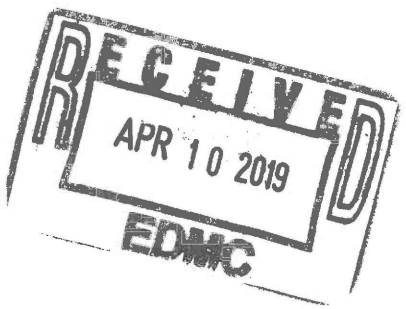
Office of River Protection
Project Managers' Meeting Minutes

2440 Stevens Center
Richland, Washington

February 7, 2019



PROJECT MANAGERS CONCURRENCE SIGNATURES

The undersigned in indicate by their signatures that these meeting minutes reflect the actual occurrences of the above-dated Tri Party Agreement Project Managers Meeting

Jan Bovier, DOE-ORP Date: 3/19/2019

Kaylin Burnett, DOE-ORP Date: 4/1/2019

Janet Diediker, DOE-ORP Date: 3/18/19

Paul Hernandez, DOE-ORP Date: 3/19/19

Steve Pfaff, DOE-ORP Date: 3/29/2019

Jeff Rambo, DOE-ORP Date: 3/19/2019

Sahid Smith, DOE-ORP Date: 3/18/19

Dustin Stewart, DOE-ORP Date: 4/3/19

Richard Valle, DOE-ORP

Date: 04/01/2019

Jeff Lyon, Project Manager
Washington State Department of Ecology

Date: 04/08/2019

Dan McDonald, Project Manager
Washington State Department of Ecology

Date: 4-9-19

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TRI PARTY AGREEMENT MILESTON REVIEW AND MONTHLY SUMMARY REPORT

CONSENT DECREE MONTHLY SUMMARY REPORT REVIEW

TERMS

APR	air-purifying respirator
BNI	Bechtel National, Inc.
BOF	Balance of Facilities
CD	consent decree
DFLAW	direct-feed low-activity waste
DOE	U. S. Department of Energy
DST	double-shell tank
Ecology	Washington State Department of Ecology
EMF	Effluent Management Facility
ETF	Effluent Treatment Facility
EVMS	earned value management system
HLW	High-Level Waste (Facility)
LAB	Analytical Laboratory
LBL	Low Activity Waste Facility, Balance of Facilities and Laboratory
ORP	U. S. Department of Energy, Office or River Protection
PMM	project manager meeting
SCBA	self-contained breathing apparatus
SST	single-shell tank
TBI	Test Bed Initiative
TPA	Tri-Party Agreement
TSCR	tank-side cesium removal
WRPS	Washington River Protection Solutions

TRI-PARTY AGREEMENT MILESTONE REVIEW AND MONTHLY SUMMARY REPORT

1.0 ADMINISTRATIVE ITEMS/MILESTONE STATUS

1.1 Upcoming Meetings

The next project managers meeting (PMM) is scheduled for Thursday, March 7, 2019, from 9:00 a.m. to 11:00 a.m. at the U. S. Department of Energy (DOE) Office of River Protection (ORP) building in Richland, Washington.

1.2 Recent Items Entered/To Be Entered into the Administrative Record

ORP provided the monthly Tri-Party Agreement (TPA) and Consent Decree (CD) reports for January 2018, which cover progress during the period of December 1-31, 2018, and the earned value management system (EVMS) data for November 1-30, 2018.

1.3 Tri-Party Agreement Milestone Status

ORP reported that all TPA milestones reported on were either on schedule or in abeyance.

1.4 Tri-Party Agreement and Consent Decree Agreements, Issue and Action Items

Action No. 1 (TF-16-11-04)

ORP reported that there is no changes in the status of this action item and it remains on hold.

Action No. 2 (TF-17-04-01)

ORP stated that this action item is closed and will be removed from the list.

Action No. 3 (TF-18-11-3)

ORP stated that this action item is closed and will be removed from the list.

Action Item No. 4 (TF-18-07-01)

ORP stated that there is no change in the status of this action item from the previous month.

Action Item No. 5 (TF-18-10-01)

ORP reported that this action is closed, however; Ecology stated that they would like to add one more meeting on the confirmation of the extraction and media. Action will remain open.

Action Item No. 6 (TF-18-10-02)

ORP reported that meeting have been held with Ecology and they are working with Washington River Protection Solutions to prepare a response to Ecology. Action remains open.

Action Item No. 7 (TF-19-01-01)

ORP reported that they only have a rough draft with a finish date of July 21, 2021, but they believe that date will change. No formal schedule has been issued. This item remains open.

Action Item No. 8 (TF-10-01-02)

ORP reported that a meeting with Ecology is scheduled for February 14, 2019, to discuss the dump valve usage for hot/cold run test as well as other related piping scenarios. Item to remain open.

Action Item No. 9 (TF-19-01-03)

ORP reported that this action items is closed per an email from Ecology.

2.0 SYSTEM PLANNING

ORP noted that talks are still ongoing and there has been no change in the status of this activity.

3.0 ACQUISITION OF NEW FACILITIES

ORP reported that there has been no change in this activity.

4.0 SUPPLEMENTAL TREATMENT AND PART B PERMIT APPLICTIONS

ORP reported that there is no change in the status of these milestones and negotiations are still ongoing.

5.0 LOW ACTIVITY WASTE PRETREATMENT SYSTEM SUB-PROJECT ONE (Tank-Side Cesium Removal)

ORP noted that this portion of the monthly report has been updated to outline design reviews planned over the next six months.

5.1 Past Accomplishments

ORP noted that the storage pad design review was completed in December 2018.

5.2 Significant Planned Actions

ORP noted that the 60% design review for the Tank Side Cesium Removal System (TSCR), which was planned to begin in January 2019, has been completed. ORP reported that they initiated the 60% design for the waste delivery system and it will be finishing in early February. In March, ORP will have a 60% design review for the remaining tank farm infrastructure upgrades portion of the system as well as the 60% ion-exchange column storage pad. ORP reported that in April they will have a 90% design review for the TSCR system and the Waste Feed Delivery System. ORP reported that in May they will wrap up the 90% review for the upgrades, and in June the 90% review for the storage pads.

5.3 Issues

ORP stated that they have a concern regarding air emissions vented back to double- and single-shelled tank farms. Discussions between ORP and Ecology on this issue are ongoing.

Ecology asked if there was a permit process in place for the TSCR. ORP reported that they are working on the permitting plan and are in the process of addressing Ecology's comments from the informal review. Once the permitting plan is approved, ORP will start submitting documentation that will be based on the 60% design deliverable. ORP also noted they have submitted all the addenda for informal review and are in receipt of Ecology's comments. ORP will begin preparation of the package to start the Class 3 in the formal submittal in February and transmit to Ecology in April, when it will go out for the first time as a Class 3 permit modification. Ecology asked if April was when ORP expected to have the public interface. ORP responded the closer they get to identifying the exact date, the corresponding public comment period would be better known. Ecology asked if the permitting plan was internal only, and ORP said it was not, Ecology signs as well. Ecology requested that a bullet be added to ORP's monthly report to status the permit process for TSCR.

6.0 242-A EVAPORATOR STATUS

ORP noted that scheduled Evaporator Campaign, EC-10, scheduled for June 2019, is not a true campaign. It is a cold run followed by a short hot run to maintain proficiency and maintain equipment rather than let the equipment remain idle for an extended period of time, which is not good for it.

6.1 Significant Past Accomplishments

ORP noted that the rebuilding of the PB-1 pump will be relocated from the tent back into the load-out room. The reason for this exercise is that the Test Bed Initiative no longer needs the space in the load-out room as previously reported. This will allow activities to take place indoors, sheltered from cold temperatures.

6.2 Significant Planned Actions in the Next Six Months

ORP noted that the spare parts for the pump repair have been procured and the factory is sending a technical expert to guide them in the beginning of the rebuild, so the one that is being rebuilt will go into the facility to operate. If that pump were to fail, a new replacement, spare pump will be available.

6.3 Issues

ORP noted that the slurry transfer line for SL-167 did not pass the last leak check that was performed, despite a new plug, proving that their theory was incorrect and the transfer line will

need to be replaced. A meeting has been scheduled with Ecology later this month to discuss needed permit documentation.

7.0 LIQUID EFFLUENT RETENTION FACILITY AND 200 AREA EFFLUENT TREATMENT FACILITY

ORP reported on the Liquid Retention Facility (LERF) basin volumes as follows:

- Basin 42 was placed back into service and some volume was transferred into the basin and the total volume as of December 31, 2018 was 1.23 Mgal
- Basin 43 has been relatively stable
- Volume was transferred from Basin 44 into Basin 42 so the level of that Basin has gone down some, at the end of the month is was at 6.06 Mgal.

The waste received for the month of December was from one tanker truck shipment of AZ-301 condensate, three of the mixed waste trenches and some miscellaneous waste streams from the retention process sewer.

7.1 Significant Past Accomplishments

ORP reported that they have not processed any of the lower content from the Effluent Treatment Facility (ETF) for treatment, so the total processed still sits at 0 gallons. The Independent Qualified Registered Professional Engineer (IQRPE) subcontract was awarded to Meier Architecture Engineering. (See Tank System Update Section for further discussion). Transfer of volume from Basin 44 to 42 was initiated. This transfer is to support the Basin 44 cover replacement project, which ORP hopes to complete this year. Two Resource Conservation and Recovery Act (RCRA) tank inspections were completed by the end of Calendar Year 2018.

7.2 Significant Planned Actions in the Next Six Months

ORP noted that plant cleanout and the corrective maintenance plant outage is continuing with expected completion by the end of February. There is only one leak test on a sump tank and a few visual inspections remaining to complete the ETF integrity assessment project. After this work is completed, information will be provided to the IQRPE for analysis.

ORP provided a list of activities, projects and/or upgrades planned to be performed in fiscal year 2019. Of those listed the following activities three will require permit modifications:

- ETF brine stabilization permitting – formal discussions with Ecology have not started, conceptual design began in January.
- Load-in Station Drain System Procurements – 30% status update meeting with Ecology
- 310/311-PL Transfer Line Upgrade – 90% status update meeting with Ecology.

7.3 Issues

ORP reported that two surge tank pumps failed, and for efficiency, the decision was made to replace all three pumps within the system. This activity is considered operations and maintenance and is ongoing.

Ecology asked if ORP had an ETF Assessment Evaluation Plan and if so, had it been shared with Ecology. ORP stated that they have an Integrity Program Plan, and had shared, but that it can be shared again if requested.

Ecology asked about the brine stabilization process at ETF and what that entails. ORP responded that the final step of treatment at ETF is the solidification process where liquid is turned into powder. This has been the bottleneck at the facility and ORP has realized that going forward knowing there will be more need at ETF. ETF will be doing away with the solidification process and going toward a brine load out (otherwise known as brine stabilization). It will be a concentrate that will still be concentrated in the evaporator system but before it goes to the solidification process it will be re-routed, sent to 300-gallon totes for stabilization off site. Ecology asked where off site. ORP responded that right now they are looking at Permafix Northwest since it is relatively close, but ORP is still undecided and open to some other potential facilities. ORP also noted they are issuing a Request for Information (RFI) to look for capabilities in a broader geographical area, not just local. Ecology asked whether the RFI will be for the full lifecycle of the evolution or just parts of it. ORP responded the RFI is just for the treatment of brine for final disposal. ORP added that because of the change of process at the facility (ETF), it would require a permit modification, and it would be sharing updates with Ecology, likely starting at the 30% stage.

8.0 TANK SYSTEM UPDATE

8.1 Double-Shell Tank Integrity

8.1.1 Significant Past Accomplishments

ORP provided a list of all the enhanced visual inspections of the annulus that were completed in 2018. These videos are currently being reviewed and reports will be issued when completed. ORP reported that they have done one Ultrasonic Test (UT) on tank AP-107 in Fiscal Year (FY) 2019 and then they will be moving on to tank AP-108.

8.1.2 Significant Planned Actions in the next six months

ORP stated that they will continue the comprehensive inspection of tank AY-101. ORP noted that they are currently doing UT in tank AP-108 then they will continue to the annulus floor- in tank AP-102 and the last one of the year will be AN-102. The enhanced annulus visual inspections for FY 2019 will be done by the same crew who are currently reviewing the single-shell tank videos. ORP noted that they are designing and procuring an annulus floor cleaner in FY 2019 to clean the annulus floor of AY-101 so that a UT can be done on that annulus floor. A

UT was performed on the wall of tank AY-101 last year but they were unable to do the floor. ORP stated that they do UT inspections of the wall of the primary and a couple of years ago they started doing the annulus floor, which is the bottom of the secondary. ORP stated that UT for tank AP-102 has been put on a five-year increment plan because of alarming results found during the last inspection, even though periodicity is usually 10 years, this was a Tank Integrity Expert Panel recommendation. ORP noted that they have performed 11 annulus UT inspections to date. ORP also stated that they do an inspection of the annulus floor as part of every UT, and will continue to do so as part of its regular routine.

Ecology asked whether ORP was performing more inspections than they would normally do to ensure that the tanks in AP farm are robust enough to manage treatment going forward with Direct Feed of Low-Activity Waste (DFLAW) and related uses of those tanks. ORP responded that they were, and in particular, tank AP-107, which is important for DFLAW. ORP chose to field test it last year when the visual inspection was performed. ORP noted that they have also moved other tanks in AP farm up in their UT schedule to make sure they have no alarming integrity numbers. Ecology asked if, at a later date, the DFLAW Ecology representative could have a conversation with the ORP and Ecology representatives overseeing inspections to get a better sense of what the differences were between regular inspections and those being done specifically to prepare for treatment.

Ecology asked if any larger percentage of UTs are being done in AP Farm than ORP has done in the past. ORP explained that they are getting better at doing UTs as they progress into the annulus of the tanks. There are many obstructions and only a few access points and with better technology they are better able to maneuver and cover more square footage. For example, in the beginning they were only able to scan 12-15 square feet and now they are able to scan 50-60 square feet. ORP further explained that they have a standard where they do some vertical strips and in some of the tanks where they have an interest in the Liquid Air Interface (LAI) they will do some horizontal strips on the LAI. ORP noted they have fairly good trend with their data and have not seen anything that remotely gives them concerns with the exception of some of the LAI data found in a few of the tanks, however; the cause is known and they have either stopped it or provided a remedy. Ecology requested a meeting with ORP so that they can better understand the scrutiny that ORP is undertaking to ensure the integrity of the tanks. This meeting is to be scheduled for early March.

8.2 Single-Shell Tank Integrity

8.2.1 Significant Past Accomplishments

ORP noted that they have completed five single-shell tank (SST) inspections in the first quarter of FY 2019.

8.2.2 Significant Planned Actions in the Next Six Months

ORP stated that they plan to perform two TFC-ENG-Chem D-42, *Tank Leak Assessment Process*, on tanks T-101 and T-103. ORP noted they are just finishing up with the assessment in T-101 and the results will be provided to Ecology in March.

8.3 Independent Qualified Registered Professional Engineer Activities

8.3.1 Double-Shell Tank System

ORP noted that there is nothing new to report.

8.3.2 Single-Shell Tank System

ORP stated that they have received Ecology's letter and have scheduled a meeting to discuss the path forward and creating the next Tri-Party Agreement milestone for the SST system integrity assessments.

8.4 242-A Evaporator

ORP reported that the IQRPE recommends the next 242-A Evaporator system integrity test be completed in 15 years and Washington River Protection Solutions LLC (WRPS) is currently working on a transmittal to Ecology in response to their questions. Ecology asked whether ORP has considered the possibility of an assessment much sooner than 15 years given how the evaporator may be used for DFLAW processing. ORP responded that they gave that information to the IQRPE concerning the planned usage for the out-years. ORP also noted that there is nothing different in how the evaporator will be used as they prepare and stage feed for the DFLAW, and continuing waste processes because there is already a detailed analysis that goes into analyzing the batch of feed going into the evaporator. ORP stated that they will be retrieving waste from the SST, such as salt cake waste, which has been done in the past; and that waste will be going into a Double-Shell Tank (DST) system, using the evaporator to manage DST volumes. ORP again noted that these operations have been done in the past and they will continue to perform these operations in the future in terms of evaporating that kind of waste. They do not anticipate what it will be any different in terms of DFLAW processing. Ecology noted they have provided comments.

8.5 Effluent Treatment Facility

ORP noted that WRPS awarded the ETF IQRPE Integrity Assessment to Meier Architecture Engineering and the project has stated and is on schedule.

8.6 219-S

ORP noted that there are no changes in the information provided and they are still working on static leak test on the last of three tanks.

9.0 IN-TANK CHARACTERIZATION AND SUMMARY

9.1 Tank Sampling

9.1.1 Significant Past Accomplishments

ORP noted they completed the tank A-105 equipment blank sampling in December 2018, and Phase 1 of the tank AP-107 large volume grab sampling was completed and sent to the Pacific Northwest National Laboratory.

Ecology asked ORP to explain the meaning of "blank sampling" in tank A-105. ORP explained that they are taking samples to analyze the wastes that remain on the top of the liner in tank A-105 because in the past the liner was treated with sulfuric acid to try and soften some of the waste, which was not successful. ORP further explained they want to see exactly what the waste looks like and these samples may turn out to be in a retrieval data record. Ecology asked ORP to further explain blank sampling in general. ORP explained that it is a controlled sample that is used to test. If the blanks comes out with a positive there is something wrong and they go back and re-evaluate to validate the sampling process for how the samples are handled and tracked. ORP noted that the sample generally comes from the lab, it comes out clean and they want to make sure it goes back clean.

Ecology asked ORP to explain grab sampling for large volume. ORP explained that in general, when sampling, they use a pencil-grab sample, which consists of 250 mL but for this sample they wanted a large volume. Since the sample cannot be obtained in one day's time, they are sampling in two phases. Their goal is three gallons, which can only obtain 250 mL at a time. Ecology asked ORP to provide them the sampling plan for Phase 2.

9.1.2 Significant Planned Actions in the Next Six Months

ORP noted that there is nothing new to report on this section.

9.2 Best Basis Inventory Updates

ORP noted that there is nothing new to report on this section.

10.0 SINGLE-SHELL TANK CLOSURE PROGRAM

ORP noted that there are no changes to the status of these listed milestones.

10.1 Significant Past Accomplishments

ORP noted that construction has been completed on the SX expansion barrier. The space needs to be graveled where the sub-base will be located and asphalting will being in the May/June timeframe.

10.2 Significant Planned Activities in the Next Six Months

ORP noted that they are finishing up their response to Ecology's comments on the RCRA Tier 1, 2 & 3 closure plans and it is ORP's understanding that workshops will be begin in late February or the first part of March.

10.3 Issues

ORP noted that an issue goes back to the Clean Closure Practicality Demonstration and the revision was recently sent to Ecology. Ecology stated that this letter is in their attorney's office and they expect to be finished with their review in about one month. They expect further discussions with ORP after their review. Ecology commended ORP for making the changes to the plan that they requested and for working closely with them on the permitting plan. Ecology asked about the TPA proposal that was sent to ORP regarding Waste Management Area-C milestones. ORP stated they had a meeting on this February 6, 2019, and are still putting together their response.

Ecology asked if ORP will be proposing milestones. ORP responded that they agreed with Ecology on the dates but just not on some of the wording.

Ecology stated that their Senior Hydrogeologist, has quarterly groundwater meetings and he invites the Tribes, the State of Oregon and Ecology's Program Manager, among other people. The meeting is planned in advance with scheduled presentations. WRPS has been asked to provide a presentation on their modeling, and they had not heard anything regarding. Ecology asked ORP to check with WRPS and see if they will present at this meeting. ORP agreed to follow up with WRPS.

11.0 SINGLE SHELL TANK RETRIEVAL PROGRAM

ORP reported that Milestone M-045-86D the current one in process is the Retrieval Data Report for Single-Shell Tank C-105 and is due in the July/August timeframe and it is actually ahead of schedule and ORP expects to complete it within the next two months. Ecology sought clarification of the section in-Tank Characterization summary where ORP had reported completion of the Residual Waste Inventory Estimates for Component Closure for Risk Assessment, Rev. 0 for tank C-105. Ecology ask if this is a different report. ORP explained that it feeds into the Retrieval Data Report and there are a number of reports that are being produced for this milestone, including the risk assessment.

CONSENT DECREE MONTHLY SUMMARY REPORT REVIEW

1.0 CONSENT DECREE MILESTONE STATISTICS/STATUS – CONSENT DECREE REPORTS/REVIEWS

The reports, agreements, issues, and actions were discussed and updated as follows (there were no Consent Decree (CD) action items this month).

2.0 SINGLE-SHELL TANK RETRIEVAL

ORP reported that there are no changes to the milestone dates listed on Page 6 of the CD Report.

2.1 Significant Accomplishments during the Prior Month

2.1.1 Completed Accomplishments

ORP reported that they were easily able to install one of the AX sluicers into the pit. ORP completed work on the A Farm exhausters POR518 and POR519, including structural steel, the platform step, handrail, stairs and completed the punch list on all items. ORP reported they were finally able to remove two contaminated equipment skids from the AX-101-1A pit, after it was discovered they had no lifting bales or attachment points. They were able to figure out a way to grab these two pieces of equipment and were able to be remove them from the pit, which allowed pit cleanout to proceed. ORP stated they have completed the conduit installation for the east/west electrical system.

2.1.2 Ongoing Activities

ORP reported that work on electrical infrastructure installations is ongoing. Work is continuing on pulling long-length equipment out of tank AX-103 and installing retrieval equipment in tank AX-102. ORP noted that direct-push soil sampling at tanks A-104 and A-105 is underway and work on the two additional boreholes is continuing. One of these boreholes is at 45 degrees, and is next to the A Farm road access, so that hinders things at times because of the traffic going in and out of the farm. ORP stated that work is continuing on installation of the caustic and water-piping system in POR496 to the A Farm, and they are putting in conversion boxes and connecting that piping up, as well as installing in hose-on-hose lines. Work is continuing on the control room trailers for tanks AX-102 and 104. ORP noted that work is also continuing on the A-Farm ventilation system and completing the fabrication of exhaust manifolds. ORP reported installation of the ventilation manifold supports is proceeding. There are 50 total and work is 18% complete. ORP noted that removal of cover blocks, thermocouple trees from A-Farm for tie-in points to the ventilation system and pit cleanout activities are continuing. ORP noted the shield plug in AX-102 02B pit remains in place and Engineering is currently evaluating methods for its removal. ORP reported installation of the cathodic protection system for the piping has resumed. ORP discovered a few months ago that a rectifier was bad and ordered a replacement, which has now arrived. Ecology asked if the water lines and the caustic lines are in the same

trench as the hose-in-hose system. ORP responded that they are buried in the same trench but they stay separate. ORP also noted that these pipes go from the A-285 building, under the access parking lot, then at the A-Farm fence line,above ground along the fence line. They then go underground at the road access and come up above ground; and then go up and down in various places. This configuration is to allow access into the farm for cranes, trucks and people. Ecology asked if there were heat traces on those pipes. ORP responded that there are heat traces around the pipe, in-between the primary and the sealed heat jacket on the water lines.

2.2 Significant Planned Activities in the Next Month

ORP reported on planned completion of internal wiring in the control room for POR498, the removal of thermocouple from tank AX-103 riser 07D, completion of the A-Farm exhauster stack installation, installation of the two-system de-misters, cleaning out the AX-102 02A pit to install a pump, and finally excavating for hose-in-hose transfer lines going from the diversion box to the pits at AX 02A, B, C and D.

2.3 Issues

ORP reported on problems caused by the mandatory use of self-contained breathing apparatus (SCBA) in the farms and other non-vapor related challenges related to the conditions in tanks A-104 and A-105. ORP noted that the last issue they found that has been impacting their work progress is the "as-found" conditions of abandoned equipment they are finding in the pits. Some of them are corroded into place or are missing lifting bales. For example, the shield plug in AX-102 02B that was glued in placed, which they have been unable to retrieve. ORP expects these concerns and conditions to continue as they move through the rest of the tanks.

ORP reported an ongoing issue in the AX and A Farms is that they are waiting for the permit for ventilation exhausters. Ecology stated they are waiting for more information so that it can be a complete application. ORP responded that this delay is related to the ambient air issue, but that they just had a meeting last week (week ending January 31, 2019) to start discussing it, and will be moving forward to see where that goes. ORP voiced a concern that this issue could impact their retrieval progress and potentially jeopardize their compliance with the Consent Decree. ORP noted that the contractor has issued a letter to them on potential impacts and they were working on a letter to Ecology. The contractor said there would be impacts if they did not receive that permit in a timely fashion. Ecology stated that they have been talking about what is necessary for that permit and the ambient air was pulled into that problem. Ecology has suggested that some modeling at the fence line may be necessary, however; ORP expressed they were not interested in doing that. ORP responded that they are not sure that is the correct approach. DOE (RL and ORP) and Ecology are in disagreement about the ambient air boundary to begin with and until that is resolved; DOE does not feel they can go forward with modeling. It was agreed that this topic would be added to the "issues" section.

3.0 TANK WASTE RETRIEVAL WORK PLAN STATUS

ORP reported no changes to reported status.

4.0 SINGLE-SHELL TANK RETRIEVAL MONTHLY FISCAL YEAR EARNED VALUE MANAGEMENT SYSTEM DATA

ORP reported for the month of November 2018, the budgeted cost of work scheduled was $14.5M, however; work was performed for $11.5M, with an actual cost of $11.6M, which left a schedule performance index of 0.79 and a cost performance index of 0.99. ORP noted that the variances are due to a shortage of qualified electricians, which is in turn, impacting work on electrical system installation power and related upgrades. The subcontractor has been able to hire five or six electricians, who have been going through the required training and will be starting work shortly. Ecology asked if this completes ORP's recovery profile or if more is required. ORP responded that this cannot really be considered recovery since a significant number of reductions in force can be attributed to attrition so at best they are holding and not accelerating.

ORP reported that unfavorable schedule variances are attributed to equipment installation in tank AX-102. The electrical infrastructure taking longer than anticipated. ORP noted that they have also discovered obstructions in the excavation; i.e., vertical pipes and valves, specifically in the way they were installed when the tanks were built, for cleaning out the airlift circulators. ORP said the pipes were installed in this way so that the valves could be opened and a steel rod inserted to knock out any waste in the bottom of the airlift circulator, but unfortunately, they were not corrosion-protected. Significant corrosion has been found on the pipes and they were falling over when they were uncovered. ORP stated they have had to cap and seal them with a grout mixture before continuing with excavations, which was not planned. Ecology asked if these pipes that connected to the top of the circulators were steel. ORP responded that they are galvanized carbon steel that did not have a protective wrap going into the air circulator. Ecology asked if it is an open pipe. ORP responded that it was, but now it is covered. ORP found that the pipe was corroded, so when bumped, parts break off. Ecology asked if ORP had any thoughts on now accommodating the likelihood of seeing those again in upcoming work evolutions. ORP responded they had not expected to find the corrosion either, but that excavation is complete and they do not expect on uncovering any more. ORP noted that these are the last generation of single-shell tanks and it is the only generation that has 22 airlift circulators per tank, so that helps with future efforts. The ventilation system does keep any off-gasses from coming up into those pipes, which will act as an intake or a negative, reducing the balance load.

ORP reported they are moving forward with the cleanout of A-103 03C Pit. The cover block has been removed and they are getting ready to tie-in to the ventilation. Ecology asked how the air ventilation system is associated with the 03C pit. ORP responded that one of the risers in that pit is where the tie-in to the new ventilation system will be located. ORP stated they are expecting the existing ventilation system to have corrosion and contamination so they grouted and isolated it in summer 2018. Ecology asked if this pit was used for the old ventilation system. ORP responded no, it was cleaning out one of the risers, taking everything out and putting in a connection for ventilation. The cover block will be removed to cleanout the debris from the pit and a temporary cover block will be installed during work shifts. ORP explained that the pits have not been opened for 50 years. Ecology asked if WRPS or DOE has ever put together a formal evaluation or analysis of the effects of this old equipment on progress. Ecology

commented that a concern they have as the mission gets further along, and is taking longer, that things might start to become more and more difficult because of corrosion and other unpredictable things. ORP responded that in the long term they would have an engineering review prior to developing any retrieval plan. ORP further stated that it really don't know until it looks into the pit to see what's there and even then, when cleaning it out, further unexpected conditions arise; e.g., in the 02C pit where the stuck shield plug is in place, the riser is 32 inches in diameter and it must be sized down to a 12-inch riser, but the shield plug over that riser is covered in multiple layers of a polymer acrylic, which seals it down – making it difficult or even impossible to loosen it, even when pulling up to 25% over the load of the plug and using hydraulic wedges to try and break it loose. ORP said it will have to assume that as work progresses with retrievals, the infrastructure needs to be built to do the work, and it cannot be assumed anything is ready to go, though it does have the options to install new risers. ORP added that it does have to replace the riser in tank C-102. ORP said there are some transfer lines that came through on the side of the riser, which had eroded through at the elbow and on the far side of the riser depositing soil contamination. The soil contamination had to be removed from the old riser, a cut needed to be made and a new one welded.

ORP reported that November unfavorable cost variance was a result of increased crew size and move overtime to help recover from lost schedule and impacts from the mandatory use of SCBA.

The remainder of the Tank Farms EVMS material was skipped in the interest of time.

5.0 WASTE TREATMENT AND IMMOBILIZATION PLANT PROJECT

ORP reported that the November (2018) data for the overall Waste Treatment and Immobilization Plant (WTP) is 57% complete, with engineering design at 88% complete, procurement at 59% and construction at 42% complete. For the LAW facility, Balance of Facilities, and Lab (LBL)-specific facilities 69% complete overall, engineering at 92% complete, procurement at 84% complete and construction at 86% complete. ORP stated that startup and commissioning is a big driver of dollars and brings the overall percentage complete number down, so startup and commissioning is at 30% complete.

ORP reported that DOE is continuing their review of the DOE Headquarters Office of Project Management Independent Assessment as well as the U.S. Army Corp of Engineers' report. Ecology asked if ORP had and end-date for completion of the review. ORP did not know at this point when that review would be complete. ORP reported there have been ongoing discussions between ORP and Ecology about options and approaches for high-level waste treatment.

ORP reported that from a cost schedule perspective, the numbers are still somewhat affected by the changes reflected in the October data and the restructuring of some of the work scope. ORP explained that this is a restructuring within the project milestone end-dates and incentive fee framework, so those dates are not reflected as part of the current report.

ORP reported for November 2018, it had a net unfavorable schedule variance of $4.8M, with some of the impacts being delays in equipment deliveries, primarily at the Low-Activity Waste (LAW) facility and the Effluent Management Facility (EMF). ORP has challenges with vendors and some orders being submitted late with changes at the LAW facility. The commissioning organization for the LAW facility also reported a negative schedule variance due to delay in start of some activities; e.g., equipment calibration. ORP noted that the EMF in particular, is suffering from delays in deliveries, not just specific to equipment, but also in delivery of bolts, both piping and valves. This has also been creating some inefficiencies in the overall build schedule.

Ecology asked if these vendor inefficiencies has been in inappropriate or delayed acquisitions or something else. Ecology noted that this is becoming chronic. ORP responded that this is what they expected to see and agreed it is chronic. ORP also noted that Bechtel had delayed the procurement of some items so, in some cases, they are seeing impacts in the delay of the initial procurement in other areas they are seeing impacts from vendor performance. ORP noted that throughout the history of the project, there were very few pipe deliveries that did not have significant vendor performance issues. ORP also noted that to improve the process, it was taking scope from the vendors who were building spools and are now building them in the field to get completed them quicker. This is costing more because of having to set up capabilities and bringing people on the project that were never intended. ORP stated that the process is not as efficient as it would like it to be, but the priority is on achieving schedule and getting the schedule where it needs to be, thus getting as much pipe and commodities available for installation. ORP noted that the vendor is not delivering poor quality products in general, but that the problem is more along the lines of their schedule capabilities.

ORP noted that a large schedule recovery was realized because of receiving the AL6XN vessels. These are the four vessels that arrived from Greenberry Industries and are staged on site for installation later this year in EMF.

5.1 Cost Variance

ORP reported for November 2018, WTP had a negative cost variance of $2.2M. A few different areas were contributing to this, one of which was the Balance of facilities (BOF) commissioning, as work did not progress as far as planned. ORP noted that though it was once underspending, it was a false indicator, due to labor shortages. ORP stated its reporting is getting much more precise and it is getting much better indicators, and is thereby able to take the appropriate corrective measures.

ORP reported a negative cost variance for the EMF related to controls and instrumentation procurements, as well as a negative cost performance for EMF labor-wise. ORP stated that because of material delays, in particular not receiving all the bolts it needed at one time, the project was catching issues just as it is setting up teams, resulting in having to send those teams to work on other tasks. This causes more hours than planned being spent and less efficiencies being realized. ORP said this has been a consistent theme throughout the construction of EMF.

Ecology asked what ORP is doing to moderate the problem. ORP responded they are happy with the current Bechtel National, Inc. (BNI) team, which has been very proactive of late.

6.0 PRETREATMENT FACILITY

ORP reported no updates for the Pretreatment Facility. ORP noted that it was still working to close out some of the technical issues scheduled for completion at the end of calendar year 2018, specifically Technical Issues 4 and 5, where more work is needed. New projected date for closure of those two technical issues is March 2019. ORP stated the Pretreatment Facility will remain in a dormant state until further decisions are made on high-level waste treatment options.

7.0 HIGH-LEVEL WASTE FACILITY

ORP reported some limited engineering work is continuing for the High-Level Waste (HLW) Facility. ORP noted they are updating the hydrogen mitigation strategy and working with the safety basis, and continuing layup in the same timeframe. ORP stated they are trying to get the facilities built safely, but efficiently so that they do not having significant materials degradation in the infrastructure, and are working on the engineering for the bulk of the facility.

ORP noted that a lot will be driven by decisions made in Congress in regards to a high-level waste approach and what additional budget, if any, comes from Congress. Ecology noted that with U.S. Army Corp of Engineers high-level waste optimization decisions left to be made, there was a lot of uncertainty regarding the HLW facility. ORP responded that it needed to make sure it know what it will be dealing with and that the work it doing would be supportive of multiple options not just a single option.

8.0 LOW-ACTIVITY WASTE FACILITY

ORP reported that the Low-Activity Waste Facility (LAW), as of November 2018, was 74% complete overall, with engineering design at 93%, procurement at 89%, construction at 95% and commissioning at 18% complete. ORP noted that much of the focus right now is to incorporate the design changes that were mandated by updates to the Documented Safety Analysis (DSA). ORP noted that the DSA-driven updates were an ongoing effort and one that is fairly well defined in being executed, but is driving procurements. Ecology asked while DOE is looking at the U.S. Army Corps of Engineers report and if it was seeing anything liable to challenge the DSA. ORP responded that the DSA is based on radiological content and design, and the report is based on costs associated with the treatment, not the underlining design. ORP stated they are not aware of any discussions about changes in LAW design that would require changes in the DSA. ORP noted that the DSA is aligned with the design and the necessary procurements are being made. ORP stated that the Direct Feed Low Activity Waste facility design is considered complete. Ecology asked whether there might be a need to look further at LAW or anything else for potential impacts. ORP responded that any design or any final choice would need to look at overall treatment options, but would not be a driver. The radiological content in the waste stream coming to the LAW facility and the resulting DSA would not change.

8.1 Significant Accomplishments during the Prior Month

ORP reported that BNI has issued a Request for Proposal for the spare melter. ORP noted that BNI construction has included three-week walk-downs to support turnover of the LAW plant cooling water system and LAW export container-handling system. Turnover is also expected from construction to the startup organization on the container receipt and handling system, facility annex lighting, and cooling waters systems, 1, 3 and 4. Ecology asked if ORP had accurately forecasted the evolution from parts ordering to installation. ORP responded it has not had its operating contractor evaluating that yet, so there were still assumptions as this point.

8.2 Significant Upcoming Activities in the Next Month

ORP reported a delay in planned procurements, but these delays were not significant so ORP is expecting some recovery in regards to performance by receiving input switchgear cabinets for the melter power supply. ORP noted that it is expecting to complete the three-week walk down for the off-gas processing system, radiological personnel monitoring system, environmental monitoring system, and the concentrate receipt process system in the next month. ORP reported they anticipate turnover of the radioactive solid waste handling system and the breathing service air system in the coming month.

9.0 BALANCE OF FACILITIES

ORP reported for the Balance of Facilities (BOF), its focus has been on the EMF. For the EMF, placement of the low-point drain vessel was completed, evaporator feed vessel and the pre-evaporator concentrate receipt vessels received, weathering in the C5 evaporator cell completed and structural steel around the low-point vessel placed. ORP noted it expects the continued installation of rebar and other commodities, which is the next big step at the low-point drain. After that, the next step will be to place that slab over the low-point drain, which should occur in the coming weeks.

ORP reported for the BOF-proper, there have been notable accomplishments. The air compressors were operated, which required the integrated system operations of the cooling tower, the chiller units, the air-drying units and the compressors – all very complex operations. ORP also noted that in the BOF testing, the focus is on the chiller compressor plant becoming operational and then the installation of the controls. ORP said getting the remote controls operational from the LAW annex will be a major step, and is forecasted this for March/April. ORP noted the importance of initiating an integrated system operation of major equipment and major support systems, but also will be done remotely from the LAW annex.

ORP reported on the continued emphasis on the Steam Plant, and the first fire of burners, which is anticipated in February or March. ORP noted that it may decide to de-scope some of the work and do some isolated testing of just the boiler to split the system out to see if there are any issues with the equipment itself. ORP said another focus is the operation of Steam Plant, which is a major contributor to all operations at the plant.

Analytical Laboratory
ORP reported work is continuing on startup testing of systems. The communication systems for the analytical lab and the balance of facilities are the only two remaining systems that have not been turned over to startup. ORP noted for the analytical lab some equipment repairs were needed such as motors for the ventilation system, which need to be refurbished, but is not anticipated to be a major cost or schedule delivery.

The majority of systems turnover has occurred in the BOF putting them well ahead of schedule. Ecology asked whether ORP was noting anything critical or likely to cause delays in startup. ORP responded that getting the ventilation system at the lab up and operating would be challenging, but it does not see any critical delays that would impact the overall project schedule.

ORP noted that a recent evaluation was conducted on the interface between the labs C2 (category 2), C3 systems. Over time, a radiological reclassification of the lab rooms has occurred from C2 to C3, so ORP checked its design for any needed changes and found them adequate. Ecology asked whether DOE has re-classified all those from C2 to C3. ORP responded they were already classified as C3. ORP stated that there are several different radiological contamination scenarios that could occur within the facility, so ORP is classifying the entire room as C3, but controlling it as a C2 environment. ORP explained that classifying the room as C3 allows control of it as completely clean, ensuring that if the unexpected loss of ventilation were to occur in one system another ventilation system with a lower radiological control barrier wouldn't be inadvertently contaminated. Ecology asked if, conceptually ORP is looking at cascaded barriers. ORP responded it does have a cascaded system, and is evaluating any impacts the various ventilation ducts.

ORP noted that the Bechtel team that is in place is very strong from top to bottom as far as having an operations mentality and a push to operations focus. Workers are coming in on weekends, trying to figure out better ways to do certain things; e.g., the C3 and C5 roof installation. The roofs were built off to the side of the facility to prevent any impact to other work being performed in the cell, and as a result, that scope was moved three months ahead of schedule. This also allowed roof installation before any of the colder weather started. Ecology responded they were very encouraged with this feedback from ORP.

ORP/Ecology TPA and CD Agreements, Issues, and Action Items –February 7, 2019

Agreements:

1. Per an Ecology standing request (4/21/2016), ORP agrees to include any written directives given by DOE to the contractors for work required by the CD in future quarterly CD Reports (see CD Section IV-C-1-e).
2. The ORP and Ecology PMs have developed, signed, and entered an outline for the CD Tank Completion Certification into the TPA Administrative Record. A briefing to senior management will occur if any follow-on actions arise.
3. Ecology and ORP have agreed to move the TPA/CD PMM meeting to the first Thursday of the month starting in January 2019. The TPA and CD monthly reports distribution will occur by the end of December via link to the Admin Record. This will be the format for report distribution and monthly meetings going forward for calendar year 2019.

Issues:

1. Appendix H step 2b, has not been completed. USDOE have submitted Single-Shell Tank (SST) WMA (Waste Management Area)-C Closure Plans without any indication of the role and participation for Nuclear Regulatory Commission (NRC), or a plan for completing this step.
2. Appendix I – USDOE has presented an inaccurate process for closure of the Tank Farms, and of WMA-C. Appendix I has defined the expectations of the Tri-Parties, and a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) decision has not been an assumption from any of the Tri-Parties.
    a. Appendix I, Section 3.1 states: "Ecology[1] is the lead regulatory agency responsible for the closure of the SST system. EPA[2] is the support regulatory agency providing oversight of the state's authorized program."; "The Parties' expect that this Agreement Appendix I will incorporate Agreement Section 5.5 processes to provide a mechanism for avoiding duplicative regulation between Ecology and the EPA through the lead agency concept."; "EPA will evaluate the need to provide additional comments based on its review of proposed modifications to WMA closure action plans, and issue additional comments to Ecology as necessary."
    b. Appendix I, Section 3.2 states: "A consistent groundwater monitoring, protection, and risk assessment methodology will also be realized through close integration of activities, as described in the Hanford Site Groundwater Strategy (DOE/RL-2002-59). Consistent application of the requirements of this Appendix I will serve to aid the Parties in ensuring cost effective and consistent cleanup on the Central Plateau."
    c. Section 5.5 of the TPA (Action Plan): "The information necessary for performing RCRA[3] closures/post-closures within an operable unit will be provided in various RFI[4]/CMS[5] documents. The initial work plan will contain a Sampling and Analysis Plan (SAP) for the associated RCRA units and it will outline the manner in which RCRA closure/post-closure plan requirements will be met in the work

[1] Washington State Department of Ecology
[2] Environmental Protection Agency
[3] Resource Conservation & Recovery Act
[4] RCRA Facility Investigation
[5] Corrective Measure Study

ORP/Ecology TPA and CD Agreements, Issues, and Action Items –February 7, 2019

#	Action ID Start Date	Action	Updates / Needs for Closure	Actionee(s)	Status/ Date Closed
1	TF-16-11-04 11-17-16	ORP to provide Ecology the T-112 work plan	In legal review. (07/19/2018) No change (01/03/2019)	Dusty Stewart	On Hold
2	TF-17-04-01 4-20-17	ORP to provide Ecology with schedule updates on the removal of the 242-A Evaporator diesel generator.	Provide layout of phased plan to include short and long-term activities. No schedule has been established yet. (07/19/2018). ORP asked to remove this issue. Andrew (Ecology) will discuss internally and let Paul know response via email (10/18/2018) Closed via email from Ecology on January 3, 2019. Tank system is no longer under the purview of the RCRA permit. Ecology's Toxic Cleanup Program is responsible for inspection and oversight of the system.	Paul Hernandez	Closed 01/03/19
3	TF-18-11-3 12-1-17	ECY requests ORP to meet on HNF-3484 Double Shell Tank Pumping Guide	Schedule meeting in October 2018 to initiate discussion. There will be an internal DOE meeting in October and soon after, Ecology meeting will be set up. (10/18/2018) Meeting scheduled for November 27, Cheryl and Steve will be invited.	Jeremy Johnson/ Dusty Stewart	Closed 01/03/19
4	TF-18-07-01 07/19/18	Integrate the ground water modeling for WMA-C PA with BP-5 remedial design for pump and treat at WMA-C (Jeff Lyon)	Held several meetings with RL/ORP on this and other integration issues in July and August. RL has the lead for groundwater monitoring program. ORP proposes closing. (10/18/2018) Ecology wants clarification when BP-5 Interim Record of Decision (IROD) is expected to be issued and that there is action from RL to address tecknetium-99 contamination. Action item to remain open (10/18/2018) No change (01/03/2019)	Jan Bovier	Open

ORP/Ecology TPA and CD Agreements, Issues, and Action Items –February 7, 2019

#	Action ID Start Date	Action	Updates / Needs for Closure	Actionee(s)	Status/ Date Closed
9	TF-19-01-03		Provide results of slurry line testing to Ecology (Steve and Jeff). (01/03/2019) ORP email to Ecology on 01/24/19: SL-167 Slurry Line did not hold pressure. No further work to re-use the SL-167 line is planned. New slurry replacement lines are in the design stage. A project schedule will be established in the near future. Closed per Ecology email on 01/28/19	Paul Hernandez	Closed 01/28/19

February 7, 2019
Office of River Protection
Tri Party Agreement Consent Decree Meeting

PRINT NAME	SIGN NAME	ORG
Abdul, Wahed		ORP
Alzheimer, Jim		ECY
Barnes, Mike		ECY
Beehler, Steve		ORP
Bovier, Jan		ORP
Brasher, Stephanie		MSA
Brown, Dennis		ORP
Burnett, Kaylin		ORP
Cameron, Craig		EPA
Carlson, Annette		ECY
Cimon, Shelley		OR State
Decker, Jay		ECY
Diediker, Janet		ORP
Einan, Dave		EPA
Evans, Rana		ORP
Fletcher, Tom		ORP
Gao, Tracy		ECY
Grindstaff, Joni		ORP
Hall, Katie		ECY
Harkins, Brian		ORP
Hastings, Rob		ORP
Hernandez, Paul		ORP
Irwin, Mat		ORP

February 7, 2019
Office of River Protection
Tri Party Agreement Consent Decree Meeting

PRINT NAME	SIGN NAME	ORG
Johnson, Jeremy		ORP
Jones, Mandy		ECY
Joyner, Jessica		WRPS
Keith, Colleen		ORP
Kemp, Christopher		ORP
Lobos, Rod		ORP
Lopez, Maria		WRPS
Lowe, Steven		ECY
Lucatero, Yoana		ECY
Lyon, Jeffery		ECY
Martell, John		DOH
Mathey, Jared		ECY
McDonald, Dan		ECY
Menard, Nina		ECY
Mulkey, Charles		WRPS
Parker, Dan		WRPS
Pfaff, Stephen H		ORP
Pomiak, Andrew		ECY
Price, John		ECY
Qualheim, Jane		MSA (note taker)
Rambo, Jeffrey		ORP
Richardson, John		ECY
Rochette, Beth		ECY

February 7, 2019
Office of River Protection
Tri Party Agreement Consent Decree Meeting

PRINT NAME	SIGN NAME	ORG
Schleif, Stephanie		ECY
Schmidt, John		DOH
Serafin, Shane		ORP
Skorska, Maria		ECY
Smith, Sahid		ORP
Stewart, Dustin		ORP
Trimberger, Bryan		ORP
Turner, Michael		MSA
Turner, Vanessa		ORP
Utley, Randell		DOH
Valle, Richard		ORP
Van Mason, Eric		WRPS
Walmsley, Mign		ECY
Wang, Oliver S		ECY
Whalen, Cheryl		ECY
Whitelely, Craig		ORP
Wold, Kristi (retired)		ECY
Yasek, Donna		BNI
Young, Jason		ORP
BURANDT, Mary	Mary Burandt	ORP

February 7, 2019
Office of River Protection
Tri Party Agreement Consent Decree Meeting

PRINT NAME	SIGN NAME	ORG