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MEETING MINUTES

M-045-56 Follow-Up Meeting Between the U.S. Department of Energy, Office of River Protection (DOE-ORP) and the State of Washington, Department of Ecology (Ecology) Regarding Tri-Party Agreement (TPA) Primary Document RPP-9937 and Intrusion Requirements for Catch Tanks 241-TX-302C and 241-UX-302A

MEETING DATE: November 15, 2018

LOCATION: 3100 Port of Benton Boulevard, Room 3A

ATTENDEES:

James Alzheimer (Ecology)	Jeremy Johnson (DOE-ORP)	Holly Bowers (WRPS)
Jeffery Lyon (Ecology)	Benjamin Piepenbring (WRPS)	Jeffry Voogd (WRPS)
Maria Skorska (Ecology)	Cynthia Tabor (WRPS)	Jessica Joyner (WRPS)
Dustin Stewart (DOE-ORP)	Eric Van Mason (WRPS)	Ruben Mendoza (WRPS)

PURPOSE OF MEETING: To address the action required in the second finding identified in Ecology's letter 18-NWP-144, "Dangerous Waste Compliance Inspection on February 28, 2018 and July 30, 2018, at the Single Shell Tank System, RCRA Site ID: WA7890008967, NWP Compliance Index No. 18.623", DOE-ORP and Washington River Protection Solutions LLC (WRPS) were required to "*conduct a M-45-056 Milestone meeting including discussions of the course of actions to be taken to address the intrusion into Catch Tank 241-TX-302C and submit meeting minutes to Ecology*". During the annual M-045-56 milestone meeting (*tracked in the TPA Administrative Record as M-045-56N*) conducted on August 9, 2018, it was agreed that this topic would not be discussed in the annual meeting. Instead, an action was created to conduct a separate, follow-up M-045-56 milestone meeting explicitly to address the topic; see M-045-56N Meeting Minutes Agenda Item D and Table 1 Action 2018-08-09-02. In partial fulfillment of M-045-56N Action 2018-08-09-02 and 18-NWP-144, this meeting was to discuss catch tanks with intrusions, explicitly 241-TX-302C, and the associated TPA primary document RPP-9937, "Single-Shell Tank System Leak Detection and Monitoring Functions and Requirements Document".

The following topics were discussed at the meeting:

- Tank and Intrusion History of 241-TX-302C and 241-UX-302A **(Item A)**
- Current and Proposed Future Actions to Address Catch Tank Intrusions **(Item B)**
- Proposed Changes to RPP-9937 Needed to Resolve 18-NWP-144 Finding 2 **(Item C)**
- Future Actions **(Item D)**

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Hard copies of a presentation prepared by WRPS were provided and utilized during the meeting to support discussions on each agenda item. Note that DOE-ORP publicly cleared the presentation during the meeting in support of Ecology's request to retain their copies upon conclusion of the meeting for personal retention and use. The official record copy of that presentation will be captured and retained in the TPA Administrative Record as part of these meeting minutes as Attachment A below.

Details on each topic discussed during the meeting are provided below.

A. TANK AND INTRUSION HISTORY OF 241-TX-302C AND 241-UX-302A

Eric Van Mason passed out the presentation (see Attachment A) and WRPS proceeded to present the topics laid out on each page, beginning with the purpose and agenda items for the meeting. In addition to 241-TX-302C, DOE-ORP and WRPS also identified to Ecology at the start of the meeting that the agenda included plans to discuss catch tank 241-UX-302A during the meeting as well. Catch tank 241-UX-302A is essentially an identical catch tank with a similar history of intrusion. Therefore, upon review of the Ecology concerns identified in 18-NWP-144, it was identified that this was a catch tank of similar situation and concern as 241-TX-302C, so it should also be included in these discussions.

Maria Skorska then asked for a pause on the presentation in order to reiterate a scope request made prior to the meeting via an email transmittal to Cynthia Tabor, which appeared to be missing from the meeting's proposed agenda. Maria's request was that DOE-ORP, WRPS, and Ecology need to hold discussions about how, in general, all future tanks being identified with intrusion for the first time will be handled, regardless of their location on site and status [*still in relation to RPP-9937*]. After a brief group discussion and review of the planned meeting agenda, it was determined that Maria's request would be discussed later on in the meeting as part of Item B.

WRPS personnel resumed presenting pages 3 through 10 of Attachment A, which addressed each catch tank's type, design, location, waste receipt and usage history, integrity, and tank volume changes associated with intrusion after documented precipitation events, both before and after interim stabilization as well as other tank pumping events. During WRPS's presentation of this material, in addition to reading through the information contained on the pages, the following additional key discussion points and/or questions were also raised and discussed:

1. Ecology: Cannot clearly read the tank drawing provided on page 3. What is this drawing intended to show?
    a. WRPS – These two catch tanks are twin tanks. The intent of this drawing was to depict their configuration as buried, cylindrical tanks with risers. If needed, we can provide this drawing to you [*Ecology*] as a higher resolution, stand-alone file. Photos of the foamed over top of 241-TX-302C were also shown to Ecology to demonstrate what one of the tanks looked like at that moment in time, out in the field.

2. WRPS: For 241-TX-302C, this catch tank is located next to T Plant and it was determined to be an intrusion tank prior to the creation of RPP-9937. After the tank was pumped for interim stabilization, the tank level did stay relatively constant for several years. This changed in 2015, when a near record setting level of precipitation fell in a short time period. We are not sure what changes occurred in the field upstream of this tank due to that event, but clearly, something changed as the liquid levels and intrusion rate in the tank spiked during that event, as shown in the graphs on pages 6 and 7 of the presentation. Additionally, since that 2015 event, as shown on the graphs, the tank volume has continued to slowly, steadily increase with every subsequent precipitation event.
    a. Ecology: Is the rate of intrusion consistent?
        i. WRPS: It is not. The increases in tank volume are clearly tied to precipitation events and are therefore seasonal, as shown in the graph on Page 7 of the presentation.

3. WRPS: Regarding 241-UX-302A, this tank is the same as 241-TX302C only it is located next to the U Canyon. The history, design, and weather sealing are essentially the same as TX302C. We do pump this tank regularly though to ensure liquid levels do not reach a presumed hole estimated to be located at the ~10-inch level of the tank wall.
    a. DOE-ORP: Do we have a video of the hole?
        i. WRPS: The leak assessment report should have photos.

B. CURRENT AND PROPOSED FUTURE ACTIONS TO ADDRESS CATCH TANK INTRUSIONS

WRPS personnel then presented page 11 of Attachment A, which addresses current and proposed alternative or new actions that are or could be taken to respond to and/or prevent intrusions. Recommendations proposing a path forward were also included and discussed. During WRPS's presentation of this material, the following key discussion points and questions were also raised and discussed:

1. Ecology: Where the material states "response actions as needed", what does that actually mean?
    a. WRPS: For example, pumping 241-UX-302A prior to liquid levels reaching the 10.5-inch mark; having annual preventative maintenance be performed to check the tank coatings and repair as needed; and increasing the frequency of these checks and repairs if determined necessary.

2. Ecology: What are the real risks associated with the accumulation of the liquids in these tanks? Have you sampled the liquids?
    a. WRPS: We have sampled 241-UX-302A in support of pumping the tank, but have not yet needed to sample 241-TX-302C, as we have not needed to pump that tank

since it was last pumped for interim stabilization. The samples for 241-UX-302A showed the liquid was essentially rainwater on residual sludge.

3. Ecology: What are the risks of that water on the sludge? Do you have any requirements to pump?
    a. WRPS: Tank 241-UX-302A is pumped as needed to avoid liquid levels from reach the hole in the tank wall in order to prevent leaks and spills to the environment; but we have no explicit requirements to do anything specific, other than to maintain the tanks within their operating specifications, which includes pumping at 80% of maximum fill.

4. Ecology: The interim stabilization program is long gone. What was Jared's concern with all this again? [*Note: Jared is the Ecology Dangerous Waste Compliance Inspector that issued 18-NWP-144*]
    a. All: After a group discussion, consensus reached was to confirm that the majority's take on Jared's concern was essentially the lack of clarity regarding the language presently in RPP-9937 that requires Ecology be notified of intrusion events.

addressing Ecology's to improve

5. WRPS: The main issue is that RPP-9937 is not clear on when to notify Ecology about an intrusion. Is the intent of the requirement that we notify for every intrusion event, so every time it rains and a tank level increases or, do we only notify you [*Ecology*] once per tank when intrusion is first discovered? We need to clean up this language in the document [*RPP-9937*] so that everyone has the same understanding and interpretation of what the language and requirement means and when it applies. We understand Jared's concern and interpretation of the current language, so we provided the notification he requested in his inspection report [*18-NWP-144*] and arranged to hold this meeting. However, we would like to ensure we are all on the same page for expectations moving forward so that there is less room in the future for individual interpretation.

6. WRPS: Regarding 241-TX-302C, again, 2015 was a record setting precipitation event. So as a result we did check all the foam sealant on the tank itself and it all was intact and in good repair. Therefore, we then looked at the associated diversion boxes that connect to this tank, but it is hard to identify the source(s) of the intrusion.

7. Ecology: Have these tanks been visually inspected?
    a. WRPS: We believe 241-UX-302A has been, but are not sure off hand if 241-TX-302C has been or not. We would need to verify and get back to you.

8. Ecology: We have the schedule for visual inspections and there are some catch tanks on the list. Are either of these?
    a. WRPS: Again, we are not sure off-hand and would need to look to verify.

9. Ecology: What are the closure plans for these tanks?
    a. WRPS: 241-TX-302C will eventually be RCRA closed as part of T Plant. That closure is a ways off. Tank 241-UX-302A will be CERCLA closed as part of the U Canyon closure. Therefore, that catch tank will either be clean pulled or grouted in place as per the approved CERCLA closure plan. U Canyon is supposed to be CERCLA closed with a cap and cover, but the closure plan for T Plant is still evolving. Complicated of course, by the fact that T Plant is being considered for addition to the Manhattan Project National Historic Site.

10. Ecology: Is there any known soil contamination?
    a. WRPS: CHPRC is just starting on that for U Canyon. We have been talking to and coordinating with CHPRC, but they own both U Canyon and T Plant and as of now, they are not funded for any significant work like sealing all the connecting pipes and tanks that may be feeding or providing an intrusion route into these two catch tanks.

11. WRPS: For right now, our current proposed path forward is to continue pumping 241-UX-302A as needed [*per Operating Specification Document*], minimize intrusion as best we can, improve the language in RPP-9937 via the ongoing revision 4 efforts, pursue a minor, near term revision to RPP-9937 to resolve Jared's concern [*i.e. provide additional clarification of when notification of intrusion is expected*], and to continue communication and coordination efforts with CHPRC regarding U Canyon and T Plant.

Ecology's

12. Ecology: RPP-9937 revision 4, what is the schedule for that effort again?
    a. WRPS: We are in the process of setting up a meeting in the near future to present the next revision 4 draft to Ecology. WRPS has been drafting the current revision 4 in coordination with Jeff and Jim [*Ecology*] all summer. We think we are getting close to completing this effort. [*Consensus between WRPS and involved Ecology staff present at the meeting was that this effort would hopefully be complete within 6 months*].

13. Ecology: Regarding these two tanks, a concern for Ecology is that DOE could be seen as adding waste to a non-compliant tank. Therefore, we need a plan, as the normal requirement would be to have you pump and close the tank. Although, more than the volume of liquid in the tank, the main risk is the hazard potential from the radiological and chemical constituents, which is why we wanted to know if the contents had been sampled. Keeping 241-UX-302A pumped seems like a good way to do things, as is coordinating closure options with CHPRC, but then we would need [*closure*] dates. Given the relative risks of the tanks and contents, it does not really seem worth it to pump the contents if you do not have to, based on a risk perspective.
    a. WRPS: For U Canyon, we can give you a closure date as that closure is a TPA milestone and the closure plan has already been written and approved. We just cannot provide the same for T Plant.

14. Ecology: U canyon will be closed soon, which takes care of 241-UX-302A, but not 241-TX-302C; however, 241-TX-302C is an intact tank that does not have the hole or the potential to leak to ground that 241-UX-302A has. So would you pump 241-TX-302C and if so, when?
    a. WRPS: Per our operating specifications, we would pump the tank when the liquid level hit the 80% by volume level.

15. Ecology: Maybe we add a note to RPP-9937 about pumping the tank and under what circumstances, to show that there is a plan.
    a. WRPS: We could. Just know that based on the last two winters, which were both wetter than average, tank 241-TX-302C will take close to 30 years before it hits the 80% mark to trigger pumping.

16. Ecology: We need agreed to and unambiguous wording in the plan [*RPP-9937*]. You are not knowingly, or willingly, adding waste to these tanks, they are isolated from all known waste sources, but we also do not normally use tank integrity as a basis for a pumping schedule. We do realize though, that both of these tanks would qualify as empty per SST [single-shell tank] retrieval requirements [*per the TPA*]. So what have we agreed to or need to do at this point regarding RPP-9937 to capture all this?
    a. WRPS: We have prepared some proposed changes for RPP-9937 on pages 13 and 14 of the presentation [*read proposed changes in the presentation and then moved on to Agenda Item C*].

C. PROPOSED CHANGES TO RPP-9937 NEEDED TO RESOLVE 18-NWP-144 FINDING 2

WRPS personnel presented pages 13 and 14 of Attachment A on current and proposed changes for RPP-9937 language that was prepared to resolve the requirement interpretation issue leading to the inspection finding documented in 18-NWP-144. During WRPS's presentation of this material, the following key discussion points and questions were also raised and discussed:

1. WRPS: We can clean up RPP-9937 now to clarify when Ecology is notified, and then use the annual M-045-56 interim measures meeting to discuss other actions that may be needed for catch tanks and SSTs with intrusion.

2. Ecology: We can take the concept back to the rest of the office to seek agreement on what else to do. The primary issue for today is the notification requirement per RPP-9937. We did look up these two catch tanks in the Part A [*SST RCRA/Dangerous Waste permit application*] and both are in SST space. So maybe for all the catch tanks we make sure to capture them in RPP-9937 explicitly, and then allow them to accumulate to a set level, at which point we would require pumping. Although, you also have a few catch tanks that you do not monitor correct?
    a. WRPS: Correct, a few tanks are not monitored.

3. Ecology: We could require you notify when intrusion is first detected and then require that you have a plan for continued intrusion. Such as pump the tank at the 80% level, 10-inch level, etc.
    a. WRPS: Do we all agree that this notification would be a one-time notification for the first time intrusion is detected? Versus notifying you every time it rains and additional intrusion is detected.
        i. Ecology: Yes, it would be a one-time notification.

4. Ecology: In the annual M-045-56 milestone meeting then, you could status us on intrusions in catch tanks and any planned actions such as pumping, via an annual report or something similar.
    a. WRPS: Would you want that language in RPP-9937?
        i. Ecology: If that would work.
            1. WRPS: We can discuss with DOE-ORP and look into adding that.

5. Ecology: We do like, in general, the proposed, new RPP-9937 language [*page 14 in Attachment A*]. What is still lacking though is language on what you will do after intrusion is known; like pumping, statusing the actions in the annual M-045-56 milestone meeting, etc.
    a. WRPS: We will have to discuss internally about things like a pumping number, but we do think it is a good topic item for RPP-9937 revision 4. Right now, we would like to do a minor change right away to RPP-9937 revision 3 on the current intrusion notification language to help prevent future compliance issues if possible.

6. Ecology: Since it will be awhile before you pump 241-TX-302C, maybe DOE will agree now to change RPP-9937 [*to clarify intrusion notification requirements and provide tank status updates*] prior to revision 4.
    a. WRPS: RPP-9937 is a TPA primary document, so both parties do need to agree to any changes; but we can work with DOE and see what is possible.

7. Ecology: We understand. If we are to agree though, we will want you [*ORP*] to commit to an annual update in the annual M-045-56 milestone meeting at minimum to status the tank levels and plans for each intrusion tank.

8. WRPS: We are nearing the end of our scheduled meeting time, what are the actions we need to take? Do we need to schedule another follow-up meeting?

    a. Ecology: Maria had talked to Jared prior to the meeting about his inspection report and concern and based on that conversation, believed that he just wanted the RPP-9937 language regarding the 7-day intrusion notification requirement to

be clarified. Although the Ecology staff present during this meeting also identified that, they will want more than just that language changed.

9. DOE-ORP: If we show up at the next annual M-045-56 milestone meeting with a table of tanks and a proposed path forward would that work?
    a. WRPS: We would prepare and submit a TPA primary document change notice to modify the proposed notification language in RPP-9937 now, with a note in the change notice that further discussions on this topic, including providing Ecology with the status and a path forward for each intrusion tank, will be provided and conducted at the next M-045-56 annual milestone meeting
        i. Ecology: We think that works. Let us do that. So part A will be to status the tanks and liquid volumes and the response steps for each at the next annual M-045-56 milestone meeting at minimum. Then we can discuss adding additional intrusion response language as part of the ongoing RPP-9937 revision 4 discussions. Then we can meet again once you draft the TPA change notice to do a minor change to the current RPP-9937 revision 3 that will satisfy the Ecology compliance inspection finding in order to finalize that language change. The primary focus for now is to create non-ambiguous language in RPP-9937 on intrusion notification.

D. FUTURE ACTIONS:

The following actions were identified in this meeting:

Table 1. Action Items Identified During the Meeting

Action Number	Actionee	Description	Status
2018-11-15-01	Eric Van Mason	Draft a TPA primary document change notice for RPP-9937 Revision 3G to provide additional clarification of notification requirement language and ensure appropriate information on intrusions is communicated. • Include in the draft change notice a commitment to provide Ecology with an intrusion tank status report or summary in the next annual M-045-56 milestone meeting	
2018-11-15-02	Eric Van Mason	Upon completion of Action 2018-11-15-01 above, subsequently schedule a follow-up meeting with Ecology to review and finalize the draft TPA change notice.	
2018-11-15-03	Jeremy Johnson and Eric Van Mason	In RPP-9937 revision 4 discussions, add to the agenda a commitment to discuss with Ecology how to incorporate language into the document that adequately addresses: • Actions to be taken in response to leaks or intrusions (e.g. pumping criteria, intrusion prevention, etc.). • The role of RPP-PLAN-48438 in any responses. • Notification criteria. • Continued mechanism for providing Ecology with tank and intrusion status.	

Dustin Stewart		12/20/18
DOE Project Manager (Print)	DOE Project Manager (Signature)	Date
Jeffery J. Lyon		12/18/18
Ecology Project Manager (Print)	Ecology Project Manager (Signature)	Date

see notes on pages 4 & 5

Attachment A

washington river protection solutions

TX302C and UX302A Intrusion Review

M-045-56 meeting conducted as response to Ecology 2018 SST Inspection finding #2 (Compliance index 18.623)

November 15, 2018

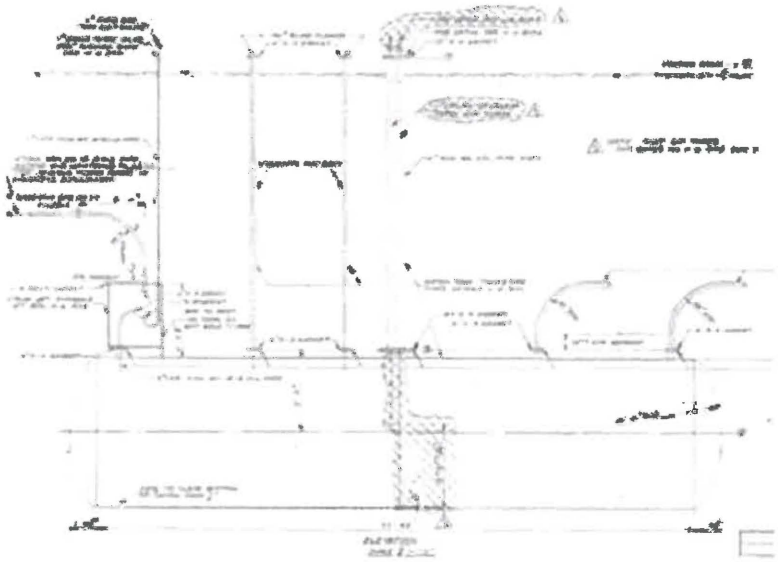
Purpose and Scope

- Address Ecology required action from 2018 SST Inspection*
  - "conduct an Milestone meeting including discussions on the course of M-45-056 actions to be taken to address the intrusion into Catch Tank TX302C"
- In addition:
  - Discuss Catch Tank UX302A as circumstances are similar to TX302C
  - Discuss RPP-9937 language, and opportunity for requirement clarification.

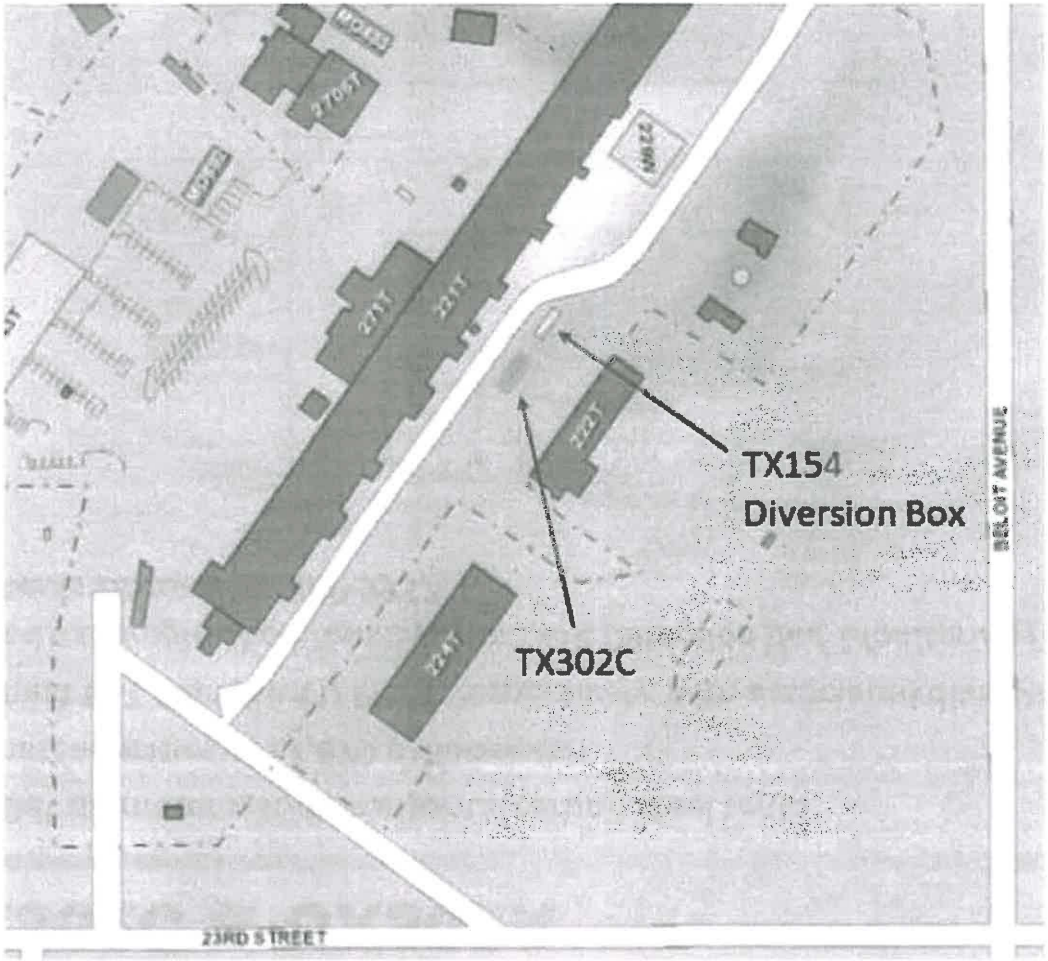
*Compliance Index #18.623, Letter 18-NWP-144

TX302C & UX302A

- Inactive 9-ft diameter x 36-ft horizontal carbon steel tanks
  - Nominal capacities of 17,670 gallons each
- Located next to T Plant and U Plant, respectively, with associated diversion boxes
- Monitored per *Single-Shell Tank System Leak Detection and Monitoring Functions and Requirements Document, RPP-9937*



TX302C Location



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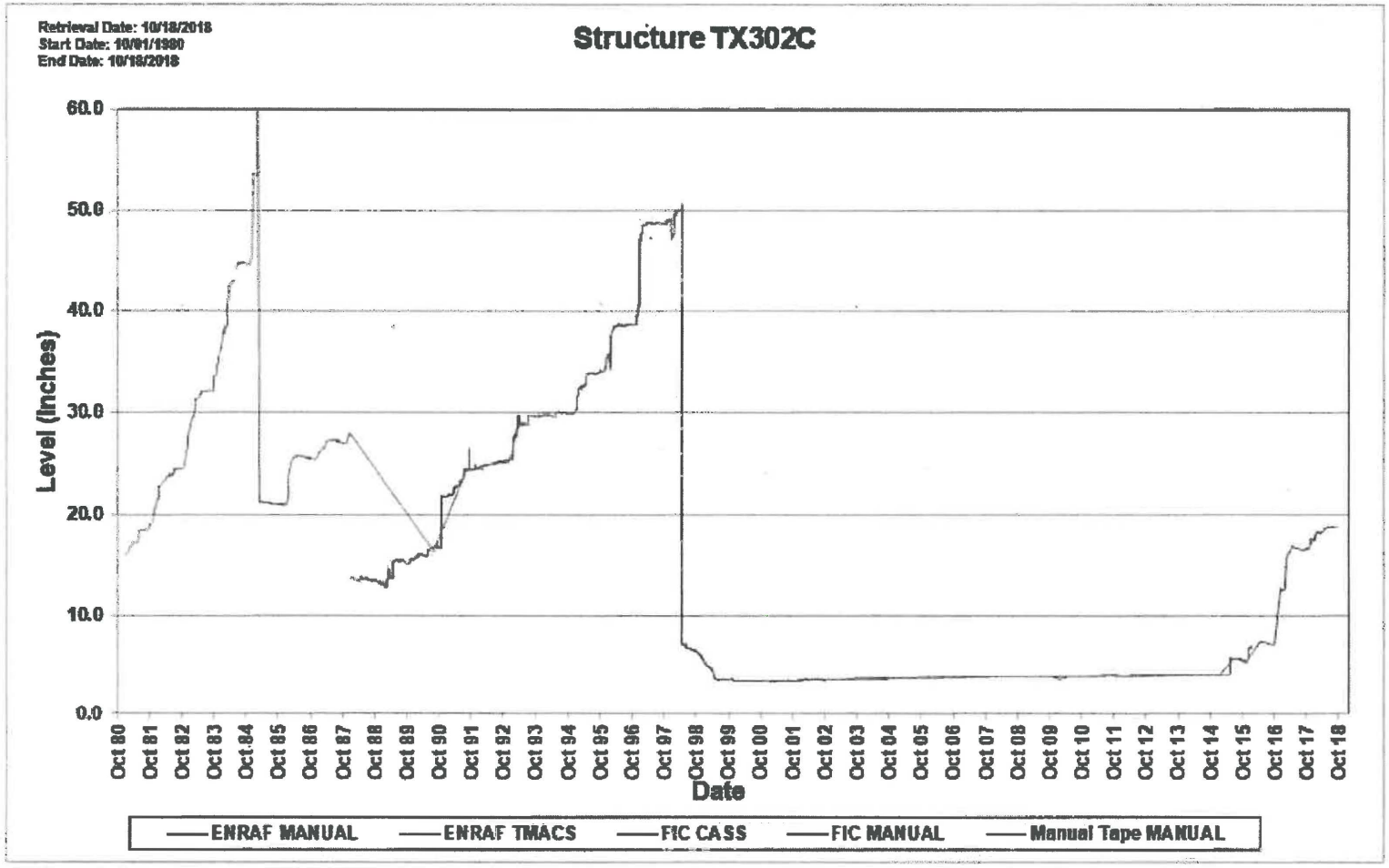
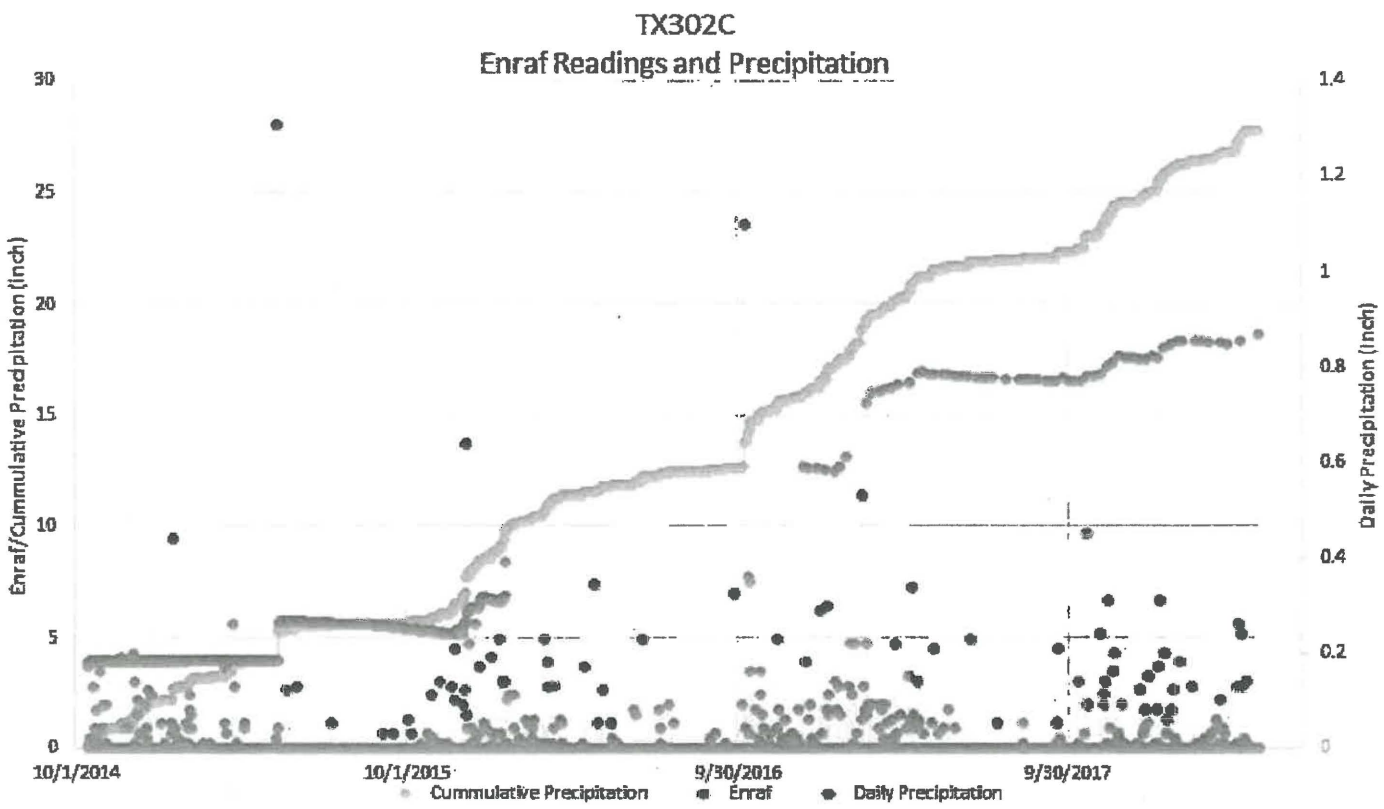
TX302C History

- Received drainage and washdowns from the 241-TX-154 diversion box including the 221-T Plant 291-T canyon exhaust stack drain .
- Static leak test in 1998 concluded tank was not leaking.
- Tank and diversion box were weather sealed in 1998. Liquid level decreased, and stabilized at 3.49 in.
- Visual inspection in 2000 showed a dried waste surface and no evidence of liquid.
- Liquid level increased from 3.9 in. (200 gal) to 5.73 in.(360 gal) following a precipitation event in May 2015.
- Liquid level continues to increase, following precipitation trends.
  - Current level reading is 18.63 in. (2,030 gal).

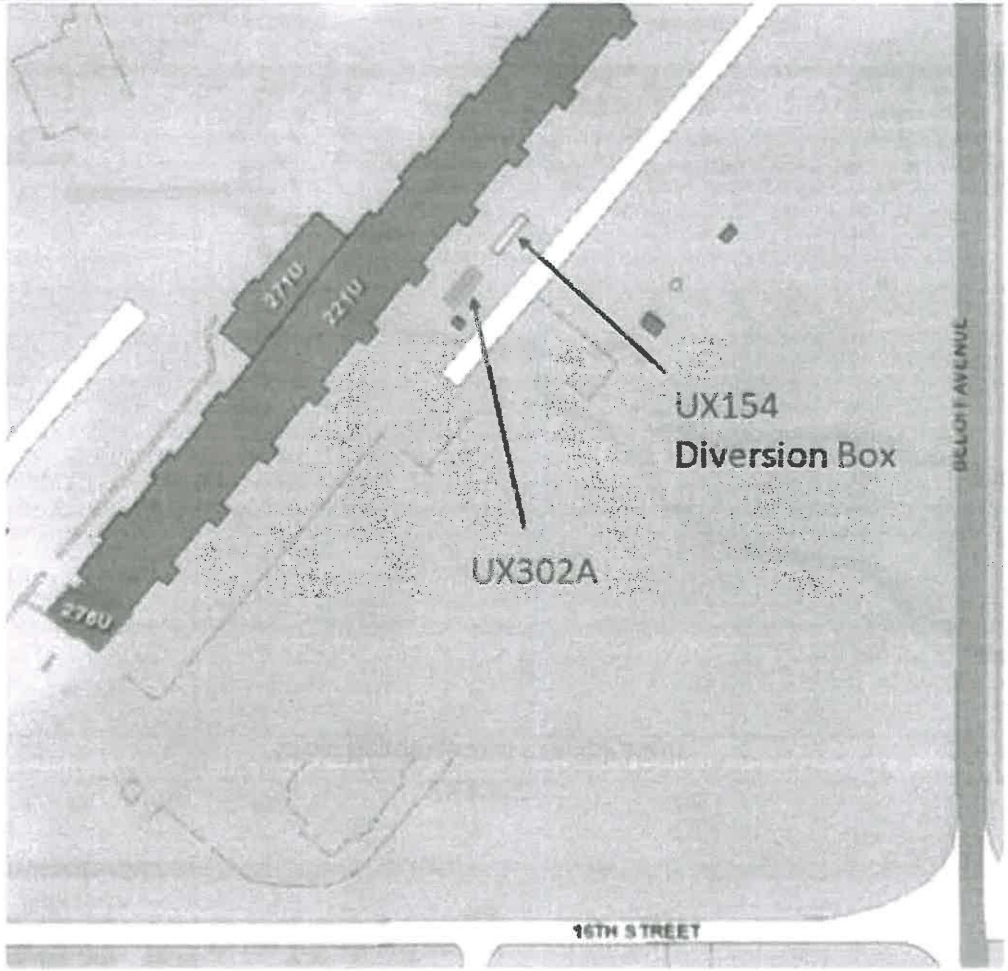
TX302C Monitoring



TX302C Monitoring



UX302A Location



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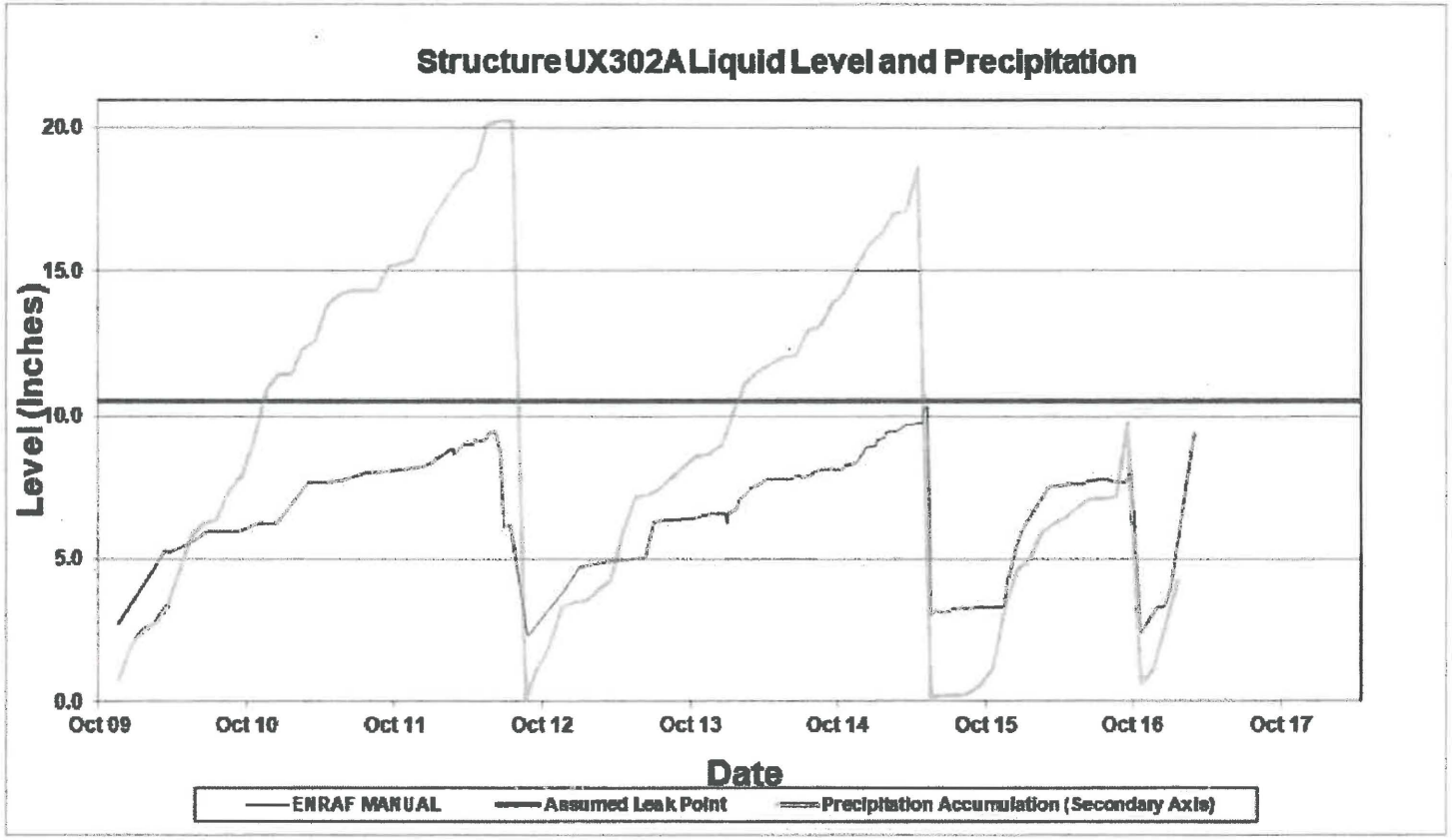
UX302A History

- Received drainage and washdowns from the 241-UX-154 diversion box including the 221-U Plant 291-U canyon exhaust stack drain.
- Integrity assessment in 2001 deemed tank sound.
- Tank and diversion box were weather sealed in 2003
- Leak assessment in 2006; presumed hole at 10.5 inch level.
- Pumped in 18 month intervals and transferred by tanker truck to SY tank farm.

UX302A Monitoring



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Actions

- Currently performed
  - Continued monitoring
  - Response actions as needed
  - Intrusion prevention maintenance
  - Intrusion barrier inspection walkdown is performed if a significant step change is identified by level monitoring
- Considered
  - Address potential sources of intrusion individually
  - Additional stormwater management
  - Grouting tanks
  - Treatment through active ventilation (exhauster)
- Recommended
  - Continue current activities
  - Continue RPP-9937, Rev. 4 development and discuss opportunities to clarify monitoring requirements
  - Coordinate closure actions with RL/CHPRC

Appendix

[NOTE: This page of the presentation contained no text.]

washington river protection solutions

RPP-9937 Milestone Reference

- RPP-9937 previously contained requirements to:
  "identify source of intrusion" and *"stop intrusion"*

- In 2014, document was modified to state:
  "Tanks in which intrusion is detected shall be monitored quarterly. Ecology will be notified within 7-days after the intrusion has been detected and discussions will begin on the course of action to be taken. A decision on the course of action taken to be taken will be negotiated as part of the priorities under M-45-56, "Complete Implementation of Agreed-To Interim Measures." Liquid from intrusion will be removed during the waste retrieval of the effected tank."

  - Requirement clarification is needed

Proposed Revision

"Tanks in which intrusion ~~is~~ has been detected shall be monitored quarterly. Ecology will be notified within 7-days after ~~the~~ intrusion ~~has been detected~~is detected in a tank not previously known to receive intrusion, and discussions will begin on the course of action to be taken. A decision on the course of action ~~taken~~ to be taken will be negotiated as part of the priorities under M-45-56, "Complete Implementation of Agreed-To Interim Measures." Liquid from intrusion will be removed during the waste retrieval of the effected tank."