



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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November 16, 2020

20-NWP-176

Brian T. Vance, Manager
Richland Operations Office
United States Department of Energy
PO Box 550, MSIN: H5-30
Richland, Washington 99352

Ty Blackford, President and CEO
CH2M HILL Plateau Remediation Company
PO Box 1600, MSIN: A7-01
Richland, Washington 99352

Re: Technical Review for the Class 3 Permit Modification Request to Update the Operating Permit for the *Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 11, Integrated Disposal Facility (IDF) Permit, WA7890008967*

References: See page 2

Dear Brian T. Vance and Ty Blackford:

This letter documents the Department of Ecology's (Ecology) technical review of the United States Department of Energy – Richland Operations Office and CH2M HILL Plateau Remediation Company (the Permittees) proposed Class 3 Permit Modification for the Integrated Disposal Facility Operating Unit Group 11 (Reference 1).

Ecology conducts the completeness determination as the first step in evaluating Class 3 Permit Modification submittals. The purpose of this step is to ensure that all major components of the submittal have been addressed sufficiently to allow for a technical evaluation. If the permit modification is found to be complete, a review for technical adequacy follows. If the modification is determined to be incomplete, Ecology issues a Letter of Incompleteness.

Ecology issued a Letter of Incompleteness (Reference 2) to the Permittees on March 6, 2020, for the referenced permit modification request. During our initial review, Ecology identified areas in the IDF permit application where information was either missing or lacked critical elements and provided the Permittees with a list of the missing or lacking components which were necessary to consider the application complete. The Permittees submitted the necessary information to Ecology on June 22, 2020 (Reference 3).

Ecology completed the technical review of the proposed Class 3 Permit Modification and has identified areas where additional technical information and detail is required. Deficiencies are listed on the enclosed Review Comment Record.

The enclosure details the technical comments that remain to be resolved through clarification, modification, or addition of text to the permit modification. Upon completion of these actions, Ecology will consider the Permittees' submittal complete and will proceed with drafting the permit. The permit will then be transmitted for a second public comment period as detailed in Washington Administrative Code 173-303-840(2).

If there are any questions, please contact Nancy Ware, Permit Lead, at nancy.ware@ecy.wa.gov or 509-372-7912, or Mandy Jones, Permit Coordinator, at mandy.jones@ecy.wa.gov or 509-372-7916.

Sincerely,

 Digitally signed
by Schleif,
Stephanie (ECY)

Stephanie Schleif
Deputy Program Manager
Nuclear Waste Program

nw/ag
Enclosure

References:

1. Letter 20-AMRP-0007, dated December 6, 2019, "Submittal of Hanford Facility Dangerous Waste Class 3 Permit Modification Request to Update the Operating Permit for the Integrated Disposal Facility (IDF) Operating Unit Group (OUG) 11"
2. Letter 20-NWP-047, dated March 6, 2020, "Department of Ecology's (Ecology) Completeness Determination for the Operations Class 3 Permit Modification for the Hanford Facility Resource Conservation and Recovery Act Permit, Dangerous Waste Portion, Revision 8C, for the Treatment, Storage, and Disposal of Dangerous Waste, Part III, Operating Unit Group 11, Integrated Disposal Facility (IDF) Permit, WA7890008967"
3. Letter 20-ESQ-0069, June 22, 2020, "Supplemental Information for the Integrated Disposal Facility Operating Unit Group 11 Class 3 Permit Modification Request"

cc: See page 3

cc electronic:

Dave Bartus, EPA	Debra Alexander, Ecology
David Einan, EPA	Jennifer Cantu, Ecology
Tim Hamlin, EPA	Annette Carlson, Ecology
Duane Carter, USDOE-RL	Suzanne Dahl, Ecology
Mostafa Kamal, USDOE-RL	Tracy Gao, Ecology
Gary Piles, USDOE-RL	Dib Goswami, Ecology
Brian Stetter, USDOE-RL	Katie Hall, Ecology
Mary Beth Burandt, USDOE-ORP	Mandy Jones, Ecology
Erica Garcia, CHPRC	Dan McDonald, Ecology
Leah Hare, CHPRC	Nina Menard, Ecology
Randy Havenor, CHPRC	Dan Thompson, Ecology
Carolyn Ervin, Freestone	Nancy Ware, Ecology
Jon Perry, MSA	Jerry Yokel, Ecology
Mason Murphy, CTUIR	NWP RIM Coordinators, Ecology
Jack Bell, NPT	Environmental Portal
Rex Buck Jr., Wanapum	Hanford Administrative Record
Laurene Contreras, YN	Hanford Facility Operating Record
ERWM Staff, YN	CHPRC Correspondence Control
Susan Leckband, HAB	EPA Region 10 Hanford Field Office, Correspondence Control
David Reeploeg, Hanford Communities	MSA Correspondence Control
Jeff Burrigh, ODOE	USDOE-ORP Correspondence Control
Max Woods, ODOE	USDOE-RL Correspondence Control
Gail Laws, WDOH	

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Document Title(s)/Number(s):

IDF Class 3 Modification Addenda and Appendices

Document Manager	Telephone Number	Project Manager	Telephone Number	Facility Site ID	Cleanup Site ID
Nancy Ware	372-7912	Dan McDonald	372-7988	IDF	

Item No.	Pg. # Sec. # Para./Sent.	Comment or Question	Modification Needed	Basis/Justification	Permittee Response	Ecology Response	Open/ Close	Reviewer Initials
	General	Ecology made a determination that the leachate collection systems must be brought into the permit.	Because these units will be brought into the permit in a separate modification than this one, Ecology will add a permit condition or compliance schedule item for the modification to bring these units into the permit.	The purpose is to indicate that during this modification nothing was done to correct this error, and Ecology still requires the leachate collection system to be brought into the permit in a separate modification.			Open	nw
	General	The Permittees must demonstrate that they have conducted an evaluation of SSW and that the SSW can be disposed in a near surface disposal environment.	DOE must certify to the State of Washington that it has determined that SSW is not High-Level Waste and meets the criteria and requirements outlined in DOE's consultation with the U.S. NRC. This could be accomplished by evaluating the SSW in the VLOW WIR.	While the requirement to provide such certification is an enforceable obligation of this Permit, the provision of such certification does not convey, or purport to convey, authority to Ecology to regulate the radioactive hazards of the waste under this permit.			Open	sd

Addendum A, Part A Form

1	General, Section XI. Nature of Business	The Part A needs to show more specificity than just stating secondary solid waste from WTP, ETF, and Tank Farm Operations.	Provide a higher level of specificity as to what SSW makes up.	Clarity			Open	nw
2	Pg. 6, Section XV, Map	Does "See Ecology Administrative Record." need to be included in this section response? It already states that the TOPOs are provided in Appendix C. Does the project plan to provide an updated TOPO Map for the Ecology Administrative Record? If yes, please provide a certified submittal for the Ecology library. Clarify that the comment on page 7 of 8 of the Part A, "Section XV. See the Ecology Administrative Record for a topographic map of the Hanford Facility. Topographic maps for the IDF are located in Appendix C." is this note saying the same thing as the text in Section XV.	Delete "See Ecology Administrative Record."	Clarification			Open	NW, MJ
3	Pg. 6, Section XVI, Facility Drawing and throughout Part A information	This is not specific and may be confusing. The Facility Drawing required in Section XVI is a scale drawing of the entire facility. Addendum A, Appendix C includes this drawing as Figure C-3. Addendum C, Appendix C3 includes design drawings.	Update language, if appropriate to indicate that facility drawing is located in Add A, App C, "Facility drawing for the IDF is provided in Appendix C."	Clarification			Open	nw

Appendix A, Section XI – Nature of Business

1	Pg. A-A.1, Line 7	It is unclear what processing entails. (throughout permit)	Describe what processing entails.	Clarification			Open	nw
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2	Pg. A-A.4, Section A3, Line 6	The sentence describes that generator waste can be accumulated in accordance with... Rather, it must be accumulated in accordance with...	Change "at IDF can be accumulated" to "at IDF must be accumulated."	Clarification	Do we need to broaden the text in line 2? Will the leachate meet the definition of debris? Please add language to detail how the leachate will be managed.		Open	Nw, mj
3	Pg. A-A.4, Section A3, lines 6-7	The sentence needs to be rewritten to reflect appropriate requirements.	Change to "Dangerous and mixed waste generated at IDF must be accumulated in accordance with WAC 173-303-200, and generators must meet the requirements of WAC 173-303-170, "Requirements for Generators of Dangerous Waste."	WAC 173-303-170 WAC 173-303-200			Open	nw
Appendix B, Section XIV – Description of Dangerous Waste								
1	General	There are waste codes listed in the Part A that are not currently approved for IDF disposal and do not tie to any waste streams additions in this Class 3 modification.	Explain what streams these waste codes are derived from. D012 through D17 D020 and D021, D023 – D027 D031, D032 D037 D042 WP03 and WPCB F006 – F012, F019 U001 through U010, U012, U014 – U0..., and P00..	Clarification			Open	nw
2	General	D002 and WSC2 wastes - It is unclear what waste streams have this waste code applied and whether the waste stream is solid or liquid to apply the code.	Provide waste stream name, waste designation, and treatment path for each of the waste streams with D002 and WSC2.	WAC 173-303-070			Open	nw
Appendix C, Section XV, XVI, XVII – Map, Drawings and Photographs								
1	Pg. A-C.5, Figure C-4, IDF Storage Pad	This drawing does not need to be included in the Part A. Design drawing needs to be included in Addendum C, Appendix C3.	This drawing is appropriately included in Addendum C, Appendix C3. Once the construction is complete, update the Part A with the photograph.	WAC 173-303-803(3)(h)(ii)			Closed	nw
2	Pg. A-C.6, Figure C-5, IDF Treatment Pad	This drawing does not need to be included in the Part A. Design drawing needs to be included in Addendum C, Appendix C3.	This drawing is appropriately included in Addendum C, Appendix C3. Once the construction is complete, update the Part A with the photograph.	WAC 173-303-803(3)(h)(ii)			Closed	nw
Addendum B, Waste Analysis Plan								
1	General	The required ILAW verification plan has not been submitted to Ecology. This plan provides to Ecology the details for verifying ILAW waste acceptance.	Submit the ILAW verification plan.	IDF Permit Condition III.11.O.3			Open	nw

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2	General	<p>The allowable waste streams need to be more specific where possible</p> <p>Needs to include for example:</p> <ul style="list-style-type: none"> • Glass and a description of this waste stream and the LDR treatment standard • Solid waste from ETF and a waste form description, and the LDR treatment standard and/or concentration based treatment standards • Specific solid waste forms from WTP and a descriptions, and the LDR treatment standard and/or concentration based treatment standards <ul style="list-style-type: none"> ○ HEPA filters, ○ Out of service melters ○ Our of service LAW pumps etc. ○ Carbon beds • Other waste streams..... • Where details cannot be put into the permit a Waste Stream Profile form needs to be filled out and submitted for approval through permit modification by Ecology. <p>There needs to be waste acceptance criteria for the treatment pads separate from the waste acceptance for the landfill.</p> <p>Needs a certification of LDR treatment from the treatment facility.</p>					Open	sd
3	General	Permit needs to list specifically waste streams not allowed: TSCA, HLW, Cs IX columns, HLW melters, waste that doesn't have a WIR completed, waste not yet described in the risk budget tool.					Open	sd
4	General	List of acceptable types of containers and description					Open	sd
5	Pg. B-2, Sec B.1.2, bullets	Waste verification is not listed in these bullets.	Add a bullet about waste verification				Open	sd
6	Pg. B.2, Section B.1.3	The list of waste streams provides only a summary description for secondary solid waste for WTP, ETF, Tank Farms, and Solid Waste Operations Complex – "SSW."	Provide the detail for what secondary solid waste is to be received at IDF from these units.	Clarification and Completeness			Open	nw

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7	Pg. B-2, Sec B.1.3, Line 13	Has Ecology agreed to failed melter being disposed? Are there specific assumptions about how the melter failed and the nature of the waste in the failed melter to allow for disposal at IDF? What if the failed meter results in waste that is not adequately vitrified. Is it possible that there could be non-vitrified or poorly vitrified waste in a failed melter? These assumptions need to be listed as requirements for acceptable waste to be disposed.	Either here or elsewhere in this WAP, the parameters of acceptable failed melter needs to be established. So that appropriate permit conditions can be identified.				Open	sd
8	Pg. B-2, Sec B.1.3, Line 22	Which waste will be sent offsite for treatment and how and where will it be treated offsite	Add information here or elsewhere				Open	sd
9	Pg. B-3, Sec B.1.4, Line 7	Failed melter that don't meet the (yet to be defined acceptable criteria)	Define the acceptable criteria for failed melter configuration (melter configurations and waste configuration)				Open	sd
10	Pg. B-4, Sec B.2, line 7-12	Verification is the responsibility of IDF the disposal unit. Also How does IDF check that the facility that is sending them waste is appropriately characterizing the waste? How does IDF check that the generator of treated waste is appropriately treating the waste to the correct LDR standard. And that they are appropriately conducting the treatment.					Open	sd
11	Pg. B-5, Sec B.2.3, line 31	Define not sufficient. This is not clear. There is no criteria detailed.	Define not sufficient. What is the criteria				Open	sd
12	Pg. B-11, Sec B.3.1, line 34-35	How is the profile approval documented?	Add information about the documentation				Open	sd
13	Pg. B-12, Sec B.3.2, line 30-34, and page B-13 lines 2-5	I thought that waste verification was the responsibility if the disposal facility? If it is done by the generator how is it overseen by the disposal facility?	Establish the rule that allow waste to be verified by the facility that generates it. Show the mechanisms for verification to be overseen by IDF.				Open	sd
14	Pg. B-12, Sec B.3.2, line 35-39 and page B-13 lines 5-8	Regardless of who does the verification, there needs to be criteria in the permit for: <ul style="list-style-type: none"> the frequency of verification sampling and other verification approaches the criteria for passing and failing verification criteria for increased sampling (100%) based on failing the initial verification assessment					Open	sd
15	Pg. B-12, Sec B.3.2, line 30-34 and page B-13, line 2-5	Where possible verification should primarily be based on actual sampling.					Open	sd
16	Pg. B.3, section B.1.4	The discussion of liquids as prohibited waste is incomplete.	Describe whether liquid in the cooling jackets for the melter is acceptable for disposal, and if so, under what conditions.	IDF Permit Condition III.11.I.1			Open	nw

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17	Page B-13, Sec B.4	Specific Waste Acceptance Criteria need to be developed for each waste stream and set in this addenda. They need to meet: <ul style="list-style-type: none"> LDR treatment standards specific to the waste streams (details should be described here) Meet the existing IDF permit conditions waste acceptance Be educated by the Risk Budget tool and current SEPA/NEPA documents Educated and consistent with ITWRDS					Open	sd
18	Page B-16, Line 15-19	There needs to be more specific details listed in this section about what constitutes a “non-conformance”. More specifics about increased reviews – greater % of checks when more “non-conformances” are found. It should not be left up to a future determination by the waste acceptance team. Those details need to be provided in the addenda.					Open	sd
19	General	The waste analysis plan does not discuss gas generation.	Include detail on gas generation as listed in the waste Acceptance Criteria for the Integrated Disposal Facility, Section 3.1.1.4 and Appendix C into the Waste Analysis Plan.	IDF Permit Condition III.11.I.1			Open	nw
20	General	The WAP does not detail the process for ensuring compatibility of waste with liner.	Include detail on gas generation as listed in the waste Acceptance Criteria for the Integrated Disposal Facility, Section 3.1.1.4 and Appendix C into the Waste Analysis Plan.	IDF Permit Condition III.11.I.1			Open	nw
21	General	The WAP does not detail packaging, handling of packages.	Include information on packaging and handling of packages included in the Waste Acceptance Criteria for the Integrated Disposal Facility, Section 4.0 into the Waste Analysis Plan.	IDF Permit Condition III.11.I.1			Open	nw
22	General	The WAP does not identify how the facility will minimize subsidence in the landfill.	Include information on minimization of subsidence listed in the Waste Acceptance Criteria for the Integrated Disposal Facility, Section 4.6 into the Waste Analysis Plan. Also detail subsidence minimization for the melters.	IDF Permit Condition III.11.I.1			Open	nw
23	General	The WAP does not include discussion of melters – miscellaneous units, void space requirements, minimization of subsidence.	Explain how melters will be placed into landfill, no need for void space requirements as miscellaneous units, how will void fill be placed around melters to minimize subsidence.	Complete void space and minimization of subsidence discussion.			Open	nw
Appendix BA, Quality Assurance Project Plan for IDF Waste Analysis								
1	Pg. BA.3, Section BA.3.2, Line 35 – 36	“Individuals involved in sampling, analysis...” Where is training for this listed in the training plan? The training plan addresses transient sampling personnel. However, there is no other document submitted which describes training for these individuals.	Provide required information on training for IDF personnel with specific tasks related to sampling. Update training plan, if necessary.	WAC 173-303-330			Open	NW

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2	Pg. BA.3, Section BA.3.2	The Waste Analysis Plan and Appendices are vague as to what job title performs the tasks associated with waste analysis, sample collecting, etc.	Throughout Waste Analysis Plan and Appendices, describe the functions and job titles of those who perform associated tasks related to waste analysis, sample collecting, etc.	Comparison with the Training Addendum.			Open	NW
Addendum C, Process Information								
1	Pg. C.1, Section C.1, Lines 9-11	Is there a specified area in the trenches where LLW will be placed?	Question for clarification.				Open	MJ
2	Pg. C.1, Section C.1, Lines 20 – 23	Appendix C.9 in its entirety applies to critical systems.	Delete, “Only Section 03 03 53 of Appendix C9 applies to IDF critical systems; the remainder of Appendix C9 is provided for information only.”				Open	nw
3	Pg. C.3, Section C.1.1.2, Table C-3	Landfill Full size (after expansion) It is not clear: - Will the expansion portion be built after the current cells reached their capacity and be closed? Will the expansion portion share the current LCRS/LDS/SLDS and tank systems?	This comment is originally from the informal review. Clarification is not provided in the formal submittal. The section and Table show that the full size is an expansion of the current cells and the capacity is included in the Permit Part A. It should be made clear that a permit modification is needed before IDF is expanded to its full size.				Open	TG
4	Pg. C.3, Section C.1.1.2, Line 15	Is this in addition to the operating record? This statement does not provide enough information to fully understand the documentation.	Provide added description how the tracking system for waste containers meets this requirement. “A description of and the quantity of each dangerous waste received or managed on-site, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by subsection (2) of this section, recordkeeping instructions.”	WAC 173-303-380(1)(a)			Open	nw
5	Pg. C.4, Section C.2.1	This section does not describe that the pour spouts from the melters will be removed and placed into boxes, and that the melters will be placed into the landfill directly.	Work with WTP to ensure an accurate description of the containers is listed in this section as it will impact further information needed in the Process Information Addendum.	Accuracy			Open	nw
6	Pg. C.4, Section C.2.1	IDF has specific criteria for waste packaging which is not included here.	Include information from the IDF Waste Acceptance Criteria, Sections 4.0, 4.1, 4.5, and 4.6. Ecology will review once the Waste Acceptance Criteria is received from the Permittees.	WAC 173-303-665(2)(g)			Open	nw
7	Pg. C.4 Section C.2.1.2	IDF has specific requirements for waste container labeling which is not included here.	Include information from the IDF Waste Acceptance Criteria, Appendix I, Section I1.0, I3.0, I4.0, I5.0, and I6.0. Also include information from Appendix I, Tables I-1 and I-2. Ecology will review once the Waste Acceptance Criteria is received from the Permittees.	WAC 173-303-665(2)(g) WAC 173-303-630(3)			Open	nw

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8	Pg. C.4, Section C.2.1.3	IDF has specific requirements for compatibility of waste with the liner system which is not included here.	Include information from the IDF Waste Acceptance Criteria, Section 3.1.1.5, Appendix D, and Appendix H, Section H1.0. Ecology will review once the Waste Acceptance Criteria is received from the Permittees.	WAC 173-303-665(2)(g)			Open	nw
9	Pg. C.5, Section C.2.2.1	There is additional information included on handling of packages that is not included here.	Include information from the IDF Waste Acceptance Criteria, Section 4.3. Ecology will review once the Waste Acceptance Criteria is received from the Permittees.	WAC 173-303-665(2)(g)			Open	nw
10	Pg. C.7, Section C.2.5, Line 34	The statement, "The IDF storage and treatment pads do not contain equipment" is inaccurate. Container handling equipment used in the IDF storage and treatment pads is described in C2.2.2. While it appears the intent is that the IDF pad does not have equipment that would be regulated by WAC 173-303-690 and -691, the statement is not clear as written.	Revise statement to read, "The IDF storage and treatment pads do not contain process vents or equipment that contains or contacts hazardous waste, and are, therefore, not subject to..."	Clarification of how WAC 173-303-691 does or does not apply.			Open	nw
11	Pg. C.7, Section C.2.5	WAC 173-303-691 applies to equipment, such as pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines and valves. The P&IDs and design drawings indicate the IDF leachate collection system contains some of these equipment types, such as pumps and valves. The process section must account for applicability of WAC 173-303-691 for all portions of the operating unit group.	Revise addendum to demonstrate why the WAC 173-303-691 is not applicable to any portion of the operating unit group, or describe how the requirements of WAC 173-303-691 will be met to applicable portions of the operating unit group.	WAC 173-303-691			Open	nw
13	Pg. C.8, Section C.3	Details are lacking regarding the decision-making for choosing a specific treatment technology for a specific waste stream.	Provide details regarding the decision-making process for what treatment technology is needed for each specific waste stream.	WAC 173-303-283(3)(h) 40 CFR 268, as incorporated by reference at WAC 173-303-140			Open	MoJ
14	Pg. C.8, Section C.3.1	Does not identify which IDF waste streams this section applies to.	Identify which IDF-accepted waste streams will be macroencapsulated.	WAC 173-303-665(2)(g)			Open	nw
15	Pg. C.8, Section C.3.1.1	Does not describe which IDF-accepted waste streams this type of treatment pertains to.	Identify which IDF-accepted waste streams this process applies to.	WAC 173-303-665(2)(g)			Open	nw
19	Pg. C.9 and C.10, Section C.3.2 through C.3.2.3	Does not describe which IDF-accepted waste streams this type of treatment pertains to.	Identify which IDF-accepted waste streams this process applies to.	WAC 173-303-665(2)(g)			Open	nw
20	Pg. C.26-27, Section C.4.7	This information is not consistent with the information provided by WTP for the melters. It doesn't appear that the large portion of the melters will be placed into boxes.	Work with WTP to ensure an accurate description of the containers is listed in this section 7.	Accuracy			Open	nw

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21	Pg. C.27, Section C.4.8, Lines 14-19	This paragraph fails to address how requirements of Permit ST04511 and WAC 173-303-140 are met.	Describe how the use of liquids in the landfill for dust suppression is compliant with both Permit ST04511 and WAC 173-303-140.	WAC 173-303-140 ST04511			Open	nw
22	Pg. C.27, Section C.4.9	This statement is incorrect. Liquids in the landfill are prohibited unless all state LDRs are met. This section does not describe how this section is met for the melters.	Describe how placement of the cooling water from the melters into the landfill cells is acceptable in accordance with state LDRs. Describe how the Permittees will ensure that other containers holding free liquids would meet WAC 173-303-140.	WAC 173-303-140			Open	nw
Appendix C1, Phase I Critical Systems Design Report								
1	Pg. 19, Footnote #1	The footnote is incorrect. The identification of critical systems for IDF remains the same.	Delete the footnote.				Open	nw
2	Pg. 109, Footnote #2	The footnote is incorrect. The identification of critical systems for IDF remains the same.	Delete the footnote.				Open	nw
Appendix C2, Critical Systems Table								
1	General	It seems the pump data should remain in this appendix.	Reinsert the pump data back into Appendix C.2.				Open	nw
2	Pg. 1, Section 1.0	This section states that the critical systems are identified in this appendix. The critical systems are actually identified in Permit Condition.III.C.1.a.	Change "identifies" to "discusses."				Open	nw
3	Pg.1, Section 2.0	This section incorrectly identifies the critical systems.	The description in Section 2.0 must match and include the systems identified in Permit Condition III.C.1.a.				Open	nw
4	Pg. 1, Section 2.0	The last sentence of this section is an invalid statement.	Delete the last sentence.				Open	nw
Appendix C3, Critical Systems Design Drawings								
1	General	Ensure the TOC for Appendix C3 is updated to include all drawings		accuracy			Open	mj
2	Drawing H-2-830828	Sheets 2 and 3 were not submitted.	Can we have a conversation on why these sheets are not submitted with the application?	Permit relevance			Open	nw
3	Drawing 837964	Sheets 1 and 2 were not submitted.	Can we have a conversation on why these sheets are not submitted with the application?	Permit relevance			Open	nw
4	Drawing 830838	This drawing is not PE stamped.	Provide stamped drawing.	Permit relevance			Open	nw
Appendix C4, Detailed Design Cell 1 Construction Quality Assurance Plan								
1	General	Do we have the same thing for Cell 2? Or do you just need them to update the title and state that this QA Plan applies to both Cells?	Provide an additional appendix with the document for Cell 2 or update this appendix to indicate it is for both cells.	Accuracy			Open	mj
Appendix C5, Facility Response Action Plan								
1	General	It appears that the Response Action Plan does not provide analyses for both cells.	Include language which accounts for ALR for both Cell 1 and Cell 2.	Permittees are requesting authorization to operate Cell 1 and 2 for MW disposal.			Open	nw

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Appendix C7, Leachate Monitoring Plan								
1	General	IDF Unit-Specific Permit Condition requires, "Leachate in the LCRS (primary sump) shall be sampled and analyzed monthly for the first year of operation of the facility and quarterly thereafter (pursuant to WAC 173-303-200). Additionally, leachate shall be sampled and analyzed to meet waste acceptance criteria at the receiving Treatment Storage and Disposal Facility." I do not see where Addendum C or Appendix address these two requirements.	Describe how these requirements are met. Describe the primary sump will be sampled and analyzed monthly for the first year of operation and quarterly thereafter. Describe how the leachate shall be sampled and analyzed to meet waste acceptance requirements at the receiving TSD.	Clarification			Open	nw
2	Pg. 1, Section 2.0, Line 19	What are Operator Interface Units? Where are they located?		Only asking for clarification			Open	MJ
3	Pg. 1, Line 33	In the informal review, there was a note from the engineer on the right margin. Should the comment that is in the margin be included in the text? Comment read: "or 18" above the sump floor....since sump is 6" deep"	Please include if needed.				Open	MJ
4	Pg. 1, Section 2.1, 2 nd paragraph	What determines whether the pumps will be operated automatically or manually?	Describe the determination for automatic or manual operation.				Open	nw
5	Pg. 1, Section 2.1, 2 nd paragraph	The last sentence was deleted between the informal and formal reviews.	Insert as the final sentence of this paragraph, "The leachate monitoring operating parameters for the LCRS level alarms and indicators are provided in Table 14-1.				Open	nw
6	Pg. 1, Section 2.1	The table on LCRS leachate monitoring operating parameters was deleted between the informal and formal reviews.	Insert Table 14-1, LCRS Leachate Monitoring Operating Parameters, back into this appendix.				Open	nw, mj
7	Pg. 2, Section 2.2	The table on Leachate monitoring operating parameters was deleted between the informal and formal reviews.	Insert Table 14-2, LDS Leachate Monitoring Operating Parameters, back into this appendix.				Open	nw, mj
8	Pg. 2, Section 2.2	The reference to the ALR calculation sheet was deleted between the informal and formal reviews.	Insert the reference to the typical average daily ALR calculation sheet back into this appendix.				Open	nw
Appendix C8, Sub-Surface Liquids Monitoring and Operations Plan								
1	Pg. 15.1, Section 2.1, 3 rd paragraph, Lines 37-38	Changed the 2 nd sentence to read, "Calibrations will be performed annually or more frequently at intervals suggested by the manufacturer (Addendum C)."	Change this sentence back to the language in the informal submittal. "In accordance with the IDF Permit Condition III.11.B.5.e.vi, calibration will be performed annually or more frequently at intervals suggested by the manufacturer (refer to Section 4.3.7.4, "Maintenance Procedures for Leachate Collection and Removal Systems," of the IDF Permit Chapter 4.0.	Clarity – this permit condition will not go away.			Open	nw

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2	Pg. 15.1, Line 14	Information from the current permit was omitted. This information provides a description of the SLDS. Does the permittee plan to leave these details in the Process Information Addenda? If the information is retained in the Process Information, this section may be able to point to the Process Information, instead of repeating text.	After “sump areas,” add “and consists of operations layer type fill for a foundation of the LDS admix layer, drainage gravel with a hydraulic conductivity of at least 1 x 12 10-2 centimeter per second adjacent to a perforated pipe, a composite drainage net (CDN) and tertiary geomembrane. A nonwoven separation geotextile is located between the operations layer type material and the drainage gravel to minimize sediment (fine-soil) migration into the SLDS piping. The purpose of this system is to provide access to the area immediately below the LDS sump area. The SLDS liners will convey collected liquids to the SLDS piping.”	Clarity			Open	nw, mj
3	Pg. 15.1, Lines 29 and 30	Should “SLDS liner” be “SLDS sump” for liquid accumulation depth, since the leak detection riser pipe is located at the base of the SLDS sump?					Open	TG
4	Sections 15.2.2, 15.2.3 and 15.2.4	It is not clear if the leachate from the SLDS will be managed and sampling separately from the LDS. Does SLDS has a separated ALR? Section 15.2.4 states:“... ALR associated with the LDS (not SLDS) ...”. How “exceeding the ALR may be an indication of failure of the primary lining system”?					Open	TG
5	Pg. C8.2, Section 2.3	IDF Unit-Specific Condition III.11.F.3.c requires, “At least 180 days prior to initial waste placement, the, the Permittees shall submit to Ecology for approval a Sub-Surface Liquids Monitoring and Operations Plan (SLMOP) for the SLDS to include the following: monitoring frequency, pressure transducer configuration, liquid collection and storage processes, sampling and analysis and response actions.” This SLMOP does not include sampling and analysis information on the leachate accumulated within the SLDS.	Provide a description of sampling and analysis for the leachate collection in the SLDS.	Clarity			Open	nw
6	Pg. 15.3, Line 1&2	The sentence doesn’t make sense: Why no additional action required for SLDS when IDF liner system problem is indicated by ALR exceedance?					Open	TG

Addendum D, Groundwater Monitoring Plan

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1	Page 2-1, Section 2.1	The description of the Point of Compliance cannot be merely a repeat of the regulations, and this is too vague to be suitable for a final groundwater monitoring plan. The following is expected: <ul style="list-style-type: none"> - Identify what is <i>the regulatory point of compliance</i>, (WAC 173-303-645(6)) and show that location on a map. - Discuss how the wells will meet regulatory requirements (WAC 173-303-645(8)(a)(ii)) to represent the quality of groundwater <i>passing the point of compliance</i> based on the planned well locations. The groundwater protection standard must be achieved at monitoring wells located at the point of compliance.	Describe the point of compliance specifically for the IDF. Provide how the groundwater protection standard will be met at the point of compliance.	Ensure the point of compliance is described for the IDF specifically, and that the groundwater protection standard will be met at the point of compliance.			Open	SPL
2	Page 2-1, Section 2.3	There is no information provided on the potential dilution effects caused by long well screens in monitoring wells. This should be discussed, even if only a summary, and how these potential dilution effects will be addressed. Appendix B provides information on sampling to address this, but it should be mentioned here.	Discuss the potential dilution effects of long well screens and how these will be addressed.	Completeness, to address the need to obtain representative groundwater samples.			Open	SPL
3	Page 2-5, last paragraph, line 36	“Afterwhich” is not a word.	Change to “After which.”	editorial.			Open	nw
4	Page 2-7, line 12-16	There is no information presented to explain why the prediction interval approach is the correct thing to do; and what level of success this approach will provide over other approaches for consideration.	Explain rationale for using this approach				Open	DM
5	Page 2-10, lines 25-27	Change “at DOE’s discretion” to “After discussion with Ecology...”	To ensure that decisions made on monitoring data are within Ecology’s requirements				Open	DM
6	Page 4-2, lines 9-12	“addition samples may be required” leaves decision to DOE unilaterally	Change language to reflect the need for discussion with Ecology to reach appropriate decision re: additional sampling				Open	DM
7	Page 4-9, Table 4-3, note	This excludes polychlorinated biphenyls, polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, pesticides, and herbicides. These need to be included at least for the first year.	Include polychlorinated biphenyls, polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, pesticides, and herbicides in the analyses.	To ensure a baseline of these constituents is obtained. Methods 8270 and 8082 are in Appendix 5.			Open	JY
Addendum D, Appendix A, Quality Assurance Project Plan								
1	Page A-8, Table A-2	The PQL shown for selenium is greater than the Maximum Concentration in WAC 173-303-645, Table 1 (10 ug/L). This is a site-specific monitoring constituent, so it is important to have the capability of quantifying a value less than the Maximum Concentration. A lower PQL needs to be identified, or provide Ecology an explanation why a lower PQL cannot be achieved.	Provide a lower PQL for selenium or provide to Ecology an explanation why a lower PQL cannot be achieved for selenium.				Open	SPL

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2	Page A-17, Table note	The statement is unacceptable to Ecology	Remove statement throughout document, in concert with other plans				Open	DM
Addendum D, Appendix B, Sampling Protocol								
1	Page B-3, line 22	"...in general" is vague.	Change language to say "...three or more rinse cycles are performed..."	To ensure consistency and continuity in decontamination			Open	DM
2	Page B-4, line 2	"...(if needed)..." and "...typically..." is vague	Delete those two words	It is very highly unlikely that there will be a situation where the cowling is not washed, and the pump is not submerged for cleaning			Open	DM
Addendum E, Security								
1	General	The addendum does not state that the security provisions will remain in effect through final closure, unless the security addendum is modified for closure.	Add clarification to addendum that security remains in effect through final closure.	WAC 173-303-610(7)(c)			Open	nw
2	Section E.2, last sentence.	Include a description of how the facility will guard against physical contact with wastes, structures, or equipment...and disturbance of the waste or equipment...by unknowing or unauthorized entry...	Add clarification to the final sentence on how you ensure that physical contact or disturbance of waste will not occur or will not injure unknowing or unauthorized persons or livestock.	WAC 173-303-310(1)(a) and (b)			Open	nw
Addendum F, Preparedness and Prevention								
1	General	This addendum does not describe how the facility prevents undue exposure of personnel to dangerous waste (for example, protective clothing); and	Provide a description of preventive measures.	WAC 173-303-806(4)(a)(viii)(E)			Open	nw
Addendum G, Training								
1	Pg. G.1, Section G.1, 2 nd paragraph, Line 9	This training plan is associated with dangerous and/or mixed waste management activities.	Add "dangerous and/or mixed" to this sentence.	Consistency and clarification			Open	nw
2	Pg. G-1, Section G.1.1.1, Lines 29 – 31	It is unclear if the 6 month time frame is specific to the General Hanford Facility Training or if it applies to General and Unit Specific.	Can we clarify, is the 6 month time frame specific to the General Hanford Facility Training or does it apply to General and Unit Specific.	Clarification			Open	MJ
3	Pg. G-2, Section G.1.1.1, Lines 9 – 12	It is unclear the difference between transient sampling personnel and Soil and Groundwater Samplers, and where the appropriate training requirements are listed for each.	Provide a description of the two types of samplers and the difference in training.	Clarification			Open	nw
4	Pg. G-7, Table G-1	Table does not include the footnotes that were in the template.	Add the footnotes 8/26/2019: The Permittees will review the footnotes and respond to comment.	Consistency and clarification			Open	nw
5	Pg. G-9, Table G-2	The job titles and descriptions of "Waste Services" do not match the template	This does not seem correct. Are these waste management positions the same as those out of the CHPRC central waste management organization? If so, these positions and job duties should match the template. 8/26/2019: The Permittee will review and provide clarification on job titles.	Consistency and accuracy			Open	nw
Addendum H, Closure Plan								

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1	Pg. H.10, Section H.4.1, Par. 1	Addendum I does not appear to include all the requirements for closure inspections.	<p>Add information detailing closure inspections.</p> <p>8/26/2019: how do we document that as you get closure to closure, more information will be required? This should be a conversation that we have before completing the permit conditions.</p> <p>Suzanne – major theme agreement that near-term units would need full-meal detail. Units not closing in the near term but further out, all of CHPRC units closure plans would have the full-meal deal closure plan.</p> <p>Ecology will take an action to look at the major theme agreements to see what got resolved or didn't get resolved.</p> <p>Ecology needs to have an internal discussion of how closure plan requirements will be met on a unit in the 8c permit that won't close for a long way out.</p>	WAC 173-303-665 (4) and (6)	<p>9-17-2020 – closure inspections are not included in Addendum I.</p> <p>Pg. I.3, Section I.5 states, "Inspections that will be conducted at the IDF during the closure and post-closure periods will be added by future permit modification(s).</p> <p>A comment has been added to the inspection RCR to change the last sentence of Page I.3, Section I.5, last sentence to state, "Inspections that will be conducted at the IDF during the closure or post-closure periods will be added to Addendum H or Addendum I, prior to the commencement of closure activities. These changes will be added to the addendum through a permit modification."</p>		Open	NW
2	General	Section H.3.1, Storage and Treatment Pad Closure Performance Standards references Table H-2, Performance Standards for Target Analytes. Table H-2 applies to clean closure performance standards. However, the Table is listed under Section H.3.2, Disposal Cell Closure Performance Standards. The location of Table H-2 leads to confusion.	<p>Move Table H-2 under Section H.3.1.</p> <p>Verify that all of the Closure Performance Standards listed in Table H-2 match the Closure Performance Standards identified in Ecology Letter 20-NWP-132.</p>	WAC 173-303-610(2) Details and accuracy			Open	NW MJ
Appendix H-A, Sampling and Analysis Plan								
1	App H-A, Pg. HA.1, Section HA.1, Line 5	May be more appropriate to change the sentence to read, "IDF is an Operating Unit Group that contains" And then add a final sentence detailing that the two disposal cells will be closed with and approved landfill cover, therefore no sampling will be described for those two DWMUs.		Details and accuracy	<p>9/17/2020: not updated yet. Line 5 needs to be changed to "operating" rather than "closure."</p> <p>Need to add the last sentence.</p>		Open	MJ
2	App H-A, Pg. HA.11, Table HA-3, Soil Analytical Performance Requirements	Please verify that all of the Closure Performance Standards listed in this table match the Closure Performance Standards identified in Ecology Letter 20-NWP-132.	Verify accuracy				Open	MJ NW

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3	App H-A, Pg. HA.29, Section HA.3.6.3	The statement is made that, <i>“Sample custody will be maintained in accordance with existing Hanford facility protocols to ensure...”</i> Where are these requirements found?	Revise language as follows: <i>“Sample custody will be maintained in accordance with existing Hanford Site protocols (DOE/RL-96-68) to ensure the maintenance of sample integrity throughout the analytical process. These protocols are found in HASQARD Volumes 2 and 4.”</i>	The people (regulators, public, stakeholders, etc.) who read and review these plans, must be able to determine if the proper criteria are being followed to ensure sample integrity.			Open	MoJ
Addendum I, Inspection Plan								
1	Pg. I-1, Section I.2, Line 26-27	This modification includes updating the inspection plan o include operational inspections.	Please provide the justification for the frequency of inspections located in the facility operating record so that Ecology may evaluate the schedule.	WAC 173-320(1)(c)			Open	nw
2	Pg. I-1, Section I.2, Line 28	States that during an inspection, inspectors will evaluate each inspection items against its associated acceptance criteria. However Tables I-1 and I-2 do not list acceptance criteria.	Should this be referring to the “evaluation criteria” as listed in the tables?	Clarity			Open	nw
3	Pg. I.3, Section I.5, Lines 41-42	Addendum I does not appear to include all the requirements for closure inspections.	Change the last sentence of Page I.3, Section I.5, last sentence to state, “Inspections that will be conducted at the IDF during the closure or post-closure periods will be added to Addendum H or Addendum I, prior to the commencement of closure activities. These changes will be added to the addendum through a permit modification.”	WAC 173-303-665 (4) and (6)			Open	nw
4	Pg. 1.4, Section 1.5.2	This section does not identify how the receipt inspection will be documented.	Include the inspection with details in Table I-1.	WAC 173-303-320			Open	nw
5	Pg. 1.7 –1.8, Table 1-1	Language regarding inspections of curbing and pads was changed between informal and formal reviews. Please explain why the entry for Container Storage – IDF Storage Pad only identifies the pad as needing inspection and the curbing has been deleted? Page C.7, Section C.2.3.2 has a bullet that states both storage pads have curbing.	Update Table I-1 to reflect the necessary curbing inspections or revise current text in Addendum C, Process Information to accurately reflect where curbing is located.	WAC 173-303-320			Open	nw
6	Pg. I.7, Table I-1, Treatment Pad	It is not clear what treatment equipment is used.	Where is the treatment equipment defined and described?	Clarity			Open	nw
Addendum J, Facility Response Plan								
1	General	The Facility Response Plan provided in the 6/24/20 Updated Submittal does not reflect the FRP Template that DOE has provided to Ecology to support our reviews of FRPs in the Rev 8C and Rev 9 Permit modifications. Ecology would also request to see a copy of you emergency response procedures so that we can compare the procedures with the text in the updated FRP to ensure consistency.	Update FRP to agree with the Template. Provide associated procedures to assist our review.				Open	MJ
2	General	No evacuation plan is included in the Facility Response Plan..	Add the evacuation plan to the facility response plan..	WAC 173-303-350(2)(f)			Open	nw
3	General	There is no discussion of the amendment of the facility response plan.	Describe the reasons why the facility response plan will be amended.	WAC 173-303-350(5)			Open	nw

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4	General	There is no discussion of the actions to be taken in the event that a dangerous waste shipment, arrives at the facility but cannot be accepted at the facility.	Describe the actions to be taken.	WAC 173-303-350(3)(b)			Open	nw
5	General	The plan does not discuss access to communications or alarms in the situations listed in WAC 173-303-340(2).	Describe access to communications and alarms in these situations.	WAC 173-303-340(2)			Open	nw
6	General	The plan does not discuss aisle space requirements for emergency purposes.	Describe how aisle space requirements are met.	WAC 173-303-340(3)			Open	nw
7	General	The plan does not discuss an internal communications or alarm system capable of providing immediate emergency instruction to facility personnel.	Describe the internal communications or alarm system.	WAC 173-303-340(3)(a)			Open	nw
8	General	The plan does not discuss the availability of water sources and pressure.	Describe the availability of water sources and pressure.	WAC 173-303-340(3)(d)			Open	nw
9	Pg. 3, 1 st sentence, 2 nd paragraph.	It is unclear what is being said here. What is a CAA? CAA is never defined in this document.	Clarify what a leachate collection CAA tank is.	Clarification.			Open	nw
10	Pg. 3, 1 st sentence, 3 rd paragraph	States "Hazardous materials handled might include..."	This is insufficient. Will a permit modification be prepared to update this plan?	Incomplete Information			Open	nw
11	Pg. 5, Section 3.0	Emergency equipment is not listed as required in WAC 173-303-350(3)(e).	List each piece of emergency equipment, type, location, and description individually.	WAC 173-303-350(3)(e)			Open	nw
Addendum K, Post Closure Plan								
1	Pg. K.1, Section K.3, line 28 - 29	Question for clarity. Will the final approved design of the landfill cover dictate if we need to extend the length of the post-closure activities past 30 years?		Clarity			Open	nw