

RESTORATION ADVISORY BOARD MINUTES

October 17, 2023

The Restoration Advisory Board (RAB) meeting was called to order by Hans Trousil at 9:00 a.m. on 17 October 2023. This meeting was held in person at West Burlington City Hall in West Burlington, Iowa. Hans started off the meeting with Pledge of Allegiance. He then asked Jeff Morrison (Jacobs) how many had called in to the meeting via Teams: Seth Reedy (USACE) and Bruce Workman (RAB) were online for today's meeting. Hans then introduced the new Iowa Army Ammunition Plant (IAAAP) Commander John Dunlapp, who spoke a few brief words about his background, his family, and his happiness to be part of this community. Jen Busard announced that RAB is looking for two new members and those who are interested should apply.

Minutes Review

There were no corrections to the minutes from June 2023, and there were no public comments.

Agenda Review

There were no corrections to October agenda.

Environmental Services Update

Jeff presented an update on the two projects his team is working on: Environmental Services at IAAAP, and the off-post bioremediation project at Operable Unit (OU) - 3.

Jeff shared a slide with a list of the current OUs at IAAAP to remind everyone since those are discussed heavily during these presentations. He then addressed an action item from the April 2023 RAB meeting to answer a question that Julie Solinski had posed about the Unidentified Substance Waste Site (USWS) at OU-11.

- The USWS (IAAP-022/022G) is an area of approximately 20 feet by 20 feet and located approximately 15 to 20 feet south of a railroad track bed in central portion IAAAP.
- Not used as an operational line and no buildings are associated with it. The area was defined after detection of an unidentified substance, believed to be road surfacing oil, was discovered on July 16, 1985.
- Soil sampled over multiple investigations. Surface water and sediment are not present at the USWS. Groundwater has not been investigated. However, three groundwater wells (JAW-08, JAW-09, and JAW-10) were installed for the adjacent Construction Debris Landfill.

The remedial investigation (RI) included the following:

- During 2018-2020 RI, a records evaluation, site reconnaissance, and personnel interview with an IAAAP employee familiar with the spill were conducted.
- One soil sample was collected at a depth (4.5 to 6 feet bgs) where native soil was encountered during soil boring. The sample was analyzed for volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), and metals.
 - Two metals, arsenic and selenium, were the only metals to exceed the site characterization Project Action Limits.

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- Human Health Risk Assessment and Ecological Risk Assessment were conducted on these soil Constituents of Potential Concern (COPCs), but neither were identified as Constituents of Concern (COCs) after conducting the risk assessments.
- Groundwater would not have been impacted based on the limited soil impacts, the physical properties of these metals, and high clay content in soil that restricts water flow.
- Recommendation: USWS Sites (IAAP-022/022G) be transferred to a new OU (OU-11) and no further action (NFA) be presented as the preferred remedy in a Proposed Plan. Vaughn asked if this site was near Yard G and Jeff confirmed it was to the north of that.

Jeff then updated the team on where the various Remedial Investigation (RI) reports stand for the Jacobs team:

- OU-6: Submitted Final RI report to EPA in September. Jacobs has now started the feasibility study (FS) for OU-6.
- OU-7: Submitted Draft RI report to EPA in August and is under their review.
- OU-10: Preparing Response to Comments (RTCs) to EPA comments from August on Draft Final RI report and hope to submit that to Army for backcheck later this week.
- OU-11: Submitted Draft Supplemental RI report to EPA in September and is under their review.
- OU-12: Submitted internal draft Phase 2 RI Report to the Army in October and is under their review.
- Compliance Cleanup (CC) Program: Continued working on RCRA Facility Investigation (RFI) report for CC-06 (Demolition Area/Deactivation Furnace sites). Internal draft RFI report will be submitted to Army in November.

Jeff updated the team on the status of several in-progress tasks:

- Submitted Final OU-1 Remedial Goal (RG) technical memorandum in August.
- Submitted internal draft OU-1 Five Year Review Amendment to Army in August and the associated Explanation of Significant Differences (ESD) to Army in September.
- Submitted RTCs on Draft Final OU-4 Feasibility Study (FS) report to EPA in October. Just received approval on that document last week from EPA so Jacobs will finalize and then begin the Proposed Plan for OU-4.
- Submitted Draft 2023 Annual Groundwater Monitoring Report to EPA for Ash Disposal Cell within Trench 5 for OU-4 RCRA in Sept. Also held a public

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meeting in late September to present the proposed changes to monitoring program.

Jeff updated the team about the Site Inspection (SI) that is underway emerging contaminants called per- and polyfluoroalkyl substances (PFAS) at IAAAP:

- Five newly installed monitoring wells and 10 existing monitoring wells were sampled at the former Fire Station, Fire Training Pit (FTP), and the IDA in December 2020.
- Received approval from EPA on draft final SI report and finalized SI in December 2021.
- Due to screening level exceedances, additional investigations are recommended at each site and RI planning began in early 2023.
- A fourth area of potential concern (new Current Fire Station) was included in the revised Final PA report and is being addressed in an SI Addendum.
- Fieldwork was conducted in August 2023, with five new monitoring wells installed. Awaiting sampling results.

Jeff then filled the team on the progress of the PFAS RI:

- Technical planning process (TPP) meeting was held with EPA in May to present the proposed scope for the RI at all four sites (including new Current Fire Station).
- Draft Uniform Federal Policy Quality Assurance Project Plan (UFP-QAPP) is anticipated for submittal to EPA later this fall, and the RI fieldwork is anticipated for spring 2024.

OU-3 Optimized Remedial Action

Gene Ng of Jacobs provided an update on the OU-3 Optimized Remedial Action project, which is for the enhanced bioremediation at the off-post RDX plume. Gene began by presenting a high-level overview of the OU-3 remedy:

- Record of Decision (ROD) signed in 2005 selected enhanced degradation (ED), monitored natural attenuation (MNA), and land use controls (LUCs) as the remedy for RDX treatment.
- Tetra Tech performed initial ED injections between October 2007 and October 2015. Most recent injections performed by Jacobs in 2022.
- Annual GW monitoring conducted by Aerostar (2015-present)
 - Monitoring shows plume footprint has been reduced in size by approximately 42%.

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GW plume extents are bound by:

- MW-502 to the north
- MW-136R to the east
- MW-408R to the southeast
- MW-513 and MW-514 to the south
- MW-509 and MW-501 to the west

Aerostar has been conducting monthly SW sampling of Brush Creek since 2015. Since 2015, the average RDX concentrations in SW at the installation boundary have decreased from 9.4 micrograms per liter ($\mu\text{g/L}$) to 7.4 $\mu\text{g/L}$ (FY22).

Jacobs is implementing the current OU-3 Remedial Action (RA) Finalized Optimized Remedial Design for OU-3 to implement additional bioremediation injections within the 50 $\mu\text{g/L}$ RDX “hot spot” area:

- Installation of 20 new injection wells along north and south side of US Hwy 61 completed in Summer 2022.
- Conducted one round of baseline sampling in May 2022 prior to injections in July 2022.
- Conducted fourth round of performance monitoring in July 2023.
- Next performance monitoring event scheduled for this week (October 2023).

Gene showed figure of the current overall plume, and then a closeup figure showing the area with baseline (before July 2022) RDX concentrations around the hotspot underneath US Hwy 61 and the injection well locations for the remedial action. Jen noted that she has an updated map from Aerostar that shows how much the plume has shrunk, and Gene agreed we would update our figures for the next meeting. Gene then showed a table of updated results to date.

Seven wells were sampled in fourth performance monitoring round (Jul 2023): EMW-02, EMW-04, IW-02, MW-309, SMW-08, SMW-10, SMW-11.

For the four wells sampled every quarter (EMW-02, EMW-04, IW-02, MW-309):

- RDX concentrations remain well below 50 $\mu\text{g/L}$, including historically problematic well MW-309 (from baseline of 130 $\mu\text{g/L}$ to ND in Jul 2023. Gene shared a chart that showed RDX concentrations over the course of the performance monitoring since May 2022.
- High Total Organic Carbon (TOC) and geochemical trends (depleted nitrate and increased dissolved iron) show sustained reducing conditions, with improvements noted in EMW-02 compared to Apr 2023.

For the other wells from the previous 2007 to 2015 injections (SMW-08, SM-10, and SMW-11):

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- Gene presented a chart that showed RDX concentrations since 2007, and it depicted the sharp decline after injections but also showed evidence of rebounding.
 - SMW-08 RDX concentration rebound to above 50 µg/L (previously up to 150 µg/L).
 - SMW-10 and SM-11 RDX concentrations remain well below 50 µg/L.
- Data suggest organic carbon is depleted and reducing conditions are no longer being sustained:
 - Low TOC (<1 milligrams per liter [mg/L])
 - High nitrate and sulfate
 - Low dissolved iron
 - DO elevated (5 to 10 mg/L)

Julie asked if the fall/spring rainfall changes made a difference and Gene said not significant. Mark Hagerla asked what we are using for injections? Emulsified soybean oil and lactate. Is it experimental? Gene replied that it is widely used.

Mark asked if we had found the source area at brush creek and Jeff answered that we are in the planning stages of a new Brush Creek source investigation task. Julie asked if it was safe to assume that demo activities at Line 1 don't appear to be affecting the Brush Creek and off-post plume concentrations.

Steve Bellrichard asked a rebound question. Interim ROD said we will treat above 50 and will be treated within 40 years, which means by 2047 OU-3 would be below the health advisory level (below 2 ppb). Plume continues to shrink and is a good news story. Julie asked if PFAS will affect IAAAP processes? Jen said the plants water source comes from Burlington city water supply which has detected below current levels for PFOA. The city will need to treat the water. The plant supplies bottled drinking water for employees.

There were no further questions.

FUSRAP Update

Mike Kessler provided an update on FUSRAP activities, and he introduced his colleague Milea Franklin-Webb who attended today.

He addressed his Action Item from April 2023 RAB meeting. 19,000 tons in 191 rail cars have been disposed of since 2015. More material is disposed of than they excavate/process. Debris, concrete, wood etc. also gets disposed of, and likely some water due to the moisture content. Greg said some of it is debris from the buildings.

Mike then presented the definition of FUSRAP: Formerly Utilized Sites Remedial Action Program to deal with former atomic energy commission radioactive waste. Assigned to Department of Energy (DOE) and then transferred to USACE. FUSRAP is in the final 12-18 months of Remedial Action.

Mike shared a new slide today explaining the history of the FUSRAP program at IAAAP and the described the appropriation issue he is facing with his current management,

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which consists of different people than those involved in the original 2006 Federal Facilities Agreement and scoping of the 2008 RI at IAAAP. The FUSRAP appropriation may not be appropriate for non-RAD contamination because Installation Restoration Program (IRP)/Defense Environmental Restoration Program (DERP) funding is available.

Two OUs assigned: OU1 primarily explosives contaminated soils in Line 1 and West Burn Pads (WBP), while OU8 is for predominantly looking for low level radiation and specifically depleted uranium (DU).

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

- EPA comments to REV B of the Buildings 1-03/1-04, and Clarifiers for Buildings 1-10/1-12 Pre-Design Investigation Report (PDIR) were received on 10-AUG. FUSRAP put developing responses to the regulator's comments on hold but will now move forward.
- Plans to sample at Bldg. 1-60 were put on hold. FUSRAP will now move forward with its effort to sample in accordance with the previously approved Pre-Design Investigation (PDI) Work Plan.
- FUSRAP will now restart an internal review of REV A of the "Inaccessible & Continuing Sources" Data Summary Report. Mike elaborated on what is in this report and presented a table of excavation areas and what the assessment was.
- One example he raised was case of a tar roof and if they remediated SVOCs, the next time it rained it would be contaminated. He showed a couple of photos of areas within Line 1 where RDX and SVOC contamination exceed cleanup goals.
- FUSRAP work to award a new contract to remediate at Line1 remains on hold pending resolution of the appropriations issue.

OU-8 is the DU sites. Made some progress but not too much. Remains about 80% complete.

- No radiological remediation was required at Warehouse 3-01, or Yards C, G, & L to be protective of the site worker.
- Line 1 Structures remediation complete.
- RA is complete in the FS-1/2, 3/4/5, and 14 Areas. REV A of the Post-Remedial Action Report / Final Status Survey Evaluation (PRAR/FSSE) is still in internal USACE review.

Firing Sites 6 Area:

- The supplemental Archaeological Survey was completed in September.
- The area to PDI has expanded to 175M from the firing pad.

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- Brush clearing and PDI work continued the entire quarter.
- The Gamma Walkover Survey work is estimated to be 55%* complete.

Firing Sites 12 Area:

- MERs are complete for 3 of the 6 Class II SUs.
- Contract awarded to complete FS-12 remediation.

Mike shared a series of remediation maps of FS-6 and FS-12. Access road is going to be its own survey units. FUSRAP is in the process of completing a GWS Survey of the South Test Fire Site or FS-6. Figure for FS-6 is a hexagon because it's hard to do GPS in a circle.

To facilitate the work, FUSRAP divided FS-6 into several smaller areas lettered A through R. The areas essentially defined themselves based on existing access roads, testing areas, & fire breaks. FUSRAP is following the same process used at the North Test Fire Site or FS-12 in those areas where mechanical excavation was not deemed appropriate; that is 1) Brush Clearing, followed by 2) PDI GWS, and then 3) Investigation or Re-walks – which leads to 4) PDI Complete. If Remediation is necessary, this is when that's accomplished.

Following RA, the Systematic Soil Samples are collected and analyzed, the area is considered 6) Final Status Survey Complete, and after the corresponding paperwork (i.e., the Multi-Agency Radiation Survey and Site Inspection Manual (MARSSIM) Evaluation Report) is complete, it's considered MARSSIM Evaluation Report (MER) complete.

FUSRAP had little to no information regarding the use of DU in testing at FS-6. Mike shared that what is known can be summed up as follows:

1. The testing involved “explosive components which contained a thin sheet of DU”
2. There were no hydro shots.

RE: DU at FS-6... USACE Preliminary Assessment for IAAAP, December 2001 -

“Plane wave shots were tested at FS-6. These shots were used to research explosive detonation waves and did not contain any radioactive elements. The explosives used in these shots were Composition B and barium nitrate. Some tests at Firing Site 6 involved explosive components, which contained a thin sheet of DU. This DU would be expected to be pulverized and dispersed by the wind during these tests”.

FUSRAP interpreted “thin sheets” and “pulverized” to mean little to no DU would be found at FS-6. Unfortunately, that has not been the case and the work took longer than originally anticipated. FUSRAP pulled FS-6 from the former “Not FS-12” PRAR/FSSE. REV A of the new FS 1-5 & 14 PRAR/FSSE is in internal USACE review.

Mike then discussed the Q4 2023 Activities completed.

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OU-1:

- All OU-1 related work was put on temporary hold.

OU-8:

- Prepared and backchecked comments to REV A of the 2nd FUSRAP OU-8 FYR. Prepared REV B and submitted to EPA and Iowa Department of Natural Resources (IDNR) for review.
- Submitted response to EPA comments to REV B of the “2022” FS-12 Survey Unit (SU) PRAR/FSSE and the Test Fire Pit Data Summary Report.
- Started internal USACE review of REV A of the FS 1-5 & 14 (i.e., SE FSA) PRAR/FSSE and an updated Radiological Background Threshold Values report.
- Awarded new Hazardous, Toxic and Radioactive Waste (HTRW)/FUSRAP Support and FS-12 RA contracts.
- Completed the Blanket Purchase Agreement (BPA) Transportation & Disposal campaign.
- Completed internal review of REV A of the FY 2022 EMDAR.
- Completed the supplemental Archaeological Survey at FS-6.

Mike then provided a status update on progress toward 2023 goals, and he added a slide with goals and has a color-coded red/yellow/green for risk of achieving this year. Since these don't show up in minutes, the goals labeled as green were the following:

- Award a new FUSRAP / HTRW Support Services Contract.
- Provide one article to the IAAAP *Restoration News*.
- Award a new Remedial Action Contractor Contract.

Mike then showed a slide with his Q1 2024 Activities Planned.

OU-1:

- Resolve comments received from REV B of the Line 1 Bldgs. 1-03/1-04 + Clarifiers PDIR.
- Begin PDT review of REV A of the OU-1 Line 1 “Inaccessible & Continuing Sources” Data Summary Report.
- Attempt to resolve the issue between the FUSRAP and IRP appropriations.
- Sources” Data Summary Report

OU-8:

- Continue work on the 2nd FUSRAP OU-8 Five Year Review.

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- Continue brush clearing and PDI at FS-6.
- Complete verification of the FS-12 Class I and Class II SUs.
- Resolve the remaining comment for REV B of the 2022 OU-8 FS-12 SUs PRAR/FSSE.
- Begin USACE review of REV A of the “2023” OU-8 FS-12 SUs PRAR/FSSE.
- Publish REV 0 of the Test Fire Pit Data Summary Report
- Substantially complete remediation work at FS-12.

Mike presented a slide for the first time of metrics and milestones which he thinks are more useful than goals. For 2024 these were listed as:

- Award FS-6 Remedial Action Contract
- Excavate and Process 6,000 cubic yards (CYs) (FS-12)
- Track >RG Shipped (900 CYs anticipated)
- 1 property at RIP (FS-12)
- Transfer the IAAAP Admin Record to DOE-LM
- Complete the 2nd FUSRAP OU-8 Five Year Review

There were no further questions.

MMRP Remedial Actions Update (OU-5)

Lynelle Brode of Na’Ali provided a quick update on the Munitions Response Sites. She included a recap of why we are doing the work, what the selected new remedy was over previous LUCs, and described what would be done during munitions and explosives of concern (MEC) surface clearance as the remedial action at OU-5.

She showed a map and shared that they are addressing the pink polygon now and the yellow one under a different contract. Biggest change since April meeting they need to modify the technology to address Load Line 6. Due to limitations of current technology, the team cannot accurately and reliably detect the targets of interest. USACE has removed the Load Line 6 (Inside Blast Radii) Munitions Response Site (IAAP-002-R-01) from this Remedial Action.

Status update since April 2023:

- Endangered Species - Northern long-eared bat has gone from threatened to endangered species so that changes the schedule about when vegetation clearance can be done.
- Documents in Progress:
 - Amended Record of Decision (Winter 2023/Spring 2024)
 - UFP-QAPP (Workplan) (Winter 2023)

Lynelle then presented the project schedule:

- Vegetation Removal March 2024
- Advanced Geophysical Classification May – July 2024

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- Subsurface Clearance September 2024
- Demolition/Disposal November 2024
- Remedial Action Completion Report 2025
- Fence Removal July 2025

Mark asked what an advanced geophysical detector means, and Lynelle responded it is metal detector with 3D mapping. He also asked how deep does it go? Lynelle answered that it depends on geology and what target you are looking for. 0" down to 10 ft for bombs.

There were no further questions.

Old Business – Action Items from Previous Last Meeting

There were actions from last meeting:

- Mike was once again asked by Hans what percent of DU is being taken out of the ground. Mike said it is difficult to answer because even though we know certain about of DU was shot, the remediation pulls out soil and debris that is contaminated so it isn't 1:1 ratio. He will try one more time to come up with an answer.
- Jeff addressed the Unidentified substance waste site that is NFA for groundwater during his presentation.

Action Items for Today

- Mike is still working on the total % of DU being removed from the ground.
- Jacobs will create new plume maps for OU-3

Next meeting is planned for 09 Jan 2024 at West Burlington City Hall.

Meeting adjourned at 10:16 am.

Original signed by:



Libby Miller
Secretary

Original signed by:



Hans Trousil
Community Co-Chair

Original signed by:



Jen Busard
Army Co-Chair

- Exhibits:
- 1 Attendees
 - 2 Agenda
 - 3 Environmental Services Update
 - 4 OU-3 Update
 - 5 FUSRAP Update
 - 6 MMRP Update

Iowa Army Ammunition Plant
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Exhibit 1

GOVERNMENT MEMBERS PRESENT (3)

Lt. Commander John Dunlapp
Jen Busard
Shelly Nellesen (IDNR)

RAB MEMBERS PRESENT (7)

Hans Trousil
Mark Hagerla
Robert Haines
Dean Vickstrom
Vaughn Moore
Bruce Workman (via Teams)
Julie Solinski

PUBLIC PRESENT (20)

Jeff Morrison
Mike Kessler
Milia Franklin-Webb
Christa Poggemiller
Dean Johnson
Seth Reedy (via Teams)
Jonathan Harrington
Greg Rakers
Jake Bucklin (IDNR)
Brad Davison (IDNR)
Rachel Barber
Shane Ehlin
Libby Miller
Gene Ng
Amanda Smith
Mindy Johnson
David Lyerla
Lynelle Brode
Randy Hansen
Leon Baxter

Total in attendance: 30