

MEETING MINUTES for Revision of RPP-9937		
Date of Meeting: 9/4/2013		Location: Ecology/Room 3C
Preparer: A.G. Miskho, WRPS		Time: 2:00 – 3:30
Attendees:	Jeremy Johnson, ORP	
Jim Alzheimer, Ecology	Mary Burandt, ORP	
Joe Caggiano, Ecology	Tony Miskho, WRPS	
Nancy Uziemblo, Ecology	John Guberski, WRPS	
Jeff Lyon, Ecology	Jeff Voogd, WRPS	
	Mike Sheridan, WRPS	
Meeting minutes:		
<u>Previous meeting minutes from 8/21/2013:</u>		
Action: Ecology to confirm that the comments submitted by ORP/WRPS were acceptable.		
<u>Open actions discussion</u>		
Discussion on open actions skipped.		
<u>Discussion on draft Chapter 2.0 of RPP-9937: Monitoring Methods:</u>		
The draft section was emailed to Ecology the day of the meeting (Attached). Additional comments from Ecology will be forthcoming since the file was not received far enough ahead of the meeting.		
Alzheimer. The 3 rd opening paragraph has text that states Liquid Observation Wells (LOWs) are the most “technically accurate.” What is that intended to mean?		
Guberski: It is intended to mean of the methods we use, it is the most technically accurate.		
Discussion on bubbler tubes took place.		
Alzheimer: Ecology may have some suggested text for this area. Also in the 3 rd paragraph, How does corrosion alter the potential for a liner failure? We are not talking about responses, but Ecology may want the information because it relates to intrusion.		
Caggiano: Also in the 3 rd paragraph, the text talks about liquid surface monitoring. The text does not address the solid waste surface.		
Guberski: Changes in solid surface levels would show up with ENRAF or conductivity probes. The purpose of the document is to monitor for leak detection and intrusion.		
Alzheimer: T-105 example: There is something is going on in the tank and dry surface data is important. In some tanks, the ENRAF data is the only date we have.		
Guberski: WRPS will have to talk internally about monitoring a dry waste surface.		
Voogd: ENRAFs are capable of a point measurement for dry surface.		

Caggiano: For the video inspections proposed as once every 10 years, do we have a basis?

Guberski: The basis is a combination of how many tanks there are, and how many camera crews, and that intrusion rates are not that large.

Johnson: The basis is in part, related to the equipment and resources we have since we are doing about 12 videos a year.

Caggiano: The question is what is the “technical justification” not resources. The issue is debatable if the answer is based on resources.

Alzheimer: 10-years may be ok, but we would like a few sentences that justify it. Also, the document should reference that the tanks in retrieval should follow the TWRWPs. What does the frequency of every 10 years mean?

Guberski: The tanks certified as retrieval completed and tanks storing mixed waste prior to retrieval would collectively be on a 10-year cycle.

Caggiano: The basis in the 1st bullet under interstitial liquid monitoring talks about “if tank integrity is compromised.” How do you know that?

Burandt: We cannot tell the liner has integrity. We could not say for certain that the liners have integrity.

Johnson: We are not relying on this data to determine the tanks are sound. How about the basis statement for interstitial liquids be that we are trying to determine if a leak is reaching the environment.

Alzheimer: There are probably about 5 different versions we could add. Ecology will provide a suggestion.

Alzheimer: Is quarterly defined in the document?

Guberski: It could be defined as calendar quarters. The concern is when we miss a monitoring event what do we do.

Alzheimer: Ecology will provide some suggestions on what quarterly should mean.

Caggiano: In the groundwater program, DOE met with Ecology on groundwater sampling and determined how to get back on track when sampling is missed.

Johnson: In general, what we were thinking is that there are quarterly readings across the board, and there would an annual report where missed monitoring would be explained. We are not proposing notifications to Ecology.

Alzheimer: In the 2nd bullet under interstitial liquid monitoring, Ecology does not like the bullet on installation of replacement LOWs is not considered reasonable.

Voogd: To replace a LOW, you need to conduct considerable water lancing to make a hole to put a new

LOW in.

Burandt: Is the issue the installation of the LOW or whether there is a lack of technical basis.

Alzheimer: The latter.

Guberski: It is extremely unlikely that we can remove an LOW from the currently location and put a new one in its place.

Johnson: How often do we have a failed LOWs?

Guberski: One in the last 5 years, since we started using fiberglass for LOWs. Since then, the failure rate has been low.

Johnson: We should add some more justification to the bullet.

Alzheimer: We should say that we should get together, talk about it, and reevaluate the situation. We are then not trying to predict the future and the circumstances.

Johnson: Agreed.

Alzheimer: When we talk about surface level monitoring, we would like to have detail on the type.

Miskho: I believe we were trying to avoid that level of detail in the document.

Sheridan: Perhaps that detail could be included in the annual report.

Johnson: The listing of the equipment could be in the annual status report.

Alzheimer: A table in the annual report seem reasonable.

Caggiano: What about dry well logging?

Guberski: We are not proposing dry well logging as a method under RPP-9937. It is information that can be used to help perform leak assessments

Caggiano: So what are you saying? Is dry well logging supplemental information?

Guberski: Yes.

Alzheimer: Lyon and I still need to have a discussion on this and we will make some comments. Towards the end of the file, what does the paragraph on past practice means?

Guberski: It is those components that are not subject to monitoring. If we are currently monitoring a catch tank, we plan on continuing to monitor it.

Alzheimer: We are going to define a list and what we are monitoring. I have my list. If it is not in RPP-9937, we will have a good reason.

Burandt: After a meeting with Jane Hedges, we know that that many documents are out of sync with regard to lists. We have decided to move forward on the 200-IS-1 and RPP-9937 with the understanding that we will clean up the list in the Part A for SSTs. When we define what is in the Part A, we may have to go back to documents like RPP-9937 and revise them.

Uziemblo: Ecology will have their list and plan on putting the list in RPP-9937.

Alzheimer: I want to fall back to my favorite catch tank 241-C-301. I do not think it needs to be monitored, but I need a reason why it is not monitored. Not being part of the SST System is not a justifiable reason.

Johnson: It will be a more fruitful discussion if we have a listing before we talk about specifics.

Burandt: We need to get our arms around the issue and figure out the size of the issue. Is it one or two, or a bigger universe?

Johnson: We are working on a consolidated list with justification.

Burandt: The department wants the Part A to be the official list. We agreed today with Jane Hedges that the Part A will become the list.

Caggiano: The dry well logging identified under other monitoring programs. The statement of dry well logging being at the end of its life is not true.

Voogd: Can you explain your position because, the information we have is that radiologic decay is resulting in diminished results.

Caggiano: We have cesium and the half-life is long enough to be useful. If you see cesium, then you have some explaining. Drywell logging can demonstrate contaminant mobility that can mean either impingement of a contaminant on a drywell or a new release. Co-60 has demonstrated contaminant mobility in several drywells in several farms.

Miskho: Does Joe have access to the previous meeting minutes?

Alzheimer: Ecology can provide Joe the meeting minutes and have a discussion.

Johnson: We can set something up if we need to.

Alzheimer: Are we going to talk about data analysis at the next meeting?

Guberski: Yes

The actions from the meeting were summarized.

Action: Ecology to meet and determine position on dry well logging.

Action: Ecology will take today's discussion and offer suggestions on the text for the draft Chapter 2.0 of RPP-9937, Monitoring Methods.

Action: DOE to provide justification for 10-year video monitoring frequency

Action: Ecology to send a file showing LOW data interpretation.
 Action: DOE to provide a technical basis for LOW replacement not considered reasonable
 Action: DOE to provide additional clarification on what it means for tank integrity being compromised
 Action: Ecology to propose a definition for “quarterly” monitoring.

Actions:

2013-06-12-1: ORP: **(OPEN)** Come with a list of tanks beyond the 100 and 200 series tanks that should be within the scope of -9937 for discussion.
 2013-06-12-2: ORP: **(OPEN)** is there a better way to describe what is excluded from RPP-9937 than using the term “past practice.”
 2013-06-26-1: **(OPEN)** ORP to set up a more detailed briefing on neutron probe data analysis and how it is converted to interstitial liquid levels for: T-111, SX-106, BY-105, and BY-109 to discuss data interpretation.
 2013-06-26-2: **(OPEN)** ORP provide a repeat presentation to Ecology/HAB Single Shell Tank Liquid Monitoring from April. Include video on how ENRAF works.
 2013-07-07-1: **(OPEN)** Ecology to determine path forward on ex-tank monitoring.
 2013-09-04-1: Ecology to confirm that the comments submitted by ORP/WRPS on the 8/21/2013 minutes were acceptable.
 2013-09-04-2: Ecology to meet and determine position on dry well logging.
 2013-09-04-3: Ecology will take today’s discussion and offer suggestions on the text for the draft Chapter 2.0 of RPP-9937, Monitoring Methods.
 2013-09-04-4: DOE to provide justification for 10-year video monitoring frequency
 2013-09-04-5: Ecology to send a file showing LOW data interpretation.
 2013-09-04-6: DOE to provide a technical basis for LOW replacement not considered reasonable
 2013-09-04-7: DOE to provide additional clarification on what it means for tank integrity being compromised
 2013-09-04-8: Ecology to propose a definition for “quarterly” monitoring.

Decisions made: None.

Next meeting is September 24th at 2:00.

Attachment

Draft Section 2.0 Monitoring Methods

2.0 SST Monitoring Methods

The waste in the 100-series and 200-series single-shell tanks or catch tanks is supernatant, sludge, or saltcake. Waste may be present in each of these forms or in various combinations. The form influences the choice of monitoring in-tank, as well as whether the purpose of the selected monitoring is for leak detection monitoring, or intrusion monitoring. Liquid levels (either supernatant or interstitial) can be monitored in-tank for either leak detection monitoring or intrusion monitoring. Solid surfaces, although monitoring in-tank detects both increases and decrease, are only monitored for intrusion since a solids level decrease may be directly related to a leak. Remote visual examination may identify waste surface changes, such as an increase or decrease in waste surface level, portion of surface covered by supernatant, or other visually apparent changes. Monitoring surface level or interstitial liquid level changes is performed in a manner which allows level changes to be quantified with minimal uncertainty.

In tank waste monitoring methods currently used are interstitial liquid level monitoring, surface level monitoring, and in-tank video. Interstitial liquid monitoring is used within selected 100 series single-shell tanks. A minimum interstitial liquid height of 24-inches above the tank bottom is needed for this method to provide reliable data. Liquid level monitoring is performed to identify if the level has either decreased or increased. Changes from an established reference value maybe cause by one or more factors, such as liquid evaporation, liquid intrusion, waste solid dissolution, liquid leak, or retention of generated gas.

Liquid surface level monitoring is accomplished using a buoyance displacement and/or conductivity measurement device. In a few tanks, a bubbler device (dip tube) is used. Interstitial liquid level is monitored using liquid observation wells, commonly referred to as LOWs. These wells are used where practical as they provide the most technically accurate means of detecting a change in interstitial liquid level. To address the monitoring performance standard of “minimal” uncertainty, changes in the volume of entrained gases, or substantial change in the distribution of interstitial liquid across the tank diameter must be taken into account when determining if a change in liquid volume has occurred. Monitoring of the waste solids level is performed to identify if intrusion of liquid into a tank has occurred. The intrusion location and volume must be sufficient to reach the location of an in-tank monitoring device. Intrusion is of interest as it creates addition waste volume to be retrieved, can be a potential driver of the interstitial liquid towards a tank leak site, or for an existing tank leak can drive a leak plume further into the vadose zone.

In-tank videos are used to provide information with a wider view of tank surface levels, when the supernatant level does not cover the diameter of the tank or is not present. Both interstitial liquid level and surface level measurement techniques have a limited zone of measurement. Thus, the measurement uncertainty increases as the limit of the measurement zone decreases (a localized reading zone has a higher uncertainty regarding being representative of conditions throughout the tank).

MONITORING FREQUENCY - VIDEO

Tanks where retrieval has been certified* as completed - In-tank video at least once every 10-years after certification of completion of retrieval. Applies to the 100 series and 200 series tanks.

*Certification of retrieval is the date when the U.S. Department of Energy, Office of River Protection formally notifies the State of Washington, Department of Ecology.

Tanks in retrieval – Tanks in retrieval are not monitored under this document; these tanks are addressed by Appendix I of the Hanford Federal Facility Agreement and Consent Order.

Tanks storing mixed waste prior to retrieval – In-tank video at least once every 10-years. Applies to 100 series or 200 series tanks and {To be determined} catch tanks where a riser suitable for a video inspection is at or above grade.

MONITORING FREQUENCY – INTERSTITIAL LIQUID MONITORING

Tanks where retrieval has been certified* as completed - Not applicable.

Tanks in retrieval – Tanks in retrieval are not monitored under this document; these tanks are addressed by Appendix I of the Hanford Federal Facility Agreement and Consent Order.

Tanks storing mixed waste – In-tank interstitial liquid level monitoring is not used for 200 series and catch tanks. For 100 series tanks, see below.

100 Series tanks - Quarterly monitoring of interstitial liquid level, at existing liquid observation wells . If circumstances such as, but not limited to, weather, electrical outages, equipment failures, etcetera, prevent performing the monitoring, a note will be made in the operating record and included in the annual report on monitoring of the single-shell tank system.

Basis:

- If tank integrity is compromised, drainable interstitial liquid may leak into the vadoze zone, or be a further driver if a leak has already occurred. Intrusion into the tank is also of concern, for same reasons, as it may increase the amount of drainable interstitial liquid.
- The installation of additional or replacement liquid observations wells is not considered reasonable from a worker safety standpoint.

MONITORING FREQUENCY - SURFACE LEVEL

Tanks where retrieval has been certified* as complete - Not applicable as no viable surface level remains. In-tank video provides better information.

Tanks in retrieval – Tanks in retrieval are not monitored under this document; these tanks are addressed by Appendix I of the Hanford Federal Facility Agreement and Consent Order..

Tanks storing mixed waste – If circumstances such as, but not limited to, weather, electrical outages, equipment failures, etcetera, prevent performing the monitoring, a note will be made in the operating record and included in the annual report on monitoring of the single-shell tank system.

100 series & 200 series tanks – Quarterly monitoring

Basis : If tank integrity is compromised, liquid may leak into the vadoze zone, or be a further driver if a leak has already occurred. Intrusion into the tank is also of concern, for same reasons.

Catch tanks – Quarterly monitoring where there is a current tank level measurement device. If tank is located in a vault or other type of containment, monitoring of the vault/containment is an alternative to monitoring of the tank. Currently no monitoring is performed for other catch tanks; continued no monitoring for these to be determined as the list of catch tanks is developed.

Basis : If tank integrity is compromised, liquid may leak into the vadoze zone, or be a further driver if a leak has already occurred. Intrusion into the tank is also of concern, for same reasons.

OTHER THAN TANK COMPONENTS

Non-tank portions of the single-shell tank system (i.e., Treatment, Storage, and Disposal unit components defined by the Part A Permit Application), such as pipelines, valve pits, diversion boxes identified in Tables 4, 5, 6, 7, 8 and 10 of the Part A Permit Application are not directly monitored. Basis is that waste volumes contained within these components are considerably less than an individual tank. Additionally, pipeline encasement(s) as well as drains from valve pits or diversion boxes generally drain to a tank.

PAST PRACTICE COMPONENTS

Waste sites maintained in the waste information data system pursuant to the HFFACO Action Plan Section 3.0 are managed as Treatment, Storage and Disposal (TSD) Unit sites (Section 3.2), or past practice sites (Section 3.3). By agreement between the USDOE and Ecology, the SST System Part A Form contains a combination of TSD unit components and past practice components denoted with footnotes to the tables in the Part A Form. This document addresses SST System TSD unit components subject to inspection requirements of 40 CFR 265.195(a) incorporated by reference at WAC 173-303-400(3)(a), and excludes past practice components.

OTHER HANFORD MONITORING PROGRAMS

Some other programs can also provide information regarding the single shell tank system. These include:

- Dry well logging,
- Vadose zone monitoring (HRR, SGE, Direct Push.)
- Ground water monitoring,
- Above grade inspection

The common factor of these other programs is that they provide information that can be used to evaluate if a tank leak has, or is likely to have, occurred.

Dry well logging is near or at the end of its usefulness due to the number of half-lives for useful indicator radionuclide(s) that have occurred since generation of the waste. This, combined with the 2-foot detection radius from the dry well, limits the use to a large volume leak that flows to the dry well location.

Vadose zone monitoring may indicate a leak from a tank has occurred. Dependent on the method used fairly small volume leaks can be detected.

The ground water monitoring program is used to identify if a tank leak has reached ground water. Dependent on constituents in the plume a tank leak may be identified as the likely source.

Above grade inspection program looks for evidence that might indicate a leak from a tank has occurred.