



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950  
711 for Washington Relay Service • Persons with a speech disability can call (877) 833-6341

January 29, 2021

21-NWP-019

William F. Hamel, Assistant Manager for the River and Plateau  
Richland Operations Office  
United States Department of Energy  
PO Box 550, MSIN: H5-30  
Richland, Washington 99352

Re: M-091 Transuranic Mixed/Mixed Low-Level Waste Project Management Plan, HNF-19169,  
Revision 22

Reference: Letter 20-PFD-0054, dated September 30, 2020, "M-091 Transuranic Mixed/Mixed  
Low-Level Waste Project Management Plan, HNE-19169 [sic], Revision 22"

Dear William F. Hamel:

The Department of Ecology (Ecology) received Revision 22 of the M-091 Transuranic Mixed/Mixed Low-Level Waste Project Management Plan from the United States Department of Energy (USDOE) for review and concurrence (Reference). Tri-Party Agreement Milestone M-091-03 requires an annual submittal of this document and approval of the document by Ecology is required by Tri-Party Agreement Milestone M-091-03N.

Ecology appreciates the USDOE's efforts in producing this report. We note that Revision 22 includes many of the resolutions reached on past reports. The enclosed Review Comment Record provides our comments on Revision 22.

The referenced letter states that submittal of this plan completes USDOE's commitment for milestones M-091-44T, "Establish a schedule for achieving the offsite shipment of all TRUM waste," and M-091-49A, "Establish a schedule for achieving the retrieval of RSW." Ecology does not agree that submittal of this plan completes USDOE's commitment for milestones M-091-44T and M-091-49A.

Ecology believes that USDOE and Ecology are in conceptual agreement on the actions needed to complete M091-44T and M-091-49A, but milestone completion requires the Tri-Parties to sign a tentative agreement, and then complete a public comment process in accordance with Figure 2 of the Hanford Public Involvement Plan. The proposed draft milestones referenced throughout the plan are not finalized. As a result, they cannot be used to complete USDOE's commitments. The Review Comment Record details specific comments regarding the proposed draft milestones.

William F. Hamel  
January 29, 2021  
Page 2 of 2

21-NWP-019

We look forward to discussing our comments. If you have any questions, please contact me at [kellyelsethagen@ecy.wa.gov](mailto:kellyelsethagen@ecy.wa.gov) or (509) 372-7923, or Ed Soto at [edsoto@ecy.wa.gov](mailto:edsoto@ecy.wa.gov) or (509) 372-7933.

Sincerely,



Digitally signed by  
Elsethagen, Kelly (ECY)  
Date: 2021.01.29  
11:56:18 -08'00'

Kelly Elsethagen  
TPA Project Manager for the M-091 Milestone Series  
Waste Management Project Manager  
Nuclear Waste Program

jljg

Enclosure: HNF-19169, REV. 22 Review Comment Record

cc electronic w/enc:

Dave Bartus, EPA  
Laura Buelow, EPA  
David Einan, EPA  
Mark French, USDOE-RL  
Sara Austin, CPCCo  
Stephanie Brasher, HMIS  
Scott Davis, HMIS  
Michael Turner, HMIS  
Mason Murphy, CTUIR  
Susan Leckband, HAB  
Jack Bell, NPT  
Rex Buck, Jr., Wanapum  
Laurene Contreras, YN  
ERWM Staff, YN

David Bowen, Ecology  
Kelly Elsethagen, Ecology  
John Price, Ecology  
Stephanie Schleif, Ecology  
Ed Soto, Ecology  
Max Woods, ODOE  
Environmental Portal  
CPCCo Correspondence Control  
EPA Region 10 Hanford Field Office,  
Correspondence Control  
Hanford Facility Operating Record  
HMIS Correspondence Control  
NWP RIM Coordinators, Ecology  
USDOE-RL Correspondence Control

cc w/enc and hard copy:

Administrative Record (M-091)  
NWP Central File

# Review Comment Record

## Washington State Department of Ecology Nuclear Waste Program

Date: January 29, 2021

Page 1 of 5

### Document Title(s)/Number(s)

M-091 Transuranic mixed and Mixed Low-level Waste Project Management Plan, HNF-19169, Revision 22

### Document Manager

Ed Soto

### Project Manager

Kelly Elsethagen

### Facility Site ID

Hanford Facility

### Cleanup Site ID

200-SW-2 Operable Unit, M-091

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	U.S. Ecology Response	Ecology Response	Open/Close	Reviewer Initials
1	Executive Summary, Pg. iii, 3 <sup>rd</sup> Para.	References to Ecology letters sent in response to 19-AMRP-0065 and 19-AMRP-0080 are missing.	Please add the text "Outstanding points are documented in Ecology response letters 19-NWP-126 and 19-NWP-174."	Ensure the public has the whole picture.				
2	Executive Summary, Pg. iii-iv, 3 <sup>rd</sup> Para.	<p>The text "In July, 2020, agreements were made and the parties are now in the process of bringing the changes to the M-091 Milestone series forward for public comment. This revision of the M-091 TRUM and MLLW Project Management Plan (PMP) treats the milestones cited in the agreed-to versions of Tri-Party Agreement Change Control Forms M-91-19-02 and M-91-19-03 which were updated as negotiations continued to evolve and are yet to be published in their current form, as the milestones in effect for the M-091 Milestone series." is highly problematic.</p> <p>There are no agreed-to versions of Tri-Party Agreement Change Control Forms M-91-19-02 and M-91-19-03. Although there were tentative agreements on drafts of these forms, to infer they were agreed to is misleading. Change control forms are not final until signed, and the draft milestones enumerated in them are not the milestones in effect until approved. DOE is still obligated to existing milestones until the draft revised milestones series are approved.</p>	This section needs to be rewritten to accurately reflect that these draft milestones are not the milestones in effect, and that Ecology had only tentatively agreed to the draft change control forms which included the draft milestones, as final approval from both EPA and Ecology's Director were still needed at that time.	Tri-Party Agreement in-effect M-091 milestone series.				
3	Section 1, Pg. 1-1, 3 <sup>rd</sup> Para.	See comment 2.	Please see response to comment 2.	Tri-Party Agreement in-effect M-091 milestone series.				
4	Section 1.1, Pg. 1-2, 2 <sup>nd</sup> Para.	Paragraph needs to address current milestone deadlines (2030), then can discuss proposed draft milestone changes (2050).	Please see response to comment 2.	Tri-Party Agreement in-effect M-091 milestone series.				
5	Section 1.2, Pg. 1-2, 4 <sup>th</sup> Para.	CERCLA cleanup actions authorized in records of decision and action memoranda were removed from this revision of the plan. Ecology uses this information to evaluate coordination of TRU waste generated from CERCLA cleanups with M-091 waste schedules.	Please restore this information.	Necessary for coordination of M-091 TRU/M and CERCLA TRU.				

# Review Comment Record

## Washington State Department of Ecology Nuclear Waste Program

Date: January 29, 2021

Page 2 of 5

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	U.S. Ecology Response	Ecology Response	Open/Close	Reviewer Initials
6	Section 1.3, Pg. 1-3, 2 <sup>nd</sup> bullet	The text “The revisions of the M-091 Milestone series approved in FY 2020 define progress...” needs to be revised as there were no agreed to M-091 milestones in FY 2020. See comment 2.	See response to comment 2.	Tri-Party Agreement in-effect M-091 milestone series.				
7	Figure 1-2 DOE Strategy to Complete the M-091 Work Scope	This figure includes reference to CD-2 for the facility/capability for Contact Handled (CH) waste containers, which is 60% design completion. When negotiating draft milestones to convert target milestone M-091-52-T03 to an enforceable milestone (currently drafted as M-091-55 and M-091-56), Ecology was told the design for this facility would proceed from CD-1 (30% design) to CD-3 (90% design), and that there would not be a CD-2 design phase (60% design).	Please explain why Figure 1-2 for CH Processing has a CD-2 design phase included in the schedule.	Draft milestones were negotiated based on this premise.				
8	Section 1.4, Table 1-1	This table should also include current in-effect M-091 milestones, and draft milestones should be indicated as draft with a footnote.	Please add current in-effect M-091 milestones to Table 1-1, and identify draft milestones with a footnote or some other identifier.	Consistency				
9	Section 1.4, Table 1-1	M-091-47-T01 Draft milestone date should be 9/30/2021.	Please correct.	Editorial				
10	Section 1.4, Table 1-1	M-091-47-T02 Draft milestone date should be 9/30/2022.	Please correct.	Editorial				
11	Section 2, Pg. 2-1, 4 <sup>th</sup> Para.	This paragraph needs to address boxes that can't be processed at Perma-Fix due to high Fissile Gram Equivalent and/or box size.	Please add a paragraph addressing boxes Perma-Fix can't process.	Explains how DOE will meet milestones for waste removal.				
12	Section 2, Pg. 2-1, 5 <sup>th</sup> Para.	The following paragraph was deleted from this report: “The waste is contained in various types of containers. Experience from previous retrieval operations indicates that the containers may be significantly deteriorated.”	Please add back in the deleted paragraph.	Information is applicable to future retrievals, and even more so that retrieval is being pushed out another decade.				
13	Section 2, Pg. 2-1, 5 <sup>th</sup> Para.	The following paragraph was deleted from this report: “All retrieved waste must be characterized. Characterization of the waste with nondestructive examination (NDE) is necessary to identify the presence of prohibited items in the waste. Characterization of the waste with nondestructive assay (NDA) is necessary to determine if the waste is TRUM or MLLW. Acceptable knowledge is used for characterization of those containers where NDE/NDA is not possible due to equipment limitations.	Please add back in the deleted paragraph.	Information is applicable to future waste characterization efforts.				
14	Section 2, Pg. 2-1, 5 <sup>th</sup> Para.	The M-091-49 date should be 9/30/2039, and it should be specific to CH RSW. Also there is a new milestone M-091-49B specific to RH RSW with a due date of 9/30/2048 that needs to be added.	Please correct M-091-49 date and add M-091-49B.	Finalized draft TPA milestone changes for M-91-19-02 and M-91-19-03.				

# Review Comment Record

## Washington State Department of Ecology Nuclear Waste Program

Date: January 29, 2021

Page 3 of 5

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	U.S. Ecology Response	Ecology Response	Open/Close	Reviewer Initials
15	Section 2, Pg. 2-1, 5 <sup>th</sup> Para.	The M-091-54 draft milestone also includes a requirement for an implementation schedule.	Please revise the sentence "M-091-54 requires an Interim Response Action (IRA) proposal to resume retrieval by September 30, 2028." To "M-091-54 requires an Interim Response Action (IRA) proposal, (including implementation schedule), to resume retrieval by September 30, 2028."	Finalized draft TPA milestone changes for M-91-19-02 and M-91-19-03.				KE
16	Section 2, Pg. 2-1, 6 <sup>th</sup> Para.	The following paragraph was deleted from this report: "Retrieved waste must be processed if NDE or other inspections determine that it does not meet the acceptance criteria of the disposal site. Processing includes the removal of prohibited items, size reduction, and repackaging. The processing capabilities must be capable of handling a variety of containers, both CH and RH."	Please add back in the deleted paragraph.	Information is applicable to waste processed currently at Perma-Fix as well as to future retrieved waste.				KE
17	Section 3, Pg. 3-1, 1 <sup>st</sup> Para.	Revision 21 of the plan stated remaining RSW was 2475m3. Revision 22 states remaining RSW is 2680m3. Since there have been no retrievals for several years, this change doesn't make sense.	Please explain the change in volume.	Consistency				KE
18	Section 3, Pg. 3-1, 2 <sup>nd</sup> Para.	Has WMP-62505 been provided to Ecology, and is it publicly available? If not, a summary of retrieval methods for the difficult to retrieve trenches needs to be included here.	Please clarify if WMP-62505 has been provided to Ecology and if it's publicly available. If not, please include a summary of retrieval methods.	This information needs to be publicly available, or a summary of the information needs to be included in the plan.				KE
19	Section 3.1, Pg. 3-1, 1 <sup>st</sup> Para.	Clarification that retrieval of RSW did not occur during calendar years 2017 through 2020 is needed.	Please add "During calendar years 2017 through 2020, retrieval of RSW was not performed." to the end of the first sentence.	Consistency, clarification				KE
20	Section 3.1, Pg. 3-1, 2 <sup>nd</sup> Para.	The M-091-54 draft milestone also includes a requirement for an implementation schedule.	At the end of the second sentence please add the wording "..., and will include an implementation schedule for resuming retrieval."	Finalized draft TPA milestone changes for M-91-19-02 and M-91-19-03.				KE
21	Section 4.1.2, Pg. 4-3, 2 <sup>nd</sup> Para.	A discussion of the role nondestructive assay plays in the process is missing.	Please discuss the role of nondestructive assay serves in processing TRUM waste.	Completeness				KE
21	Section 4.2, Pg. 4-5, 1 <sup>st</sup> Para.	Commercial facilities currently under contract have been deleted.	Please add back in this information.	Ecology needs to understand available MLLW treatment capacity, which is part of Land Disposal Report requirements.				KE
23	Section 4.2.4.1, pg. 4-7, last para.	The plan states, "Several commercial treatment facilities located in the United States can accept most of the Hanford Site's waste in Treatability Group MLLW-02."  What is the treatment path for MLLW-02 waste that cannot be commercially treated in the United States?	Please identify treatment path for MLLW-02 waste that cannot be commercially treated in the United States.	Annual Land Disposal Restrictions Report, which satisfies the 1992 Federal Facilities Compliance Act, requires all mixed waste in storage have a treatment path.				ES
24	Section 4.2.4.3, Pg. 4-7	The title of Section 4.2.4.3 is "Macroencapsulation (MLLW-04, MLLW-05, and MLLW-09)"	Why are there 3 treatability groups for macroencapsulation?	Clarification				ES

# Review Comment Record

## Washington State Department of Ecology Nuclear Waste Program

Date: January 29, 2021

Page 4 of 5

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	U.S. Ecology Response	Ecology Response	Open/Close	Reviewer Initials
25	Section 4.2.4.5, Pg. 4-8, 1 <sup>st</sup> Para.	In treatability group MLLW-07 the plan states, “ <b>Chemical stabilization and macroencapsulation</b> under 40CFR 268.45, “Treatment Standards for Hazardous Debris,” will be used to render the waste LDR compliant.”  As written DOE is assigning treatability groups by how the waste will be handled (RH and Large-Container) not by the treatment process for that waste.	In Section 4.2.4.3 treatability groups MLLW-04, MLLW-05, and MLLW-09 are designated for macroencapsulation, shouldn't the portion of waste from MLLW-07 that is designated for macroencapsulation be added to MLLW-04, 05, or 09?	Clarification				ES
26	Section 4.2.4.5, pg. 4-8, last Para.	The plan states, “Commercial facilities will be used to treat <b>most</b> CH MLLW in large containers and <b>some</b> RH MLLW.”	The plan does not full describe how waste will be treated, for waste unable to be treated by commercial facilities, describe the additional treatment avenues.	Annual Land Disposal Restrictions Report, which satisfies the 1992 Federal Facilities Compliance Act, requires all mixed waste in storage have a treatment path.				ES
27	Section 4.2.4.6, Pg. 4-8	The plan states, “Waste within Treatability Group MLLW-08 is a unique waste, for which <b>no permitted treatment capability exists</b> in the United States, or the capability exists but the capability is very limited.”  If no permitted treatment capability exists and the waste entering this group is unique then this treatability group would by its nature be based on multiple treatments. It would seem logical to ensure treatment capability before entering a waste into a treatability group that does not ensure treatment will be accomplished in a timely manner.	If no treatment capability exists, regardless of whether there is currently any inventory of MLLW-08 waste, what is the schedule for obtaining treatment capability when new waste is add to the MLLW-08 treatability group? Is there a milestone to ensure new capabilities are determined in a timely manner? If this treatability group currently has no inventory then this group should be removed from the PMP until waste is available to enter into this group. Even limited capability needs to be described.	Annual Land Disposal Restrictions Report, which satisfies the 1992 Federal Facilities Compliance Act, requires all mixed waste in storage have a treatment path.				ES
28	Section 4.2.4.7, Pg. 4-8	The plan states, “Reactive metals containing radioactive contamination require deactivation as the specified treatment technology under RCRA. Waste within Treatability Group MLLW-10 has was reactive material including sodium metal.”	Include language stating whether this treatment technology is readily available and if the capacity to perform deactivation for the waste in MLLW-08 can be accomplished in a timely manner.	Annual Land Disposal Restrictions Report, which satisfies the 1992 Federal Facilities Compliance Act, requires all mixed waste in storage have a treatment path.				ES
29	Table 6-1, Pg. 6-1	The term OU (operable unit) is no longer used in the table and should be deleted.	Please delete “OU = operable unit” from the acronyms list at the bottom of Table 6-1.	Editorial				KE
30	Section 6.2, Pg. 6-2, 1 <sup>st</sup> Para.	The second sentence includes language Ecology asked to be deleted from the Rev. 21 report, and Ecology’s approval of Rev. 21 was contingent on this deletion.	Please delete the following language: “..., other support structures and storage areas,...”	Storage may only occur in authorized dangerous waste management units.				KE
31	Section 8.1, Pg. 8-1	WBS 013.04 MLLW Treatment description is missing. Is there no MLLW treatment that occurred?	Please explain.	Completeness				KE
32	Section 8.1, Pg. 8-1, 5 <sup>th</sup> Para.	WBS 013.05 TRU Retrieval should be titled “TRUM” Retrieval, and the first sentence should be “suspect TRUM” instead of suspect TRU. All RSW is suspect TRUM until designated.	Please revise.	Tri-Party Agreement Change Number M-91-03-01, dated April 22, 2004.				KE

**Review Comment Record****Washington State Department of Ecology  
Nuclear Waste Program**

Date: January 29, 2021

Page 5 of 5

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	U.S. Ecology Response	Ecology Response	Open/ Close	Reviewer Initials
33	Section 8.1, Pg. 8-1, 5 <sup>th</sup> Para.	The summary references 218-W-4C, while elsewhere in the plan there are statements that all of the RSW has been retrieved from 218-W-4C.	Please clarify.	Consistency				KE
34	Section 8, General	Critical path analysis has been removed from the plan.	Please explain.	Information on critical path should be included in the plan.				KE
35	General, throughout document	Throughout the document the proposed draft milestones currently in negotiation are not referred to as draft, and the statements that they are being treated as the in-effect milestones are confusing to the reader.	Please clarify between draft milestones not yet approved or in effect, and milestones currently in effect in accordance with the Tri-Party Agreement.	Tri-Party Agreement, M-091 milestone series				KE