

## MEETING NOTES

## WMA C RCRA Facility Investigation Report Kick-Off

**MEETING DATE:** January 23, 2014

**LOCATION:** 2440 Stevens Center, Richland, WA

**ATTENDEES:**

Mike Barnes (Ecology)

Susan Eberlein (WRPS)

Doug Hildebrand (DOE-ORP)

Naomi Jaschke (DOE-RL)

Jenifer Linville (Freestone)

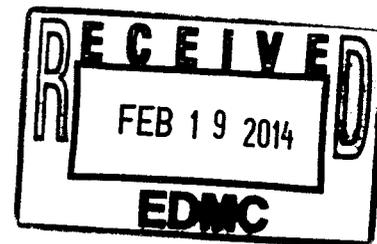
Jeff Lyon (Ecology)

John Morse (DOE-RL)

Julie Robertson (Freestone)

Cindy Tabor (WRPS)

Greg Thomas (CHPRC)



**PURPOSE OF MEETING:** The meeting was called to promote discussion among Ecology, DOE-ORP, DOE-RL, CHPRC, and WRPS regarding the renewed effort to develop a RCRA facility investigation (RFI) report for WMA C. As part of the meeting notes, lists of expectations, agreements, and actions will be documented, and the status of these actions will be tracked.

Ms. Tabor stated that the current effort to prepare the WMA C RFI report is driven by a *Hanford Federal Facility Agreement and Consent Order (TPA)* milestone, M-045-61, that calls for the submittal of an RFI/corrective measures study (CMS) by December 31, 2014, and that the RFI report under development will not include information required to be provided in a CMS. She noted that separate meetings are being held to address this disparity.

**BACKGROUND INFORMATION:**

**WMA C Documents Developed to Date:** Ms. Robertson acknowledged the extensive amount of work that has been performed to date related to the characterization of WMA C. Ms. Robertson noted that the RFI report under development will reference and draw upon information contained in documents such as the following:

- *Subsurface Condition Description of the C and A-AX Waste Management Area (RPP-14430)*
- *Phase 1 RCRA Facility Investigation/Corrective Measures Study Work Plan for Single-Shell Tank Waste Management Areas (DOE/RL-99-36; also known as the Phase 1 work plan)*
- *Field Investigation Report for Waste Management Areas C and A-AX (RPP-35484), and*
- *Phase 2 RCRA Facility Investigation/Corrective Measures Study Work Plan for Waste Management Area C (RPP-PLAN-39114).*

Ms. Robertson stated that the RFI report will focus on the Phase 2 investigation of WMA C, but that other available data will be integrated into summary evaluations, recommendations, and conclusions.

**Recap of 2011 RFI Report Development Activities:** Ms. Robertson reviewed activities conducted in 2011 toward drafting a WMA C RFI report. A series of meetings were held among DOE, EPA, Ecology, and WRPS to discuss expectations for and content of a draft RFI report. Meeting notes were prepared to document the discussions and agreements; these notes were signed by the DOE and Ecology Project Managers and placed in the TPA Administrative Record.

**PATH FORWARD:**

**Proposed RFI Report Outline:** Ms. Robertson handed out a table cross-walking the currently proposed RFI report outline to the contents of the last outline reviewed by Ecology (dated August 2011). Ms. Robertson noted that the proposed outline may change somewhat as document preparation proceeds, though the contents of the overall document should remain consistent. The contents may also change based on the outcome of future discussions among DOE, Ecology, and EPA. The meeting attendees discussed several concerns and expectations about the RFI report, which are captured in tables below.

**Document Schedule:** WRPS is working toward the following funding-dependent schedule.

- The draft WMA C RFI report will be ready for WRPS review at the end of July 2014.
- A revised draft will be available for DOE review in the fall of 2014.
- The WMA C RFI report will be issued for Ecology review in December 2014 to meet the stated agency expectations for TPA Milestone M-045-61.

**Future Meetings:** Future meetings will be held to allow for discussion of the contents of proposed RFI report. The next meeting is scheduled for February 26, 2014, at 10:00 am. Dennis Faulk (EPA) and Beth Rochette (Ecology) are to be invited.

**AGREEMENTS, EXPECTATIONS, AND ACTIONS:** Refer to the following tables. Individual actions will be removed from the list after DOE and Ecology have agreed to close the action.

**ATTACHMENT 1:** Crosswalk between Proposed 2014 RFI Report Outline and Outline presented in August 2011.

<u>R Douglas H Hebrant</u> DOE Project Manager (print)	<u>R Faulk</u> DOE Project Manager (signature)	<u>2-18-2014</u> Date
<u>Michael W Barnes</u> Ecology Project Manager (print)	<u>Michael W Barnes</u> Ecology Project Manager (signature)	<u>2-19-2014</u> Date

<b>EXPECTATIONS.</b>
1. DOE will prepare the WMA C Phase 2 RFI report separate from the CMS. TPA milestone M-045-61, which calls for submittal of an RFI/CMS report, will be renegotiated to align with expectations.
2. The section that addresses regional geology should draw from information presented by Kevin Lindsay and others at a past WMA C Performance Assessment working session and should provide diagrams that reflect the uniqueness of the site.
3. The description of field sampling techniques should describe process improvements made over time and any effects those improvements have made on how the data is interpreted.
4. The document should include information about equipment decontamination activities that occurred in the C Farm over the years as a source of both contamination and water infiltration.
5. The document should include characterization information from dry wells.
6. The document should reflect on information contained in weekly radiological field survey reports ("rounds sheets") regarding surface contamination in C Farm. Mr. Barnes noted that many of the unplanned release sites associated with C Farm are based on airborne or surface contamination events, and many these sites no longer exist (e.g., have been remediated or have dissipated).
7. The document should describe changes made in characterization planning as field work progressed. For example, in the area near the C-200 tanks, initial planning called for direct push investigation. Subsequently, the agencies agreed to investigate that area using surface geophysical exploration (SGE) initially, followed by use of direct push investigation as deemed necessary and feasible based on SGE results and physical limitations in that location.
8. Document sections regarding nature and extent of contamination and human health and risk assessment will be consistent with information being developed for the separate but parallel WMA C performance assessment effort. The RFI report will incorporate whatever information is available on the topics; information gaps will be identified for subsequent resolution.

<b>AGREEMENTS.</b>
1. The RFI report will identify information gaps. Such gaps will be resolved through future efforts prior to submittal of the WMA C CMS. The meeting attendees felt that this process of gap identification and resolution will support future work prioritization agreements.
2. Ecology agrees to the use of the proposed revised RFI report outline shown in Attachment 1.

<b>ACTIONS.</b>			
<b>Action Number</b>	<b>Actionee</b>	<b>Description</b>	<b>Status</b>
2014-01-23-1	Hildebrand	Identify funding to complete the RFI report.	New.
2014-01-23-2	Barnes	Ecology expressed concern about how background levels of contamination will be defined. Ecology will forward a link or copy of a PNNL report on a soil boring that purportedly represented background levels yet was contaminated.	New.
2014-01-23-3	Tabor/Robertson	Compile a list of commitments made in the 2011 RFI Report meetings.	New.

## ATTACHMENT 1

### Crosswalk between Proposed 2014 RFI Report Outline and Outline presented in August 2011

Proposed 2014 Report Section/Subsection Number and Headings	August 2011 Report Section/Subsection Number and Headings
<b>SECTION 1.0 INTRODUCTION</b>	<b>1.0 &lt;Untitled&gt;</b>
1.1 PURPOSE AND SCOPE	(above)
1.2 OVERVIEW	(above)
1.2.1 Regulatory Framework	(above)
1.2.2 General Background and History of WMA C	(above)
1.3 REPORT ORGANIZATION	(above)
<b>SECTION 2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING</b>	<b>3.0 CHARACTERIZATION OF THE CONTAMINANT SOURCE AND THE ENVIRONMENTAL SETTING</b>
2.1 SITE DESCRIPTION	
2.2 HANFORD SITE HISTORY AND OPERATIONS	
2.3 HANFORD SITE AND REGIONAL ENVIRONMENTAL SETTING	
2.3.1 Topography	
2.3.2 Climate	3.4.2 Climatology
2.3.3 Soils	
2.3.4 Geology	Text at <u>Hanford Site</u> level of detail: 3.3 Characterization of the Environmental Setting 3.3.1 Geology 3.3.2 Spatial Variability 3.3.3 Spatial and Temporal Fluctuations in Soil Moisture Content 3.3.4 Solid, Liquid, and Gaseous Materials in the Unsaturated Zone
2.3.5 Hydrology	NA
2.3.6 Groundwater	Text at <u>Hanford Site</u> level of detail: 3.4.3 Groundwater 4.2 Groundwater Monitoring Program 4.2.1 Groundwater Monitoring Objectives 4.2.2 Groundwater Monitoring Constituents and Indicator Parameters 4.2.3 Groundwater Monitoring Schedule 4.2.4 Groundwater Monitoring Locations <b>6.0 FIELD METHODS</b> 6.5 Monitoring Well installation 6.6 Aquifer Characterization
2.3.7 Surface water	NA
2.3.8 Vegetation and Wildlife	3.4.4 Ecology (Text at Hanford Site level of detail)
2.3.9 Land Use	NA
2.4 WMA C SITE DESCRIPTION	3.4.1 Facility Records and Site Investigations

Proposed 2014 Report Section/Subsection Number and Headings	August 2011 Report Section/Subsection Number and Headings
2.4.1 Location and Site Description	3.1 Waste Characterization 3.2 Unit Characterization 3.2.1 Unit Design and Operating Characteristics 3.2.2 Releases 5.1 Waste and Unit Characterization (data) 5.1.1 Information on Physical and Chemistry Characteristics of Major Waste Types (data) 5.1.2 Physical, Chemical, Radiological Characteristics of Inventories Associated with Major Past Releases (data)
2.4.2 Topography	NA
2.4.3 Geology	Text at <u>WMA C</u> level of detail: 3.3 Characterization of the Environmental Setting 3.3.1 Geology 3.3.2 Spatial Variability 3.3.3 Spatial and Temporal Fluctuations in Soil Moisture Content 3.3.4 Solid, Liquid, and Gaseous Materials in the Unsaturated Zone
2.4.4 Hydrology	NA
2.4.5 Surface Water	NA
2.4.6 Groundwater	Text at <u>WMA C</u> level of detail: 3.4.3 Groundwater 4.2 Groundwater Monitoring Program 4.2.1 Groundwater Monitoring Objectives 4.2.2 Groundwater Monitoring Constituents and Indicator Parameters 4.2.3 Groundwater Monitoring Schedule 4.2.4 Groundwater Monitoring Locations <b>6.0 FIELD METHODS</b> 6.5 Monitoring Well installation 6.6 Aquifer Characterization
2.4.7 Vegetation and Wildlife	3.4.4 Ecology (WMA C level of detail)
2.4.8 Land Use	NA
<b>SECTION 3.0 FIELD INVESTIGATION PROGRAM</b>	<b>2.0 APPROACH FOR CHARACTERIZING RELEASES TO SOIL AND GROUNDWATER</b> 2.1 General Approach 2.2 Inter-media Transport
3.1 PREVIOUS/OTHER INVESTIGATIONS	
3.2 PHASE 1 RCRA FACILITY INVESTIGATION	NA
3.2.1 Phase 1 Investigative Basis and Approach	NA
3.2.2 Phase 1 Field Activities	NA
3.2.3 Phase 1 Laboratory Analyses	NA
3.2.4 Phase 1 Data Evaluation	NA
3.2.5 Phase 1 Investigation Results	NA

Proposed 2014 Report Section/Subsection Number and Headings	August 2011 Report Section/Subsection Number and Headings
3.2.6 Phase 1 Interim Measures and Interim Corrective Measures	NA
3.2.7 Summary of Phase 1 Findings and Conclusions	NA
3.3 PHASE 2 RCRA FACILITY INVESTIGATION	<b>4.0 DESIGN OF A MONITORING PROGRAM TO CHARACTERIZE RELEASES</b>
3.3.1 Phase 2 Investigative Basis and Approach	4.1 Soil Monitoring Program 4.1.1 Soil Monitoring Objectives <b>6.0 FIELD METHODS</b> 6.1 Introduction
3.3.2. Phase 2 Surface Characterization and Analysis	4.1.2 Phase 2 Soil Monitoring Constituents and Indicator Parameters 4.1.3 Phase 2 Soil Monitoring Schedule 4.1.4 Phase 2 Soil Monitoring Locations 6.2 Surface Methods 6.2.1 Near Surface Sampling Methods 6.2.2 Surface Radiation Surveys 6.2.3 Surface Geophysics Surveys 6.2.4 Near Surface Gamma Scans
3.3.2.1 Radiological Surveys	(above)
3.3.2.2 Surface Geophysical Exploration	(above)
3.3.2.3 Soil Characterization and Analysis	(above)
3.3.3 Tissue Characterization and Analysis	NA
3.3.4 Subsurface Characterization	4.1.2 Phase 2 Soil Monitoring Constituents and Indicator Parameters 4.1.3 Phase 2 Soil Monitoring Schedule 4.1.4 Phase 2 Soil Monitoring Locations 6.3 Subsurface Methods 6.3.1 Boreholes/Drywells 6.3.2 Direct push 6.3.3 Sampling and Analyses 6.3.4 Surface Geophysical Exploration (SGE)
3.3.4.1 Drywell and Groundwater Well Geophysical Borings	(above)
3.3.4.2 Other Monitoring	(above)
3.3.5 Summary of Deviations from the Sampling Plan	(above)
3.3.6 Summary of data collected	NA
<b>SECTION 4.0 NATURE AND EXTENT OF CONTAMINATION</b>	<b>5.0 DATA PRESENTATION</b>

Proposed 2014 Report Section/Subsection Number and Headings	August 2011 Report Section/Subsection Number and Headings
4.1 ENVIRONMENTAL CHARACTERIZATION 4.1.1. Geology 4.1.2 Geochemistry of undisturbed vadose zone soils and porewater 4.1.3 Hydrology 4.1.4 Soil properties affecting fate and transport	5.2 Environmental Setting Characterization
4.2 CONTAMINATION CHARACTERIZATION	5.3 Characterization of the Release
4.2.1 Data Quality	NA
4.2.2 Screening Values	NA
4.2.2.1 Media Based Screening Values	NA
4.2.2.2 Background Threshold Values	NA
4.2.2.3 Remediation Goals	NA
4.2.3 Evaluation of Analytical Results	5.3 Characterization of the Release
4.2.3.1 Soil Analytical Results	5.3.2 Investigations Near 100-Series SSTs 5.3.3 Investigations Near 200-Series SSTs 5.3.4 Investigations Near Unplanned Release Sites 5.3.5 Investigations Near Other Ancillary Facilities
4.2.3.2.1 Soil Results Summary	5.3.1 Overview of Phase 2 Characterization Results
4.2.3.2.2 Comparison of Soil Analytical Results to Screening Values	NA
4.2.3.2 Groundwater Analytical Results	NA
4.2.3.2.1 Groundwater Results Summary	NA
4.2.3.2.3 Comparison of Groundwater Analytical Results to Screening Values	NA
4.2.3.3 Biota Analytical Results	NA
4.2.3.3.1 Biota Results Summary	NA
4.2.3.3.2 Comparison of Biota Analytical Results to Screening Values	NA
4.3 CONTAMINANT FATE AND TRANSPORT	5.3.6 Extent of Contamination at Scale of WMA C 5.3.6.1 Interpreted Extent of Contamination in Vadose Zone 5.3.6.2 Past and Potential Future Impacts to Groundwater
4.3.1 Conceptual Overview of Waste Releases and Subsequent Subsurface Contaminant Migration	(above)
4.3.2 Fate and Transport of Analytes Detected Above Screening Levels	(above)
4.4 NATURE AND EXTENT RECOMMENDATIONS	NA
4.4.1 Soil	NA
4.4.2 Surface Water	NA
4.4.3 Sediment	NA
4.4.4 Groundwater	NA
4.4.5 Biota	NA
4.4.4 Potential Receptors	NA
<b>SECTION 5.0 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT</b>	<b>NA</b>

Proposed 2014 Report Section/Subsection Number and Headings	August 2011 Report Section/Subsection Number and Headings
<b>SECTION 6.0 SUMMARY AND RECOMMENDATIONS</b>	NA
<b>SECTION 7.0 REFERENCES</b>	<b>9.0 REFERENCES</b>
<b>APPENDICES</b> (examples)	NA
APPENDIX A Field Logs	NA
APPENDIX B Site Photographs	NA
APPENDIX C Analytical Data and Quality Control Tables	NA
APPENDIX D Laboratory Reports and Chain of Custody Records	NA
APPENDIX E Hydraulic Conductivity Tests	NA
APPENDIX F Soil Boring and Monitoring Well Installation Logs	NA
APPENDIX G Analytical Data Summary	NA
APPENDIX H Human Health Risk Assessment	NA
APPENDIX I Ecological Risk Assessment	NA
APPENDIX J Meeting Minutes	NA
APPENDIX K WIDS Site Descriptions	NA
<b>LIST OF TABLES</b>	NA
TBD	NA
<b>LIST OF FIGURES</b>	NA
TBD	NA