

RESTORATION ADVISORY BOARD MINUTES

July 20, 2021

The Restoration Advisory Board (RAB) meeting was called to order by Jen Busard at 9:01 a.m. on 20 July 2021. Due to the pandemic, this meeting was held both in-person and virtually over MS Teams. Susan Elrod from Army Environmental Command (AEC) is online today.

Jen introduced the new Lt Commander Jason Crist, who gave his first address. He said he was excited to be here along with his wife and has appreciated the warm welcome to the Iowa Army Ammunition Plant (IAAAP).

Minutes Review

There were no corrections to the minutes from April 2021. There were also no public comments.

Agenda Review

The July 2021 agenda was accepted as written.

Environmental Services Update

Jeff Morrison of CH2M HILL, now Jacobs, presented an update on the Environmental Services Contract. He started off his presentation today by letting the RAB know that his team is in the final months of 5-year contracts for their projects.

Jeff summarized the Operable Units (OUs) at IAAAP since that term gets used a lot in these presentations. Three new OUs have been proposed (OU-10 through OU-12). He then updated the team on where the various Remedial Investigation (RI) reports stand for the Jacobs/Leidos team:

- Submitted Response to Comments (RTCs) on EPA comments on Draft RI for OU-11. Addressing backcheck comments.
- Preparing RTCs to EPA comments on Draft RI for OU-4.
- Preparing RTCs to EPA comments on Draft RI for OU-12.
- Addressing Army comments on Internal Draft RI for OU-7.
- Awaiting Army comments on Internal Draft RI for OU-6 submitted to Army late April.
- Submitted Internal Draft RI report for OU-10 in July.

Jeff M. then provided an update about the Site Inspection (SI) that is underway for emerging contaminants called per- and polyfluoroalkyl substances (PFAS) at IAAAP:

- There are currently three PFAS compounds with EPA toxicity values that can be used to generate screening levels: Perfluorooctanoic acid (PFOA), Perfluorooctane sulfonic acid (PFOS), and Perfluorobutanesulfonic acid (PFBS).
- Screening levels are risk-based values used to determine if additional investigation is warranted.

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- Five newly installed monitoring wells and ten existing monitoring wells were sampled at the former Fire Station, Fire Training Pit (FTP), and the Inert Disposal Area (IDA) in December 2020.
- While PFAS was detected at all three areas, four samples showed exceedances of PFOS screening level (0.04 ug/L) at the Former Fire Station and FTP at concentrations as high as 0.62 ug/L.
- One sample showed exceedances of PFOA screening level (0.04 ug/L) at the IDA at concentrations of 0.11 ug/L.
- There were no PFBS screening level exceedances.

The Draft SI report is being prepared for legal and HQDA reviews. Due to screening level exceedances, additional investigations will occur in the future. Jen said IAAAP replaced all the Aqueous film forming foam (AFFF) with new products that don't contain that product.

Bioreactor Treatability Study

Jeff M. then provided Bioreactor Treatability Study (TS) Update. Jacobs is finishing up this contract as well. Collaborating with Engineering Research & Development Center (ERDC) to evaluate RDX treatment in the South Tributary to Brush Creek:

- Phase 1 (drum-scale) testing was completed in August 2020.
- Phase 2 (full-scale) tank testing was completed in late December and the TS results have been positive.
- Conducted performance evaluation and submitted Draft TS report to EPA and IDNR on 05/19/21. This included the Construction Completion Report as an appendix.

The Final TS Report was submitted in mid-July. Throughout the treatability study, variable influent concentrations were observed.

- Inconsistent surface water concentrations within the tributary were independent of flow rate, rain events, sample timing, and laboratory variation.
- Residual RDX concentrations potentially being discharged from a yet-to-be-identified location within Line 1 may be contributing to the influent concentrations at the southern tributary, and additional surface water investigation is recommended. During Phase 2, surface water flow from the southern tributary was inconsistent, likely due to dry conditions and the recent demolition of buildings at Line 1.
- Approximately 790 gallons were recorded to have flowed through the system during Phase 2 operations, as recorded at the Tank 1 totalizer (located after the sedimentation tank), indicating only 1 pore volume was recorded during the TS.

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- During Phase 2, RDX concentrations decreased to non-detect by Tank 4 during three of the last four sampling events between October and December 2020. Residual RDX concentrations from the October 6, 2020, anomalous influent concentrations (464 µg/L) appear to have reached the aeration tank, which may account for the higher concentrations after Tank 4 during later sampling events.

Jeff M. showed several photos of the fully constructed Bioreactor from last summer. Recommendations of the TS are:

- Phase 1 was intended to study the kinetics and monitor for contaminant breakthrough at a smaller scale
- The bioreactor system was designed for long-term use and should continue to operate; samples should be collected to monitor RDX concentrations until all sources have been identified and removed from the southern tributary at Line 1.
- If future expansion or additional bioreactor installations are performed, some design modifications may be recommended based on lessons learned.
- A second bioreactor to treat the RDX concentrations in surface water from the northern tributary at Line 1 should be considered
- Regular Operation and Maintenance (O&M) is recommended to maintain sufficient flow through the system, including monitoring influent regularly, clearing accumulated leaves and debris from the catch basin, recording flowmeter (totalizer) readings, inspecting tanks, and monitoring effluent discharge (rates, color, etc.).

He then presented an update on some other work being conducted on behalf of U.S. Army Corps of Engineers (USACE) Louisville District. Tony Finch of TAC Associates is working on Building Demolition Sampling for the Installation Restoration Program (IRP). Planning documents for the Contaminated Soil Remedial Design project prepared and submitted:

- Project Management Plan and Quality Control Plan- Final submitted.
- Accident Prevention Plan- Final submitted.
- Uniform Federal Policy Quality Assurance Project Plan- Internal Draft reviewed by USACE, comments currently being incorporated.

Fieldwork is expected to begin late 2021.

PARS Environmental is continuing to work on the dredging project at the Line 1 Impoundment.:

- Approximately 2,500 tons of sediment have been hauled to the landfill.
- Rainy weather has delayed the remaining sediment load out,

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approximately 1,000 tons remain stockpiled onsite.

- Load out will resume as soon as weather allows and expect to complete disposal by the end of July.

Dean Johnson of PARS Environmental has been sampling the impoundment material and testing it. So far it has all been non-hazardous.

Vaughn Moore asked if there was any soil sampling in Yard G by the igloos. Matthew Bange responded that FUSRAP has done sampling for metals and explosives in the past. Primarily in and around the bunkers. Vaughn was concerned about the barrels with the lead azide.

Hans Trousil asked Jeff for clarification that our contract is ending. Aaron Steele said that Jen has requested that Louisville District continue to support IAAAP so additional contracting is in the works.

Mark Hagerla asked if there were any conclusions about contaminants still coming from Line 1. Do we have any conclusions? Aaron said there are two separate things: one is Brush Creek leaving the fence line. Monitoring of the creek and the off-post RDX plume annually. The OU-3 Remedial Design (RD) has been finalized and a third contract is underway to continue injections.

Second piece is the Bioreactor project. One objective in the new contract is to expand looking into surface water contamination. Bruce Workman asked if there had been any recent spikes? Aaron said that that contract doesn't come through his team. Jen said that Aerostar conducts that work and will be presenting at the next RAB meeting in October.

Aaron replied that the Army has not quite figured out the source for those spikes. The Conceptual Site Model (CSM) holds that the source is a historical release and that we are seeing a rebound effect. Julie Solinski asked if the release has been tied to rain events? Data doesn't show that it is tied to precipitation. Mark asked if we are not testing at the right times? Aaron said that concentrations should go down if rain dilutes the concentrations.

Vaughn asked if there is a new sewage treatment plant. Jen replied that construction will be complete next spring.

Julie asked about PFAS and if there are other locations where PFAS was used. Jeff replied that during the Preliminary Assessment (PA) they asked where there were fires? We already know there is a fourth site to do a Site Investigation (SI). As we go forward there may be other sites added. PFAS is an evolving issue, and we are learning more about it.

Julie asked if Bioreactor is not in use? Jeff replied that the study is done, but the reactor is still in place and surface water is passing through it. Just not being monitored or maintained. Aaron reminded the team that it is gravity fed and self-sufficient, and the intent was to keep treating surface water there long-term.

Hans asked if the media at the Bioreactor had to be changed out. Jeff replied that it

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does have to be regenerated, but due to the low flows/concentrations we are not anywhere near the time to do that. Further TS could be conducted with the drums to determine breakthrough times for RDX.

There were no further questions.

FUSRAP Update

Mike Kessler provided an update on FUSRAP activities. He first clarified that there was contamination in the footprint of Building 1-70, but not under Building 1-40.

Darlyn Liles is a health physicist from Omaha Cx and was a guest of Mike's. He started off with a slide showing the definition of FUSRAP: Formerly Utilized Sites Remedial Action Program to deal with former atomic energy commission radioactive waste. Assigned to the Department of Energy (DOE) and then transferred to USACE. Two OUs assigned: OU-1 primarily explosives contaminated soils in Line 1 and West Burn Pads (WBP), while OU-8 is for predominantly looking for low level radiation. Mike presented a slide on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process that shows how FUSRAP interacts with CERCLA and showed where we are at in the process at IAAAP. Still in the Remedial Action (RA) phase of process. RA will be completed this calendar year, while construction activities will be ongoing until 2022 for site restoration and paperwork.

Mike began with a discussion about strategy and that his work is dependent on Congressional funding. OU-1 is primarily Explosives Contaminated soils in Line 1 and WBP areas. The West Burn Pad South (WBPS) of the Road Remedial Action Completion Report (RACR) is complete.

FUSRAP has conducted a huge amount of sampling at IAAAP. Additional remediation is required at Line 1:

- FUSRAP tasked Leidos with collecting surface and sub-surface 'bounding' samples at Bldgs. 1-70, 1-05-1, and 1-155-1 and also at Bldgs. 1-03, 1-04, and the Bldg. 1-10/1-12 clarifiers.
- Based on the sampling results, Leidos prepared two Pre-Design Investigation Reports (PDIRs).
- The 1st Line 1 PDIR (Bldgs. 1-70, 1-05-1, and 1-155-1) REV B finished EPA and IDNR review. FUSRAP is responding to comments.
- The 2nd Line 1 PDIR (Bldgs. 1-03, 1-04, and the clarifiers) is in REV A finishing up FUSRAP internal review.
- Line 1 RA Scope of Work (SOW) are complete. FUSRAP conducted a site visit with RCRC on 23-JUN. The proposal is due no later than 14-JUL. Contract award is on track for August.

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OU-8 is the DU sites.

Firing Sites (FS) Area (has been the focus of Mike's team):

- Remedial Action is complete in FS-1/2, 3/4/5, and 14 Areas.
- Final Status Survey (FSS) is roughly 33% complete in the FS-6 Area. Clearing brush to facilitate further PDI work.
- FSS is complete in 87% of the 125 FS-12 Survey Units (SUs).

Mike shared a number of restoration photos and his maps showing progress updates (some were the same photos as previous meetings).

Q3 2021 Activities completed:

OU-1:

- Finalized REV B of 1st Line 1 Bldgs. Pre-Design Investigation Report (PDIR); Sent to EPA and IDNR for review and comment.
- Finalized REV A of 2nd Line 1 Bldgs. PDIR. Started FUSRAP PDT review.
- Completed drafting the Line 1 Remedial Action Scope of Work (SOW). Sent Request for Proposal to RA Contractor. Held site visit.

OU-8:

- Completed the 1st Transportation & Disposal (T&D) campaign (6 railcars) which included all remaining above RG material from the 2020 Field Season.
- Completed the 2021 Field Season Mobilization, S3 calibration, and wood chips processing. Started excavating and processing soil in Area K (part 1).
- Completed MERs for SUs 51, 50, 45, and 39W plus RUSPs 199 thru 204.
- Completed the Area E (former Test Fire Pit) PDIR.
- Completed REV A of the 2021 PRAR/FSSE (20 SUs).
- Completed REV A of the 2020 EMDAR

Q4 2021 Activities Planned

OU-1:

- Finalize the 1st Line 1 PDIR for Buildings 1-70 / 1-05-1 / 1-155-1.
- Begin EPA and IDNR review of the 2nd Line 1 PDIR.
- Negotiate and award the Line 1 remediation contract mod.

OU-8:

- Continue excavating and processing soil in Area K (part 1), Area I Addendum, Area E, and Area K (part 2).
- Complete additional T&D campaigns as Above RG stockpile and railcar availability permit.
- Continue brush clearing and Pre-Design Investigation at the South Test Fire Site (FS-6).

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- Complete Area E (former Test Fire Pit) RD/RAWP.
- Finalize the OU-8 2021 PRAR/FSSE (20 SUs).
- Continue developing the Exit Strategy Memorandum of Understanding (MOU).

Mike provided a status update on progress toward 2021 goals:

- Ship 3,400 CY of >RG material
- Process 20,000 CY of material
- Stockpile 2,000 CY for future shipping
- 'Release' 20 Survey Units

Constraints:

- Limited Field Season; Weather
- Test Firing
- Remediation of the Former Test Fire Pit

Vaughn asked how many railroad cars have shipped waste? Mike replied that they used to do 15 rail cars of 105 tons apiece in the early years with Northwind. Cabrera has been able to do 25 to 30 the last couple of years with the S3 process, and 6 rail cars this year to date (on track for about 24 cars).

There were no further questions.

IAAAP Environmental Cleanup Overview Status

Jen Busard provided a refresher of the CERCLA process. She quickly went through slides since they have them and it is a review of previously presented material. She provided some definitions of CERCLA. It is Superfund and was established in 1980 to protect human health and the environment. She then defined the various terms that we use at these meetings such as Site Inspection (SI), Remedial Design (RD), etc. We are in the Remedial Investigation (RI) phase for most of our sites and Operable Units (OUs).

IAAAP has been on the National Priority List (NPL) since 1990. There is a Federal Facilities Agreement (FFA) between EPA and Army that tracks every document at IAAAP. There are a total of 77 active sites and many of them we are trying to close. Some of these OUs have a Record of Decision (ROD) in place and others we are doing RIs.

The OUs at IAAAP are the following:

- OU-1 Soils: soil on IAAAP other than those contaminated by use or testing of military munitions or by radiological constituents
- OU-2 was originally established for soil removal actions, but was subsequently merged into OU-1
- OU-3 Off-site Groundwater: groundwater outside of IAAAP boundary
- OU-4 Inert Disposal Area (IDA): the IDA and its associated landfills, trenches,

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sedimentation ponds, soil and groundwater

- OU-5 Military Munitions Response Program (MMRP): Military Munitions Response Program areas
- OU-6 Onsite Groundwater: groundwater within IAAAP boundary
- OU-7 Installation-wide: miscellaneous IAAAP areas not included in the other OUs
- OU-8 FUSRAP: areas contaminated by radiological and other contaminants by former Atomic Energy Commission activities and now being addressed by FUSRAP
- OU-9 Construction Debris Areas: construction debris disposal areas
- OU-10 Explosive Disposal Areas (EDA): EDA groundwater
- OU-11 No Further Action (NFA) Areas: areas with No Further Action
- OU-12 Compliance Related Cleanup (CC) Areas: areas included with the Compliance Related Cleanup program

Jen wanted to touch on Military Munitions Response Program (MMRP) sites. There were 8 sites within OU-5 and 4 were identified as No Further Action (NFA) with no evidence of residual Munitions and Explosives of Concern (MEC). The other four have been fenced in as remedial action (Land Use Controls) to prevent exposure to the MEC hazards: Incendiary Disposal Area (InDA), Central Test Area (CTA), Possible Demolition Site (PDS), and Line 6 Ammo Production (Inside Blast Radii).

With some modernization and building production, there is a need to clean up the CTA and Line 6. New contract is in place. An area north of the PDS needs to be cleaned up so that utilities can be accessed safely without Unexploded Ordnance (UXO) escort. Vaughn said it wasn't a Possible Demolition Site, it was a demolition site. Jen said they found a 75mm there and is not sure why it is still called Possible.

Old Business – Action Items from Previous Last Meeting

Julie had requested that we continue to update on IRP sampling and PFAS, which was provided earlier.

Jen just provided the MMRP update.

Action Items for Today

Next meeting: OU-3 update with Darlene Abbott of Aerostar.

Hans requested an updated list of acronyms

Mark asked EPA how they think things are going. Danny said we are making progress. IAAAP is the second biggest NPL site in Region 7, but progress is slow. He

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acknowledged that the RIs are complicated.

Vaughn asked EPA if he knew any info on the “black projects”. It’s not released to the general public. Danny wasn’t aware.

Next meeting will be October 19 at 9 a.m.

Meeting adjourned at 10:21 a.m.

Original signed by:



Sarah Brockway
Secretary

Original signed by:



Elyn Holton-Dean
Community Co-Chair

Original signed by:



Jen Busard
Army Co-Chair

- Exhibits: 1 Attendees
2 Agenda
3 Environmental Services Update
4 FUSRAP Update
5 CERCLA Process

Exhibit 1

GOVERNMENT MEMBERS PRESENT (4)

LTC Jason Crist
Jen Busard
Daniel O’Connor
Dan Cook

RAB MEMBERS PRESENT (7)

Hans Trousil
Julie Solinski
Mark Hagerla
Robert Haines
Elyn Holton-Dean
Bruce Workman
Vaughn Moore

PUBLIC PRESENT (13)

Jeff Morrison	Darrell Liles
Mike Kessler	Matthew Bange
Sarah Brockway	Scott Smith
Aaron Steele	Kellie Crist
Maggie Stephens	Susan Elrod
Kirk Bargerhuff	(virtual)
Amanda Smith	
Dean Johnson	

Total in attendance: 24