis on the decant tank samples. Therefore, the results should be available to determine the need and type of treatment. The analytical results should be submitted to EPA along with the sampling methods and quality assurance procedures used to obtain and analyze this sample. This information should be submitted to EPA prior to collecting the liquid from the decant sump tank.

Response:

Will modify. The decant sump liquid sample taken on October 30, 1990 was analyzed for the Full Hazardous Substance List (HSL) Parameters and total radionuclides. The preliminary sample results indicated that there are no appreciable amounts of volatile or semi-volatile organic compounds present in the decant sump liquid. The work plan will present the water treatment consistent with the available analytical data.

The preliminary analytical results are included as an attachment to the modified work plan. As stated in the work plan the collected samples were sent to an independent laboratory for analysis as established in the Quality Assurance Project Plan (QAPP) approved as part of the RI/FS Work Plan.

11. U.S. EPA Comment:

Section III - 3.0, Page 3, Paragraph 3: The detailed design drawings (scheduled to be completed in 38 days) seems excessive for this operation. Presumably the pump, hoses, fittings, and polypropylene tank are readily available from vendors and will not require detailed design drawings. Furthermore, 38 days for the design of the temporary berm (if needed) also seems excessive.

Response:

Will modify schedule based on the current method presented in the revised work plan.

12. U.S. EPA Comment:

Section III - 3.0; and Section IV - 1.0: The discussion of secondary containment should be expanded to describe more fully how this containment will or will not contain air emissions. The expected air emissions, with respect to 40 CFR Part 61, should be specified. Section 3.2 of the Health and Safety Plan briefly discusses the use of a HEPA filter on the receiving tanks. Other potential release points should also be discussed. Diagrams of the actual containment would be helpful.

Response:

Will modify. The current method for removal of the liquid from the decant sump tank does not include receiving tanks. The current method, as defined in the revised work plan, is based on field inspections of the K-65 decant sump system conducted when the sample of decant liquid was collected and availability of a reconditioned acid tanker truck, currently not in use at the FMPC. The tanker truck was previously used to transport acid. The current method will utilize a submersible sump pump which deletes the necessity of secondary containment for the pump.

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13. U.S. EPA Comment:

Section III - 3.0, Paragraph 3: The work plan should state that the sampling described in this section is in addition to the sampling described in Section III - 2.0 of this work plan.

Response:

Will modify. A sentence will be added to Section III - 3.0 stating that the sampling described in this section is in addition to the sampling described in Section III - 2.0 of this work plan.

14. U.S. EPA Comment:

Section IV - Section 2.0: The work plan does not clearly state how long the decant liquid will be stored in the storage tanks in Plant 2/3 before it is treated. What will be the treatment levels for all contaminants, including uranium, radium and thorium?

Response:

Will modify. The current method, as defined in the revised work plan, is based on field inspections of the K-65 decant sump system conducted when the sample of decant liquid was collected and availability of a reconditioned acid tanker truck, currently not in use at the FMPC. The tanker truck was previously used to transport acid. The current method will include transporting the liquid directly to the place of treatment, therefore, there will not be any diked areas or the five polypropylene tanks in Plant 2/3. The effluent discharge limits to Manhole 175 will be the DOE Derived Concentration Guidelines (DCGs) as stated below and will be in accordance with the currently approved FMPC NPDES Permit.

<u>Radionuclides</u>	<u>DOE DCG (p Ci/l)</u>
Pb-210	30
Th-228	400
Th-230	300
Th-232	50
Ra-226	100<
Ra-228	100<
U-233	500<
U-234	500
U-235	600
U-236	500
U-238	600

15. U.S. EPA Comment:

Section IV - 2.0, Page 5, Paragraph 2: Because the analytical results of the sampling described in Section III -2.0 of this work plan should have been available on October 27, 1990. EPA should be notified of the results and the need for VOC treatment. If VOC treatment is necessary then plans should specifically describe the type of treatment to be used.

Response:

No modification required. The preliminary analytical results are included as an attachment to these responses. The decant liquid sample taken on October 30, 1990 was analyzed for the Full Hazardous Substance List (HSL) Parameters and total radionuclides. The preliminary sample results indicated that there are no appreciable amounts of volatile or semi-volatile organic compounds present in the decant sump liquid.

16. U.S. EPA Comment:

Section IV - 2.0, Page Paragraph: Because radionuclides are expected to be in the decant sump tank liquid, DOE should provide specific treatment processes which will be needed. In addition the design and procurement of this treatment unit should be considered in the specific design activities section of this work plan.

Response:

Will modify. The decant sump liquid sample taken on October 30, 1990 was analyzed for the Full Hazardous Substance List (HSL) Parameters and total radionuclides. The preliminary sample results indicated that there are no appreciable amounts of volatile or semi-volatile organic compounds present in the decant sump liquid. The work plan will present the water treatment consistent with the available analytical data. An existing water treatment facility at the FMPC will be utilized, therefore, design and procurement of a treatment unit does not need to be considered.

17. U.S. EPA Comment:

Section IV - 3.0, Page 5, Paragraph 4: The work plan should specify the construction of the tank (covered or uncovered) as well as a program to meet requirements of 40 CFR 264 Subpart J (tanks).

Response:

Will modify. The current method for removal of the liquid from the decant sump tank does not include any receiving tanks at the K-65 Silos Area. The current method, as defined in the revised work plan, is based on the availability of a reconditioned tanker truck, currently not in use at the FMPC. The tanker truck was previously used to transport acid. The current method will include transporting the liquid via tanker truck directly to the Refinery tank F3E-222 or the Refinery Sump

tank F3E-408, based on the availability of the tanks.

18. U.S. EPA Comment:

Section V, Page 6, Paragraph 1: The monthly sampling should also include monthly measurements of the water level elevation inside the corrugated pipe.

Response:

Will modify. Monthly sampling of the decant sump tank will also include measuring the liquid level in the decant sump tank itself. Based on field inspections of the K-65 decant sump system conducted when the sample of decant liquid was collected, it was determined that the piping extending from the tank through the corrugated pipe is not affixed to the tank in any way as previously indicated by existing design drawings. Also, The twenty inch diameter manway in the top of the tank is open but appears to be partially blocked possibly by a piece of wood which may have been used as a work platform to bridge the tank opening.

19. U.S. EPA Comment:

Section V, Page 6, Paragraph 2: Two samples of the effluent should be taken to document the removal efficiency of the treatment system. Sampling should occur at the start-up and near completion of treatment.

Response:

Will modify. An existing water treatment facility at the FMPC will be utilized. Sampling of the liquid will occur prior to starting any water treatment. The specific water treatment will depend on the results from this sampling. Sampling the effluent will be in accordance with the FMPC policy and procedures, the FMPC Federal Facilities Compliance Agreement, the FMPC National Pollutant Discharge Elimination System (NPDES) Permit and applicable DOE orders.

20. U.S. EPA Comment:

Section V, Page 6, Paragraph 2: Analysis of liquid from the decant sump tank should also include chloride, sulfate, and Pb-210. These are some of the major constituents of the K-65 Silos which have been detected at elevated level in the ground water near the silos.

Response:

No modification required. The decant sump liquid sample taken on October 30, 1990 was analyzed for general water quality parameters, the Full Hazardous Substance List (HSL) Parameters and total radionuclides. The groundwater samples are also analyzed for general water quality parameters, the Full Hazardous Substance List (HSL) Parameters and total radionuclides.

21. U.S. EPA Comment:

Section VII, Page 6, Paragraph 4: This section should reference that sampling and analysis will be conducted in accordance with the RI/FS Quality Assurance Project Plan.

Response:

No modification required. This reference is included in the text of Section V.

22. U.S. EPA Comment:

Attachment 1: Three tasks in the schedule seem to have excessive time frames. First, the design of this removal action appears to be straight forward and does not require the production of detailed design drawings. Secondly, it is not clear why it requires 15 days to install and hook up the pump and set the collection system. If existing tanks are not to be used, then constructing the collection tanks can be started as soon as EPA approval is received and does not have to wait 45 days after EPA approval to start. Finally, it is not clear why it will take 22 days to pump the liquid from the decant sump tank. Using the information provide no more than six to eight days would seem to be sufficient to complete this task.

Response:

Will modify schedule based on the current method presented in the revised work plan.

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23. U.S. EPA Comment:

Section 3.2, Table 1: This table does not list radon-222 gas as an expected inhalation hazard, along with its limit and action level.

Response:

Will modify. Radon-222 will be included as part of this table. FMPC Environmental Monitoring Personnel continuously monitor radon at the perimeter fence around the K-65 Silos and this monitoring indicates that the specified working level action limits are conservative protection for radon gas based limits.