



Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

15-AMRP-0312

SEP 03 2015

Ms. J. A. Hedges, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354

Dear Ms. Hedges:

M-91 TRANSURANIC MIXED/MIXED LOW-LEVEL WASTE PROJECT MANAGEMENT
PLAN, HNF-19169, REVISION 15

This responds to the Washington State Department of Ecology's (Ecology) letter of August 13, 2015, (15-NWP-156) that provides comments on Revision 14 of the subject document.

The U.S. Department of Energy Richland Operations Office is providing the attached responses to Ecology's comments. Also, attached is M-91 Transuranic Mixed/Mixed Low-Level Waste Project Management Plan, HNF-19169, Revision 15 based on those comments.

If you have any questions, please contact me, or your staff may contact Al Farabee, of my staff, on (509) 376-8089.

Sincerely,

A handwritten signature in black ink, appearing to read "Ray J. Corey".

Ray J. Corey, Assistant Manager
for the River and Plateau

AMRP:MSC

Attachments

cc: See page 2

Ms. J. A. Hedges
15-AMRP-0312

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cc w/attachs:

G. Bohnee, NPT
R. Buck, Wanapum
D. A. Faulk, EPA
S. Hudson, HAB
R. Jim, YN
N. M. Menard, Ecology
K. Niles, ODOE
J. B. Price, Ecology
D. Rowland, YN
D. G. Singleton, Ecology
R. Skeen, CTUIR
E. R. Skinnerland, Ecology
J. Temple, Ecology
Administrative Record (M-91)
Environmental Portal

cc w/o attachs:

V. M. Bogenberger, CHPRC
J. V. Borghese, CHPRC
K. K. Dickerson, CHPRC
W. E. Kirby, CHPRC
R. M. Millikin, CHPRC
J. M. Morales, CHPRC
C. P. Noonan, MSA
R. E. Piippo, MSA
M. J. Turner, MSA

Attachment

Item	Ecology Comments per Letter, 15-NWP-156, dated August 13, 2015, Ecology Comments on M-91 Transuranic Mixed/Mixed Low-Level Waste Project Management Plan, HNF-19169 Rev 14.		DOE Response
1	p. 1-3 Section 1.2	The scope of the M-91 PMP needs to be expanded to include management of the CH-TRU and RD-TRU wastes from retrieval operations. Significant quantities of TRU waste already exist in above storage (approx. 2400 containers in SWS) and more will be generated from retrieval and CERCLA actions mentioned in this section and in Chapter 7. The TRU waste will impact the availability of Hanford facilities and infrastructure. Management of TRU and TRUM waste must be integrated in the M-91 PMP for a complete understanding of the scope, cost, and schedule for waste disposition.	<p>1. An expanded discussion of the retrieval of retrievably stored waste is included in Section 2 of the Project Management Plan (PMP). An expanded discussion of transuranic mixed (TRUM) waste within the scope of the M-091 milestone is included in Section 3. An expanded discussion of the certification and shipment of TRUM waste within the scope of the M-091 milestones is included in Section 4. Transuranic (TRU) and TRUM waste generated as a result of activities subject to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) is discussed in Section 7. Existing and future capabilities to treat, certify and ship M-091 and/or CERCLA TRU and TRUM waste are discussed in Sections 3 and 5, respectively. Figure 7-2. Projection of CH-TRU/TRUM and RH-TRU/TRUM Waste Shipments to WIPP, includes waste subject to the M-091 milestone as well as waste generated from CERCLA activities. Note that the last M-091/CERCLA “integration” milestone (M-016-93) was completed in Calendar Year (CY) 2012 although the M-091-03 PMP has, for several years, continued to recognize the necessity of this integration.</p>
2	p. 1-7 Section 1.3	This is the first mention of retrieval of RSW being delayed to 2024. That is a significant change from the previous plan and needs to be highlighted in the Executive Summary.	<p>2. This is the first mention of a delay in retrieval related to the September 30, 2016, M-091-40 milestone and December 31, 2018, M-091-41 milestone. Previous PMPs (covering years through CY 2013) assumed that funding would be available in Fiscal Years (FYs) 2015 and 2016 to support these milestones although, as noted in M-091 Project Managers Meetings, there was concern about meeting these milestones even if this funding was available. The retrieval schedule was re-assessed as part of PMP, Revision 14, to address current site priorities, technical challenges and funding projections.</p> <p>A Tentative Agreement was approved by the Washington State Department of Ecology</p>

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			(Ecology) and the U.S. Department of Energy (DOE) dated July 1, 2015, would revise the retrieval milestone to September 30, 2028. This 2028 date was presented by Ecology in a Hanford Advisory Board River and Plateau meeting and a public meeting, both on August 11, 2015.
3	p. 1-8, Section 1.4	Text refers to existing offsite commercial capabilities for repackaging CH-TRUM and some RH-TRUM waste, and the mission need to acquire additional capability for waste that cannot be managed commercially. Processing capability currently exists at Idaho and is available for processing Hanford wastes, and also needs to be considered.	Shipment to Idaho was not envisioned at the time PMP, Revision 14, was prepared, because certain non-conforming items would need to be removed at Hanford to meet U.S. Department of Transportation and Agreed Order 10156, Appendix A, Sections 1.8.3.3 and 1.8.3.4. Removing these items would be performing a large part of the treatment (e.g., why do most of the treatment at Hanford and the send waste to Idaho). However, there is an ongoing study of future uses of the Advanced Mixed Waste Treatment Facility at Idaho that evaluating what waste could be shipped to Idaho. An Idaho option will also be addressed in the July 1, 2015, Tentative Agreement proposed milestone to submit an alternatives study for additional treatment capabilities (M-091-51, due September 30, 2016).
4	p. 1-7 Section 1.3 p. 4-1, Section 4.2	Clarification is needed of CCP's role and responsibilities in performing certification and shipment of CH and RH TRU and TRUM wastes. This should be consistent with the PRC prime contract Sections C.2.3.6.1 and C.2.3.6.2. for example, CHPRC is responsible to provide the infrastructure to support installation and operation of the CCP-provided RTR equipment, drum assay equipment, and mobile loading equipment; that should be mentioned in the M-91 PMP.	To date, the Central Characterization Project (CCP) has been using real-time radiography equipment, drums assay equipment, and loading equipment provided by the DOE contractor. If CCP provides this equipment, the DOE contractor will provide the infrastructure to support installation and operation of that equipment. Both are covered by the contract (for example, see contract Section C.2.3.6.1, under "the contractor shall," fifth bullet, first sub-bullet and sixth bullet, last sub-bullet.
5	p. 2-1, Section 2.1 p. 3-2, Section 3.1.2	Text refers to the retrieval schedule and evaluating factors such as minimizing life cycle retrieval cost, optimizing retrieval versus capacity for repackaging, WIPP shipment schedule, and offsite treatment capacity. The top priority is to get the waste out of the ground and into safe storage. The other factors are less relevant as the CWC has much unused storage capacity.	Based on the July 1, 2015, Tentative Agreements and statements made at the Hanford Advisory Board River and Plateau meeting and a public meeting, both on August 11, 2015, the priority is addressing waste already above ground.

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6	p. 2-1, Section 2.1 p. 3-2, Section 3.1.2	Text states that as retrieval of RSW is delayed, treatment of MLLW and repackaging/shipping of TRUM waste will also be delayed. Need to clarify what is delayed is final completion of the TPA milestone due to reduced funding. There currently is much TRUM waste in above-ground storage that is available for repackaging, regardless of whether retrieval occurs.	Performance of the M-091 is still envisioned to be complete by September 30, 2030, (see existing M-091-00 milestone and Tentative Agreement proposed milestone M-091-48). Repackaging of TRUM waste is ongoing and will continue. For example, the Tentative Agreement proposed repackaging milestone for FY 2015 (M-091-47A) is about 70 percent complete and the September 30, 2015, date will be met.
7	p. 3-12, Section 3.2.3	The text mentions the “last approved report (DOE/RL-2015-08)”. This is the current LDR report full report and it has not been approved at this time. Additional milestones will need to be created before the report can approved.	“Approved” has been changed to “submitted.”
8	p. 3-13, Section 3.2.4.4	The text mentions that the inventory of mercury-bearing waste is currently zero and the LDR report says the same thing. This information may not be correct as some of the mercury is stored in the PUREX tunnels.	There is elemental mercury in PUREX Tunnel #2. The mercury is contained within the thermal wells of the stored dissolvers. This waste is not within the scope of the M-091 milestone.
9	p.4-5, Figure 4-1 p.7-9, Figure 7-2 p. D-3-d-4, Tables d-3 and d-4	(Multiple instances) Text provides volume projections for shipping TRUM waste to WIPP. a) The numbers in Figure 4-1 and Figure 7-2 are different. They refer to the same waste stream and ought to say the same thing. b) Up to 12 shipments per week to WIPP are planned. Historically the maximum number of shipments from WRAP has been 2-3. Please include discussion of the infrastructure needed to support the higher rate such as: <ul style="list-style-type: none"> • Characterization and NDE/NDA capabilities. • Waste certification. • Number of TRUPACT II and RH-72 shipping containers and trucks. • Loading facilities and support services (e.g., helium leak-testing of shipping containers, 	Item a – It appears that the comment is referred in to Figure 4-2 rather than Figure 7-2. The volumes in the M-091 and CERCLA volumes per year rows were reversed. This has been corrected. Item b – Five shipments were routinely shipped each week with Recovery Act funding. Specific, additional infrastructure needs will be dependent on the number of shifts per day and what additional equipment will be needed.

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		<p>payload assembly and inventory management).</p> <ul style="list-style-type: none"> • Receipt and processing of CH and RH shipping containers at WIPP and return to Hanford. • Supporting documentation for WIPP shipments. 	
10	p. 5-1, Section 5, first bullet	<p>This text contains multiple errors. The second sentence should say “The remaining RSW is located in four burial grounds (218-W-3A, 218-W-4B, 218-W-4C, and 218-E-12B).”</p> <p>Information about the presence of RSW in 218-@-4C varies. The 200-SW-2 work plan (DOE/RL-2004-60, Rev B) together with Figure C-3 in this document indicated that all RSW has been retrieved. The text on page C-1, Section C1.2 says that all contact-handled RSW has been removed, indicating that some remote-handled waste might still remain. A table received from Mike Collins in 2012 after retrieval operations ceased says that 23 m³ still remains in T24 of the landfill. All this information needs to be verified and updated for consistency in all the documents.</p>	<p>The 24 cubic meters being referred to include items that may be retrieved but are not considered waste. Depending on the question asked and the data source, these 24 cubic meters may or may not be included. It is suggested that if any of the 24 cubic meters is determined to be waste in the future that it be addressed in future revisions to the PMP.</p>
11	p. 6-1, Table 6.1	<p>This table claims that 1000 m³ can be stored in the LLBG. This permit has not been finalized, but this unlikely to be permitted as the facilities for this are not present at the LLBG. Please edit</p>	<p>The 10,000 cubic meter Low Level Burial Ground storage capacity is based on the latest, Ecology approved Part A. Revised storage areas and capacities within the Low Level Burial Grounds were submitted as part of an October 2013 deliverable that included a revised Part A.</p>
12	p. 6-1, Section 6, first bullet	<p>“as of June 30, 2009” is a date reference that originated in the TPA M-091 milestones. It is unnecessary in the context of this text. Please remove</p>	<p>The parenthetic statement with the date has been removed.</p>
13	p. 6-2, Section 6.2	<p>Storage of the K Basins sludge in the T Plant canyon needs to be described as that will significantly affect operations.</p>	<p>Storage of K Basins sludge will not significantly affect T Plant operations. Current plans are to resume TRUM waste repackaging operations after the sludge has been received and stored.</p>
14	p. 6.2, Section 6.2 and 6.3	<p>There is a regulatory reference to WAC 173-303-630 (7)(9). This is probably incorrect unless it says -630(7)-(9). It should say -630(7)(a) which is the section about containment systems.</p>	<p>This has been corrected to WAC 173-303-630(7)-(9)</p>

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15	p. 6.2, Section 6.4	This section claims that various-sized containers can be stored in the LLBG. This permit has not been finalized, but this is unlikely to be permitted as the facilities for this are not present at the LLBG. Please edit.	Storage of containers is based on the latest, Ecology-approved Part A. A revised Part A for the Low Level Burial Grounds was submitted in October 2013 for approval.
16	p. 7-3, Section 7.1.2	This table needs to be expanded with many more waste streams based on information in Table E-1. This will reflect better on the total picture of TRU/TRUM waste. The table can also include information about potential single-shell tank farm waste that could be retrieved and classified as TRUM. Other documents mention a potential of up to 11 tanks that might be eligible for this.	Table 7-2 has been moved to Section 7.1 (before Section 7.1.1) and a reference to Table E-1 has been added. The potential single shell farm waste is not within the scope of the M-091 milestone and is not considered part of a CERCLA action.
17	p. 7-3, Section 7.1.2	Text says per the ROD for the K Basin sludge that the sludge will be treated, packaged for disposal, and interim stored, pending shipment to disposal. The text later says the sludge will be placed in casks and transferred to T Plant for interim storage until a new treatment and packaging facility is available. Responsibility for performing treatment and repackaging of the sludge, and whether this occurs before or after interim storage is not clear.	DOE and its contractors are responsible for treatment and repackaging of the sludge. Plans are to (interim) store the sludge at T Plant prior to treatment and repackaging.
18	p. 7-4, Section 7.1.4	Discussion of the D-10 tank from U Plant needs to be expanded and addressed that absorbent was added and the RH-TRUM waste has a D001 oxidizer waste code due to high nitrate. Treatment and repackaging of this waste for shipment to WIPP will be complex and subject to a 2024 deadline per the ROD.	The Absorbent was found to be Teal-Sorb (MSDS 068474 - Acid neutralizing Absorbent). Ingredients are Alumina Silicate and Sodium Carbonate.
19	p. 8-2, Section 8.1 Figure 8-1	Comments on the RL-0013 funding profile: a) Figure 8-1 needs to include a column for 2032-Life Cycle to cover activities beyond 2031 (e.g., IDF disposal of WTP waste, post-closure monitoring of MW Trenches). b) The scope description in some cases is vague and needs to be	Item a – Life-cycle facility, post 2031 activities; disposal of Waste Treatment Plant waste in the Integrated Disposal Facility; and post-closure monitoring of the Mixed Waste Trenches are not within the scope of the M-091 milestone. Item b – To the Section 8.1 WRAP and T Plant entries, a statement has been added indicating that

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		<p>expanded. For example, WBS 013.07 WRAP, says it provides for safe operation and maintaining minimum safe condition, while the funding has a significant uptick in 2019-22.</p> <p>c) WBS 013.15 TRU Disposition – Would expect funding to be higher in 2020-25 due to many more shipments to WIPP and the need to support CCP activities.</p> <p>d) WBS 013.21 MW Trenches – Funding in 2029-31 increases only slightly. This does not appear sufficient for closure of the trenches and constructing two surface barriers.</p>	<p>this includes support to TRU waste management (e.g., repackaging) activities.</p> <p>Item c – Figure 8-1 does include increased funding for TRUM waste disposition (from previous years) starting in FY 2019.</p> <p>Item d – Closure of the Mixed Waste Trenches is not within the scope of the M-091 milestone.</p>
20	p. 8-4, Section 8.3.1	<p>Ecology cleanup priorities from 2010 are listed. These are meaningless as DOE has their own priority list which is provided to the contractors in the form of planning guidance. The DOE and Ecology priority lists do not agree in many aspects. As the DOE priority list is what drives the work in the field, the DOE priority list is what should be shown as a project constraint.</p>	<p>The second paragraph of Section 8.3.1 and the nine items that follow have been replaced with Section 1, Paragraphs 3-5 and Figure 1-1.</p>
21	p. 8-6, Section 8.3.3.2	<p>Text discusses several potential issues with providing on-site processing capability for RH-TRUM waste. There is demonstrated capability already existing at Idaho for processing RH waste in various package configurations. Processing the RH waste at Idaho needs to be included.</p>	<p>Shipment to Idaho was not envisioned at the time PMP, Revision 14, was prepared, because certain non-conforming items would need to be removed at Hanford to meet U.S. Department of Transportation and Agreed Order 10156, Appendix A, Sections 1.8.3.3 and 1.8.3.4. Removing these items would be performing a large part of the treatment (e.g., why do most of the treatment at Hanford and the send waste to Idaho). However, there is an ongoing study of future uses of the Advanced Mixed Waste Treatment Facility at Idaho that evaluating what waste could be shipped to Idaho. An Idaho option will also be addressed in the July 1, 2015, Tentative Agreement proposed milestone to submit an alternatives study for additional treatment capabilities (M-091-51, due September 30, 2016).</p>

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22	p. D-4, Table D-5	The 4 th bullet, 2019 should be 2020 to be consistent with Figure 8-1.	FY 2019 was change to FY 2020.
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