

0071751



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950

November 13, 2006

Mr. Mike Collins
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: A6-38
Richland, Washington 99352

Mr. Greg Sinton
Richland Operations Office
United States Department of Energy
P.O. Box 550, MSIN: A6-38
Richland, Washington 99352

- Re: 1. HNF-EDC-06-31322, *Processing Hanford Remote-Handled and Large Package Mixed Low-Level Waste and Transuranic Waste Engineering Study* WMP-30632
2. HNF-EDC-06-30656, *T-Plant Solid Waste Processing Center, Functional Design Criteria*, Fluor Hanford, 2006. HNF-29524

0071361

Dear Mr. Collins and Mr. Sinton:

The Department of Ecology reviewed the documents listed above that we received on September 29, 2006. The comments generated from that review are attached.

If you have any questions, contact Deborah Singleton at 509-372-7923, or me at 509-372-7970.

Sincerely,

Michelle Mandis, CHMM, PE
Nuclear Waste Program

pll

Enclosure

cc: Mark French, USDOE
Curtis Stroup, FH
Steven Joyce, FH
Stuart Harris, CTUIR
Gabriel Bohnee, NPT

Russell Jim, YN
Todd Martin, HAB
Ken Niles, ODOE
Administrative Record: M-91, T-Plant
Environmental Portal

RECEIVED
DEC 06 2006
EDMC



REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

Page 1 of 12

Document Number(s)/Title(s) <u>Processing Hanford Remote-Handled and Large Package Mixed Low-Level Waste and Transuranic Waste Engineering Study (ES)</u> <u>T-Plant Solid Waste Processing center, Functional Design Criteria (FDC)</u>	Program/Project/Building Number TPA Milestone M-91-05-T01	Reviewer J. Roberts O. Wang N. Uziemblo M. Mandis S. Szendre	Organization/Group Ecology/Chemistry Ecology/Engineering Ecology/S&T Ecology/Engineering Ecology/Permit Lead	Location/Phone NWP/372-7906 NWP/372-7932 NWP/372-7928 NWP/372-7970 NWP/372-7911
---	--	---	---	--

Comment Submittal Approval:

Agreement with indicated comment disposition(s)

Status:

Organization Manager (Optional)

Date

Reviewer/Point of Contact

Date

Reviewer/Point of Contact

Author/Originator

Author/Originator

Item	Page #, Line #, or Section and Paragraph	Comment (s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/problem indicated.)	Hold Point	Disposition (Provide justification if NOT accepted.)	Status
1.	ES p. 5.16	<p>Comment: Non-conforming waste, chemical in nature: Make sure spill control kits and procedures are in place to handle any free liquids found. Ecology agrees most waste will be handled at CWC, but non-conforming waste will be found.</p> <p>Justification: Non-conforming waste has already been found during Retrieval operations.</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

		Modification: Address data gap in document. (JR)			
2.	ES p. 5.16	<p>Comment: There is also no description of how non-conforming waste materials will be packaged and segregated prior to shipment to CWC; and how liquid wastes will be identified or categorized so operators know if it's an acid, base, or organic.</p> <p>Justification: Non-conforming waste has already been found during Retrieval operations.</p> <p>Modification: Address data gap in document. (JR)</p>			
3.	ES and FDC General	<p>Comment: These documents are adequate for conceptual and functional designs, obviously there is a long way to the final design (i.e., from "what they want" to "how they are going to operate"). What future actions and associated documentation will DOE perform to cross this gap between initial concept to final design to operating facility?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (OW)</p>			
4.	ES and FDC General	<p>Comment: The documents have some discussions on risk assessment, ALARA and safety analyses, but there are no evidence of design integration is in place. Maximum "maintenance-free periods" are required, but not specifically defined at this stage. Maybe the integration and additional warranty conditions will take place from now to the final design phase. I suggest several parallel "linear" reviews for future design work, including areas in ALARA, safety analyses, risk assessment, maintainability, etc.</p> <p>Justification: One can review the entire final design from ALARA (or safety) point of view. Sometimes, a system makes sense in ALARA, but may not in safety; then optimum compromise may be needed.</p> <p>Modification: The final design should address integration and optimization of all the design issues mentioned above (ALARA, safety, risk, maintainability,</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

		compliance, etc.): (OW)			
5.	ES General	<p>Comment: The re-design of T-Plant to process the LLW and transuranic waste is based on estimates of the volume of waste that will be 'retrieved' from Hanford. These volume numbers are presented with no uncertainty. What happens if these volumes are underestimated?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (NU)</p>			
6.	ES p. 2.3, table 2.2	<p>Comment: Is there a path for the item "9519114" that is too large for treatment and there is no existing capabilities available?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (NU)</p>			
7.	ES p. 2.5, section 2.2.2	<p>Comment: The waste generation from the WTP for normal operations and planned maintenance is give to start FY 2010. This date is likely too early with the new projected start of WTP.</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (NU)</p>			
8.	ES p. 2.11-12, section 2.5	<p>Comment: It appears Table 2.9 and Table 2.10 have about the same numbers and they should be different tables [one is gross weight and the other is waste weight]. The total by gross weight is ~ 6,300,000 kg and should be in Table 2.9, but this number is not.</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (NU)</p>			
9.	ES p. 3.2 section 3.1	<p>Comment: Should there be D, F, U, and P codes attached to the waste? The coeds are listed in this text as Dxxx, Fxxx, Uxxx, and Pxxx.</p> <p>Justification: See comment above.</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

		Modification: Address data gap in document. (NU)			
10.	FDC p. 1, section 1.2	<p>Comment: "Approximately 10,800 m³ of the estimated volume of MLLW and TRU waste will require treatment.... through SWPC prior to disposal." Page 3, section 2.0 "The SWPC will be able to process a minimum of 600 m³ of TRU waste and 300 m³ of MLLW waste per year. With this information, is the SWPC designed for ~+10 years to handle the 10,800 m³ of MLLW and TRU?"</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (NU)</p>			
11.	FDC p. 10, section 2.1.5.2	<p>Comment: Why is it assumed that twice as many men will work at the M-91 Facility as women?</p> <p>Justification: Comparing the design the change rooms, the men's change room is twice the size as the women's change room.</p> <p>Modification: Address data gap in document. (NU)</p>			
12.	FDC p. 12 and elsewhere	<p>Comment: The term "R-door" is used through-out the document.</p> <p>Justification: See comment above.</p> <p>Modification: Define this term. (NU)</p>			
13.	ES p. iii and FDC General	<p>Comment: How will waste out-side of the new M-91 Facility specifications/tolerances be treated?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
14.	ES p. iii and FDC through-out	<p>Comment: Is there any variance in the schedule planned? (Opportunities for acceleration or difficult tasks that may require additional time)</p> <p>Justification: See comment above.</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

		Modification: Address data gap in document. (MM)			
15.	ES and FDC General	<p>Comment: Will the M-91 Facility be able to process High-Level wastes (HLW) or spent fuels that are either RSW or due to CERCLA actions?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
16.	ES p. 1.1	<p>Comment: Add "RH-" to the "MLLW" bullet?</p> <p>Justification: See comment above.</p> <p>Modification: Change text. (MM)</p>			
17.	ES p. 1.2	<p>Comment: Add TRU component to M-91-42 discussion and update the dates after the TPA Negotiations are finalized.</p> <p>Justification: See comment above.</p> <p>Modification: Add/change text. (MM)</p>			
18.	ES p. 2.5 FDC General	<p>Comment: Have the delayed schedules of WTP, SST, DST projects and their impacts been considered and addressed in this document?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
19.	ES p. 4.1 and FDC General	<p>Comment: What is the status of commercial facilities to treat MLLW in containers up to 35 cubic meters? What facility? When?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
20.	ES p. 5.8 and FDC General	<p>Comment: What is the treatment/disposal path for Non-(LDR)-compliant MLLW that can not be treated commercially, thermally, or at the new M-91 Facility?</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

		<p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
21.	ES p. 5.9 and FDC General	<p>Comment: When will US DOE reach a decision/determination on where and how to process RH-waste and Large containers of CH-MLLW?</p> <p>Justification: As the document notes that many opinions/decision makers have not reached consensus about building and supporting the new M-91 Facility.</p> <p>Modification: Address data gap in document. (MM)</p>			
22.	ES p. 5.28 and FDC General	<p>Comment: Add "Regulatory documents" such as "Permit" and "Permit Modifications Modules" to the bullets listed in Section 5.10.</p> <p>Justification: Regulatory documents will be required for T-Plant operations and final disposition of the waste remaining in the facility's cells.</p> <p>Modification: Address data gap in document. (MM)</p>			
23.	ES p. 5.28 and FDC General	<p>Comment: Duplicate "The cost estimate includes 30% for contingency....." sentence.</p> <p>Justification: See comment above.</p> <p>Modification: Delete duplicate sentence. (MM)</p>			
24.	ES p. 5.28 and FDC General	<p>Comment: Are efforts to conduct and document Cell Assessments and Remedial Action Work Plans for the remaining wastes in the T-Plant cells part of the schedule and cost in modifying the T-Plant to the new M-91 Facility?</p> <p>Justification: Regulatory documents will be required for T-Plant operations and final disposition of the waste remaining in the facility's cells.</p> <p>Modification: Address data gap in document. (MM)</p>			
25.	ES p. 5.28 and FDC General	<p>Comment: As of late over 85% of the RSW in the 218-W-4C Burial Ground has required over-packing before it could be retrieved and transported to a TSD. Is there an assumption about the quantity of RSW in other burial grounds will also</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

		<p>require over-packing before transport to the M-91 facility? If so, has this been added to the planning assumptions of the new facility?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
26.	ES p. 5.28 and FDC General	<p>Comment: As of late over 85% of the RSW in the 218-W-4C Burial Ground has required over-packing before it could be retrieved and transported to a TSD. Will there be enough containers for over-packing, on-site transport, and off-site transport? Will there be enough vendors or suppliers of containers for all of the waste stream feeds that are anticipated for the duration of the M-91 Facility?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
27.	FDC p. 2 and ES General	<p>Comment: Will the efforts required to modify the HVAC system, T-Plant roof, Cover block replacement, and verification of structural integrity be completed by the appropriate Licensed, Professional Engineers? Is this accounted for in the cost and schedule of the upgrades?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
28.	FDC p. 3 and ES General	<p>Comment: Will a mock-up of the new M-91 Facility be built on-site before the design is complete and the construction is initiated of the actual M-91 Facility? If so, when will the facility be built and where will it be located?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
29.	FDC and ES General	<p>Comment: Based on lessons learned at the Idaho National Environmental Laboratory's treatment facility, dusts, liquids and pockets of contamination will collect in pockets during operations. How will the new M-91 Facility design/operation/maintenance address this issue?</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

		<p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
30.	FDC and ES General	<p>Comment: To ready the T-Plant Facility for construction of the new M-91 Facility, waste in the T-Plant cells will require disposition, stabilization, etc. When will this effort and the regulatory documentation associated with this effort commence?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
31.	FDC and ES General	<p>Comment: Will the new M-91 Facility have neutralization, liquid/oil separation and solidification equipment/chemicals?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
32.	FDC and ES General	<p>Comment: Will the new M-91 Facility have neutralization, liquid/oil separation and solidification equipment/chemicals?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
33.	FDC General	<p>Comment: Based on lessons learned at the Idaho National Environmental Laboratory's treatment facility, housekeeping of the facility and durability of the tools and instruments chosen will be critical. How will the new M-91 Facility design/operation/maintenance address this issue?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
34.	FDC General	<p>Comment: Were mobile robots considered for the new M-91 facility to assist with housekeeping and maintenance activities in the RH- environment?</p>			

REVIEW COMMENT RECORD

Date

Review No.

Project No.

Page

Page 9 of 12

		<p>Justification: The M² Robots with manipulators are used by the Department of Defense at White Sands.</p> <p>Modification: Address data gap in document. (MM)</p>			
35.	FDC General	<p>Comment: Choices of cameras/lenses (cleaning and drying) will be critical and dependant on the new M-91 facility environments within the SWHF, SWPM, POSSM, and TOSSM?</p> <p>Justification: Due to controls needed at PFP during operations, humid environments resulted.</p> <p>Modification: Address data gap in document. (MM)</p>			
36.	FDC General	<p>Comment: Choices of cameras/lenses (cleaning and drying) will be critical and dependant on the new M-91 facility environments within the SWHF, SWPM, POSSM, and TOSSM?</p> <p>Justification: Due to controls needed at PFP during operations, humid environments resulted.</p> <p>Modification: Address data gap in document. (MM)</p>			
37.	FDC General	<p>Comment: Beta testing for tools are planned in the document and schedules associated with the new M-91 Facility. Is the beta testing for associated software also planned?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (MM)</p>			
38.	FDC and ES General	<p>Comment: What impacts would be placed on current and future Milestones, schedules and contracts at WRAP/CWC?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			

REVIEW COMMENT RECORD	Date	Review No.
	Project No.	Page

39.	FDC and ES General	<p>Comment: What impacts would be imposed on NDA, X-Ray, verification, and packaging activities at WRAP? Will there be enough storage capacity at T Plant, CWC, and WRAP?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			
40.	FDC and ES General	<p>Comment: Have tanks and cells that are to be used been maintained / inspected / contents known?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			
41.	FDC and ES General	<p>Comment: Provide more information about the specific management and process of placing and storing waste at the 2706 T. Will interim storage occur? How and where? Will waste be stored outside?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			
42.	FDC and ES General	<p>Comment: Have the tanks and systems within the T-Plant cells that are to be used/modified for the new M-91 Facility been maintained/inspected? Are the contents known? What is the integrity of the tanks and systems?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			
43.	FDC and ES General	<p>Comment: Is there a current "Path Forward" for all waste? When will the WAP be updated and verified?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			

REVIEW COMMENT RECORD

Date

Review No.

Project No.

Page

Page 11 of 12

44.	FDC and ES General	<p>Comment: Will repackaging processes occur in the Manned Processing Maintenance Module?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			
45.	FDC and ES General	<p>Comment: Permit modifications will be required for the new waste and associated processing/storage?</p> <p>Justification: Staging and processing Areas containing waste material will be subject to TSD requirements.</p> <p>Modification: Address data gap in document. (SS)</p>			
46.	FDC and ES General	<p>Comment: Have issues to attain WIPP certification been worked out? Are there any contract issues or special needs? What is the status of these requirements?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			
47.	FDC and ES General	<p>Comment: TPA Milestone schedules are negatively affected and appear tied together with other ongoing activities at other units. Can the Milestones be rescheduled and not affect other units/facilities manpower and resources?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			
48.	FDC and ES General	<p>Comment: A 30 year lifespan for airlock doors, structure crane rails and beams seems inadequate, especially given the high radiation and potential for contamination spread that will be present. How will the design account for this?</p> <p>Justification: See comment above.</p> <p>Modification: Address data gap in document. (SS)</p>			

