

MEETING NOTES

Waste Management Area C RCRA Facility Investigation Report

MEETING DATE: October 28, 2015

LOCATION: Washington State Department of Ecology Office, Richland, WA

ATTENDEES:

Mike Barnes (Ecology)	Andrea Hopkins (WRPS)	Beth Rochette (Ecology)
Ryan Beach (DOE-ORP)	Jeremy Johnson (DOE-ORP)	Paul Rutland (WRPS)
Joe Caggiano (Ecology)	Jeff Lyon (Ecology)	Maria Skorska (Ecology)
Damon Delistraty (Ecology)	Dan Parker (WRPS)	Cindy Tabor (WRPS)
Jim Field (WRPS)	Anna Radloff (WRPS)	Becky Wiegman (WRPS)
Rebecca Gerhart (EPA)	Julie Robertson (Freestone)	

PURPOSE OF MEETING: The meeting was called to promote Ecology, EPA, DOE, and WRPS discussion about comments associated with and revision of RPP-RPT-58339, Rev. A Draft *Phase 2 RCRA facility investigation Report for Waste Management Area C* (WMA C). The report was submitted to Ecology and EPA in December 2014 to meet *Hanford Federal Facility Agreement and Consent Order* (HFFACO) Milestone M-045-61. Ecology's February 23, 2015 response to the RFI report submittal (Letter 15-NWP-37) noted that holding "a recurring meeting to discuss statements, regulatory interpretations, and the process steps for obtaining an agreeable RFI/CMS process for WMA C Closure" would be beneficial. Lists of expectations, agreements, and actions (including the status of any actions) will be documented in the meeting notes.

STATUS OF PRIOR MEETING NOTES: Ms. Robertson reported that the meeting notes from the August 26, 2015 meeting are in the HFFACO Administrative Record.

GROUNDWATER INFORMATION IN RFI REPORT: On July 7, 2015, Ecology transmitted comments on the Phase 2 WMA C RFI report (RPP-RPT-58339 Rev. A Draft). Ms. Tabor provided a hand-out (Attachment 1) listing select Ecology comments related to groundwater. The meeting attendees discussed their expectations regarding the scope of the RFI report. There were varying expectations about how much non-soil media information should be provided in the RFI report. DOE-ORP representatives stated their opinion that the majority of groundwater information and groundwater decisions should be in the documentation for the 200-BP-5 Operable Unit. Ecology noted that John Price (Ecology) had stated outside this meeting that when HFFACO Action Plan Appendix I was approved, the expectation was that the RFI/CMS would address soil only. However, the meeting attendees from Ecology expressed their perception that the 200-BP-5 and WMA C documents generated to date contain significant gaps in information that must be filled to make WMA C closure decisions. Two actions were assigned based on the discussion.

DISCUSSION OF SELECT ECOLOGY COMMENTS: Ms. Tabor provided a hand-out (Attachment 2) of Ecology comments regarding waste releases and inventory and proposed resolutions. The attendees tentatively agreed to the proposed resolutions for the following comments pending their incorporation into the final RFI report:

- Mike Barnes: comments 2, 5, 6, 7, 8, 9, 11, 12
- Joe Caggiano: comments 14, 23, 25, 26, 52, 54, 78, 109, 119.

The attendees agreed to keep Joe Caggiano comment 66 open for now. Ms. Tabor stated DOE would like to continue efforts to resolve RFI report comments via these routine RFI report meetings, and that to allow sufficient time to work through all the comments, an extension would be required from the

December 5, 2015 comment response due date established in Letter 15-TF-0071, Kevin W. Smith (DOE) to Jane A. Hedges (Ecology) dated August 3, 2015. The meeting attendees agreed that these routine meetings regarding the RFI report are providing an effective means of discussing and resolving the comments. DOE will prepare a formal extension request.

Ms. Tabor informed the meeting attendees that in the future, she will be focusing on development of the WMA C corrective measures study, and Ms. Radloff will be taking the lead for revision of the RFI report.

EXPECTATIONS, AGREEMENTS, AND ACTIONS: An agreement made on April 15, 2015 regarding WMA C tank and soil inventory/leak information was reclassified as an Action and moved from the Agreements list to the Actions list. Refer to the tables below.

NEXT MEETING: The next meeting was tentatively set for November 18, 2015, with the topic being discussion of Ecology comments on risk assessment.

Ryan E. Beach
DOE Project Manager (print)

Ryan E Beach
DOE Project Manager (signature)

11-19-15
Date

Michael W Barnes
Ecology Project Manager (print)

Michael W Barnes
Ecology Project Manager (signature)

11-18-15
Date

DATE	AGREEMENTS
04/15/2015	<p>1. Regarding references in RPP-RPT-58339, Rev. A Draft <i>Phase 2 RCRA facility investigation Report for Waste Management Area C</i> to RPP-PLAN-37243 <i>Phase 2 RCRA Facility Investigation/Corrective Measures Study Master Work Plan for Single-Shell Tank Waste Management Areas</i>:</p> <ul style="list-style-type: none"> • References in the draft RFI report are adequate as is and do not require modification. • The HFFACO milestone (M-045-58) associated with the Master Work Plan is complete. • It would be beneficial to continue discussion on the topics covered in the Master Work Plan.

ACTIONS			
Action Number	Actionee	Description	Status
2015-08-26-1	Cindy Tabor	Evaluate whether internet links to reference documents can be added to the RFI report.	In progress.
2015-08-26-2	Mike Barnes	Provide well screen interval information for inclusion in the RFI report.	Completed 8/26/15. Closed 10-28-15.
2015-08-26-3	Julie Robertson	Provide EPA with a pdf of the hand-out showing status of open actions.	Completed 9/3/15. Closed 10-28-15.
2015-10-28-1	Mike Barnes	Ms. Tabor, Ms. Radloff, and Messrs. Barnes, Caggiano, and Bergeron will work together to clarify what groundwater technical information Ecology needs to see in the RFI report. The parties will also identify whether that information is in 200-BP-5 documents, and if so, where.	New.
2015-10-28-2	Ryan Beach	Based on input from Action 2015-10-28-1, DOE-ORP and -RL will meet to discuss how the necessary groundwater information could be provided to Ecology.	New.
2015-10-28-3	Cindy Tabor	Regarding WMA C tank and soil inventory/leak information, WRPS/DOE will prepare a table with values to be used as the basis for corrective action decision making and will provide the basis information (e.g., reference documents) as footnotes/supporting information. Information in the table will be reviewed in a future meeting, the table incorporated into the meeting notes, and the notes entered into the HFFACO Administrative Record.	New.

Attachment 1 (2 pages)
Ecology Groundwater-Related Comments on RPP-RPT-58339, Rev. A Draft

<i>Comment From (ECV)</i>	<i>Item</i>	<i>Page #/ section # Line #</i>	<i>Tied to Comment</i>	<i>Comment (s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/ problem indicated.)</i>	<i>Hold Point</i>	<i>Disposition (Provide justification if NOT accepted.)</i>	<i>Status</i>
Mike	18	Technetium-99 5.4.1.7 p 5-112-113		<p>Your suggestion on Tc-99 ratios in wells E27-21 and E27-23 is interesting; however, there is another possibility to explain this. That is the nitrate associated with the technetium-99 release(s) makes up just a small component of the nitrate in the groundwater due to nitrate releases within WMA C. The change in groundwater flow has dramatically reduced the Tc-99 at E27-23 with a slight decrease in nitrate concentration and at E27-21 there has been a dramatic increase in Tc-99 with little change in nitrate. Several other wells (A-AX) have seen recent increase in tc-99 to above the drinking water standard E24-33 and E24-22. Is the Tc-99 increase in wells E24-33 and E24-22 due to technetium releases from WMA C?</p> <p>What is the current extent of technetium-99 contamination from WMA C in 2015 and do you have a projection of where the plume will be in 2025? Describe the basis for the extent of technetium contamination as shown in the 2012 contaminant plume map.</p> <p>Do you have an estimate of the Tc-99 curie content present in and around the WMA C technetium plume?</p> <p>Has this technetium-99 plume from WMA C now responsible for the recent rise in technetium at WMA A/AX groundwater wells?</p>			
Mike	20	Suggestions for the Final RFI of WMA C:		<p>WMA C groundwater has been contaminated by events both inside the WMA C area and outside the WMA. You are going to need to piece together a story of how events or potential events evolved providing sufficient details. Some readers may be very familiar with the complex groundwater events and actions, more so than I, but only a few. The reader should not have to find information in order to understand your statements and evaluate them. Thus, summary information and tables on the details of the contaminants, their flow and migration, as well as your interpretation is required. I note the summary of borehole C4297 (section 5.1.2) is a good example of providing concise text summary of the information from the PNNL report 15503.</p> <p>I strongly suggest that more detailed and up to date plume maps for technetium-99, nitrate, sulfate, and iodine-129 are necessary as well as the tabulated groundwater data to provide the reader with sufficient information to follow your story.</p>			
Joe	2	General Comment	Joe 66	<p>An objective of this report in support of the PA and closure ought to be to account for the estimated volume/mass of contaminant inventory released and where it is currently located in space. The estimated volume of releases from tanks and ancillary equipment should be accounted for; i.e., is it in the vadose zone or the groundwater, or did it reach groundwater and has since moved downgradient. The estimated inventories in groundwater and the vadose zone are less than the estimated release volumes. So where is this inventory? Is it in the deeper vadose zone that continues to "bleed" contaminants into groundwater? Is it in the deeper part of the unconfined aquifer that hasn't been adequately characterized? Or is it elsewhere? This should be a program objective. Please include the search for this information in future plans of investigation.</p>			
Joe	4	General Comment		<p>The RFI is intended to provide the data for which the CMS will identify potential corrective measures. For a RCRA RFI, the report should identify the magnitude and extent of all media contaminated by releases from the facility. For groundwater, that information is not provided. DOE, as the owner/operator, is responsible to provide that data, even if that work scope is fragmented into different work scopes for different organizations/contractors. Please provide.</p>			

Attachment 1 (2 pages)
Ecology Groundwater-Related Comments on RPP-RPT-58339, Rev. A Draft

<i>Comment From (ECY)</i>	<i>Item</i>	<i>Page #/ section # Line #</i>	<i>Tied to Comment</i>	<i>Comment (s) (Provide technical justification for the comment and detailed recommendation of the action required to correct/resolve the discrepancy/ problem indicated.)</i>	<i>Hold Point</i>	<i>Disposition (Provide justification if NOT accepted.)</i>	<i>Status</i>
Joe	9	Pg. 1-9, Sect. 1.1.3		WMA C is located above the 200-BP-5 groundwater operable unit, the schedule for which does not coordinate with the planned date of closure of WMA C. If 200-BP-5 closure extends past the closure date for WMA C, then DOE must provide data and corrective action work plans in the CMS to bridge this gap and to fully comply with the requirements for TSD units in WAC 173-303-610, WA HWMA, and RCRA closure requirements for action on groundwater contaminated by WMA C. Please provide.			
Joe	10	Pg. 1-9, lines 39-41		Inadequate. This RFI is to provide data needed to evaluate corrective measures in the CMS for groundwater contaminated by releases from WMA C. Please provide the required data on magnitude and extent of groundwater contaminated by WMA C.			
Joe	17	Pg. 2-23, lines 1-4.		CHPRC may be the contractor that monitors and characterizes groundwater, but the magnitude and extent of releases to groundwater from WMA C should be in this report, regardless of which contractor is responsible. It is the responsibility of DOE, as the owner/operator, to provide needed data on the contaminants and their spatial distribution in the vadose and saturated zones that have arisen from WMA C. Please correct.			
Joe	27	Pg. 5-1, 3-5.		The purpose of this section is to provide the nature and extent of ALL media contaminated by releases from the facility, including groundwater. The magnitude and extent of groundwater contamination needs to be provided, not just some groundwater "facts". That information is needed either here or in an appendix. Please provide.			
Joe	53	Pg. 5-6, bullets.		CN is present in groundwater, but is not on this list of constituents at this or other sites. Did it show in any of the analyses of these samples? Please add.			
Joe	71	Pg. 5-106, lines 28-31. Pg. 5-106, lines 39-43.		The RFI is intended to supply the data that will be used in the CMS, not a supplemental screening level or a general discussion of groundwater. Please include.			
Joe	83	Pg. 6-19, lines 34-39.		Where is the contaminant inventory, areal and vertical extent, and depth distribution of groundwater contaminants? Will this be in the next revision of this RFI? Please address.			
Joe	84	Pg. 6-20, Groundwater Domain		Where is the information/data on the areal and vertical extent of the groundwater contaminant plumes? Please include.			
Joe	94	Pg. 8, lines 3 - 8		The nature and extent of soil contamination in WMA C was a target for this RFI report, but the report misses the target. Furthermore, the groundwater information is superficial and a "preliminary overview", but the data needed are absent. Section 8.2.3, intended to identify data gaps, states information to justify why no further characterization is needed at several facilities. With all the discussions we have had regarding the scope and content of this document, it is frustrating to find much of the needed data/information is lacking. Please provide the information/data you agreed to provide in a format that is easy to read, that includes such things as geophysical logs, estimated volume of soil and groundwater plumes, identification of data gaps, and a path forward for acquiring the missing data/information.			

Attachment 2 (4 pages)
Informal Responses to Ecology Waste Release and Inventory Comments on RPP-RPT-58339, Rev. A Draft

Comment From (ECY)	Item	Page #/ section # / Line #	Tied to Comment	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	Notes	Response	Action																																																																								
Mike	2	Figure 2-15		Table 2-1 event 7-1979 Occurrence report 79-73 discusses failure of a 4 inch water line supplying raw water to WMA C. There is no 4 inch water line on the map or a water line shown near the west side of tanks C-111/C-112. Please discuss. A north arrow on ALL maps would greatly help in orienting the proper map direction especially when the individual tanks are not numbered. With no water line near C-111 and C-112 the spill could have been much larger.		Accept		Added 4 inch line to figure 2-15 and show approx. location of valve leak. Will add info. in table 2-1.		c																																																																								
Mike	5	3.3.1.1 last sentence		Please clarify exactly what "all of the MW sludge was removed from the tanks" means. Does this mean all as in zero is left or all that could be effectively removed by sluicing—thus, a small heel would remain?		Accept		Added text "all that could effectively be removed by sluicing"		c																																																																								
Mike	6	3.3.1.3 1 st and 2nd paragraph		Check agreement of text with Table 3.2 C-103 received CW waste in 1960 and C-110 did NOT receive any CW waste according to the table.		Accept		Checked, changed C-103 to C-104 for CW during 56-62 and changed C-103 PSN date from 1973 to 1972.		c																																																																								
Mike	7	3.4		<p>I would include this table for completeness of the interim stabilization for C Farm</p> <p>HNF-SD-RE-TI-178 Rev. 9</p> <table border="1"> <thead> <tr> <th>TANK NO</th> <th>PAGE NO</th> <th>STAB MTHD</th> <th>DATE STAB</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">Stabilization Record</td> </tr> </tbody> </table> <p>The record is summarized by fiscal year and stabilization method: Administrative Record (AR), Supermax (SN), and Saltwell (Jet)</p> <table border="1"> <tbody> <tr> <td>C-101</td> <td>131</td> <td>AR</td> <td>Nov-83</td> </tr> <tr> <td>C-102⁽²⁾</td> <td>133</td> <td>JET</td> <td>Sep-95</td> </tr> <tr> <td>C-103(2)</td> <td>139</td> <td>JET</td> <td>Jul-03</td> </tr> <tr> <td>C-104</td> <td>147</td> <td>AR</td> <td>Sep-89</td> </tr> <tr> <td>C-105</td> <td>149</td> <td>AR</td> <td>Oct-95</td> </tr> <tr> <td>C-106(6)</td> <td>--</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>C-107(2)</td> <td>151</td> <td>JET</td> <td>Aug-95</td> </tr> <tr> <td>C-108</td> <td>158</td> <td>AR</td> <td>Mar-84</td> </tr> <tr> <td>C-109</td> <td>160</td> <td>AR</td> <td>Nov-83</td> </tr> <tr> <td>C-110</td> <td>162</td> <td>JET</td> <td>Jun-95</td> </tr> <tr> <td>C-111</td> <td>167</td> <td>SN</td> <td>Mar-84</td> </tr> <tr> <td>C-112</td> <td>168</td> <td>AR</td> <td>Sep-90</td> </tr> <tr> <td>C-201</td> <td>170</td> <td>AR</td> <td>Mar-82</td> </tr> <tr> <td>C-202</td> <td>171</td> <td>AR</td> <td>Aug-81</td> </tr> <tr> <td>C-203</td> <td>172</td> <td>AR</td> <td>Mar-82</td> </tr> <tr> <td>C-204</td> <td>173</td> <td>AR</td> <td>Sep-82</td> </tr> </tbody> </table>	TANK NO	PAGE NO	STAB MTHD	DATE STAB	Stabilization Record				C-101	131	AR	Nov-83	C-102 ⁽²⁾	133	JET	Sep-95	C-103(2)	139	JET	Jul-03	C-104	147	AR	Sep-89	C-105	149	AR	Oct-95	C-106(6)	--	N/A	N/A	C-107(2)	151	JET	Aug-95	C-108	158	AR	Mar-84	C-109	160	AR	Nov-83	C-110	162	JET	Jun-95	C-111	167	SN	Mar-84	C-112	168	AR	Sep-90	C-201	170	AR	Mar-82	C-202	171	AR	Aug-81	C-203	172	AR	Mar-82	C-204	173	AR	Sep-82		Accept		Added Table		c
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Mike	8	Section 3.6	Mike 9 through 13	<p>SECTION 3.6 in general is lacking specific details on the nature and amounts of waste that are shown in Table 3-3. Below is verbiage from the RFI guidance on waste characterization and its importance:</p> <p>Waste and unit characteristics will also provide information for determining release rates and other release characteristics (e.g., continuous as opposed to intermittent). Waste and unit information is also important for determining the nature and scope of any corrective measures which may be applied. Without adequate waste characterization, it is difficult to ensure, that all constituents of concern will be monitored during the release investigation, unless all possible constituents are monitored</p> <p>Waste characterization should also be designed to provide sufficient information to support the implementation of interim measures and/or corrective measures.</p> <p>In general I find Table 3-3 lacking the details on specific constituents of concern, as well as the volume estimates. Table 3.3 should list current estimates of waste inventory and characterization of the ancillary equipment. It is uncertain if 90% retrieval completion is possible given the differences in size and shape of the ancillary equipment as compared to the 100 or 200 series tanks.</p> <p>My concerns are listed below:</p>		Accept		Updated information to reflect current information in Soil Inventory Report (RPP-42294). See below, also will replace Table 3-3 with table showing volume released and inventories for specific rad and chem constituents of concern.		c																																																																								

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Mike	9	3.6.1 and 3.6.2	Mike 8	<p>Retrieved Tanks and NOT yet Retrieved Tanks I find the waste residual inventory description/calculation confusing at best.</p> <p>I would say that for all retrieved tanks: Residual waste volume is calculated by either the CAD system or by volume displace differential</p> <p>The tanks are then sampled with Ecology approved SAP/TSAP and the residual inventory is then calculated. For those retrieved tanks C-101, C-107, and C-112 which had not been sampled and analyzed at the date of publication waste concentration estimates have been used.</p> <p>For the final RFI due 12/31/2016 it is doubtful that analysis of all of the tanks will be completed at the time of the cut-off date. Based on the issues present today with tanks C-102, C-105 and C-111 it is extremely doubtful that retrieval will approach the 10.2m³ (360 ft³) performance goal used for the NOT yet retrieved tanks.</p>		Accept		Changed as recommended		c
Mike	11	3.6.3.1	Mike 8	<p>CATCH Tank and 244-CR Vault You display little if any information on amount of waste or content in the text so there is no way to confirm the information for C-301 catch Tank and 244-DR Vault shown on Table 3-3</p> <p>The following information was copied from Waste Tank Summary report for Month Ending November 30, 2014 Table 5-1 on page 37 of the report see the report as it shows an estimated sludge level of ~10,000 gallons among the 4 vault tanks. This distribution of waste is much different than what have seen in reports from the 1990s work. I will note the vault cells and resulting precipitated solids were used for specific purposes as thus the average concentration of waste used for other cell characterization approximations may/may not be advisable. However, it may not be possible or worthwhile to develop specific approximation differences for each of the cells. This is probably something Ecology, ORP and WRPS should discuss before the final RFI.</p> <p>I would suggest these values from the Waste Tank Summary Report are better estimates as given in TOC-PRES-14-3310 -FP Revision 0 in Case Study in Corporate Memory Recovery: Hanford Tank Farms Miscellaneous Underground Waste Storage Tanks - 15344 Prepared for the U.S. Department of Energy Assistant Secretary for Environmental Management</p> <p>From the document "The MUST waste volumes, waste level measurements, tank calibration tables, waste volume calculations, and supporting primary references were packaged and published as a separate document [6], and the HNF-EP-0182, Waste Tank Summary tables updated with the new waste volumes."</p> <p>244-CR Vault/ C Farm B, BX, BY, C Farm sludge 3.6 2/25/2014 (70) TK-CR-001 slurry 244-CR Vault/ C Farm Process jumper connection <0.10 3/3/2010 (70) Sump-CR-001 leaks or cell decon washdowns 244-CR Vault/ C Farm 244-CR Vault Tank CR-001 0.75 11/29/2004 (70) TK-CR-002 244-CR Vault/ C Farm Process Jumper connection <0.10 3/09/2010 (a) Sump-CR-002 leaks or cell decon washdowns 244-CR Vault/ C Farm Former C Farm saltwell 2.3 2/25/2014 (70) TK-CR-003 receiver tank 244-CR Vault/ C Farm Process jumper connection <0.10 3/10/2010 (70) Sump-CR-003 leaks or cell decon washdowns 244-CR Vault/ C Farm 244-CR Vault Tanks CR-002 4.0 11/30/2004 (70) TK-CR-001 and CR-003 244-CR Vault/ C Farm Process jumper connection <0.10 3/25/2010 (70)</p>		Accept		The requested values in HNF-EP-0182 are used for the residual inventory report will be used for the RFI. Will change reference to RPP-RPT-58156, Basis for Miscellaneous Underground Storage Tanks and Special Surveillance Facilities Waste Volumes Published in HNF-EP-0182 Revision 320 "Waste Tank Summary Report for Month Ending August 31, 2014".		c
Mike	12	3.6.3.2 Pits	Mike 8	<p>3.6.3.2 Pits</p> <p>Would you please go over in more detail how the estimated volume of the pits was derived, not that 92 gallons is a lot of waste but I can't follow the calculation nor do I understand what a grout formulation factor of 0.30 has to do with anything. Are valve boxes included in the "pits" for C Farm? I note page 3-11 states there are three valve boxes and one valve pit in C Farm. Is there expected to be any residual inventory or contamination in the valve boxes?</p>		Accept		Added better explanation of adsorbed volume estimate for pits and identified pit structures included.		c
Joe	14	Pg. 2-19, Fig 2-6		<p>This caption is misleading. What about the drywell/French drains located in and around WMA C? Liquids of varying quantities and compositions were discharged to these facilities, although the volume may have been small. Please correct this figure.</p>		Accept		Caption revised to "Primary liquid waste disposal facilities surrounding WMA C"		c

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Joe	23	General Comment on Section 3.		In a couple of places, drywells and/or French drains are mentioned, but there is no location or description of the volume and types of contaminants discharged to them (e.g., from C5 Loadout facility). These are likely constructed differently from the "conventional drywells" used for geophysical logging around C Farm tanks. Please add something about their construction design and operating history.		Accept, shown in sections 3.2.2.6 and 3.2.2.7		See Section 3.2.2.7. Added volume discharged to french drains associated with C5 loadout facility is unknown.		c
Joe	25	Pg. 3-4, lines 24, 25		As written, this sentence implies that there is a cascade line between ALL tanks (e.g., C-103-104). Each tank in a cascade of 3 tanks has a cascade line running between the tanks. Please correct.		Accept		Revised as stated.		c
Joe	26	Pg. 3-5, lines 1-10		It would probably be pertinent to state that the spare inlets for all these tanks had varying quality seals, ranging from force-fit wooden plugs to better quality seals. These poor quality seals contributed to releases for overfilled tanks. Please add.		Accept		Revised as stated.		c
Joe	52	Pg. 5-1, lines 10-12.		There are multiple high-level waste streams emanating from the various spent-fuel reprocessing operations. What specific waste stream was being moved when this release occurred? Please elaborate and also what other constituents might have been present in significant quantities in this waste stream.		Accept		Clarified waste stream released and incorporated documented waste transfer information documented in sources like Agnew, and other such sources, etc.		
Joe	54	Pg. 5-6, line 10.		If pH is an indicator of past waste, what constituents would be associated with this zone for inventory estimates if there are no specific constituents associated within this zone? Please address.		Accept		Revised bullet for clarity. The zone is 12 to 16 m and pH is 8 to 9.3. Elevated constituents in the 12 to 16m zone are described in other bullets.		
Joe	66	General Comment	Joe 2	As an overview, there ought to be an estimated inventory potentially released to the soil from tanks and other sources (with appropriate uncertainties) and the currently known/estimated mass of contaminants in the vadose zone and groundwater. If these do not agree within appropriate limits, then there ought to be an explanation of where the released inventory might be and how characterization activities will be planned to determine the means to characterize/search for the missing inventory. This would be a good introduction to justify the investigations. Please consider.		Accept		Information from RPP-RPT-42294 will be incorporated into the RFI which will discuss the estimated inventory released.		

Attachment 2 (4 pages)
Informal Responses to Ecology Waste Release and Inventory Comments on RPP-RPT-58339, Rev. A Draft

Comment From (ECY)	Item	Page #/ section #/ Line #	Tied to Comment	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	Notes	Response	Action
Joe	78	Pg. 5-133, Table S-13		It would be useful to add another row to this table to provide the total estimated release inventories for each constituent/site and the uncertainty. Please include.		Accept		Will include another row to this table to provide the total estimated release inventory for each constituent. Text will be added for uncertainty - to be consistent with RPP-RPT-42294. The process for determining these estimates is defined in RPP-32681. These estimates of past releases, some of which are considered bounding estimates, provide the technical basis for initial flow and transport analyses of past leaks that will be evaluated as part of the WMA C performance assessment. Before WMA C performance assessment model analyses of past leaks are performed, the scoping analysis step evaluates the reasonableness of the assumptions and inputs in various models. One important aspect of this scoping analysis step includes an examination of inputs such as the reasonableness of the initial estimates of the timing, the volume, and the inventories estimated for past leaks.		
Joe	109	Appendix E, Table E-1.		Nice table. It would be helpful to elucidate the differences in composition and concentration/activity for each of these waste types. Waste chemistry and physical properties strongly influence the soil/waste interaction and thus affect its migration through the soil once released. Not all wastes are equal. Please include.				Included current information (table) from RPP-RPT-42294 (Soil Inventory Report) to address issue.		
Joe	119	Appendix E, Table E-1		Metal waste is omitted from this table, but it is on the timeline for at least one tank in timelines that follow this table. Please correct this table.				Included Metal Waste description in table.		