

**IOWA ARMY AMMUNITION PLANT
RESTORATION ADVISORY BOARD
MINUTES**

October 16, 2012

The Restoration Advisory Board (RAB) meeting was called to order by Rodger Allison at 5:00 p.m. on October 16, 2012 at the Comfort Suites Hotel.

Minutes Review

The minutes were accepted as written.

Agenda Review

There were no changes to the agenda.

Public Comment

Vaughn Moore said that he showed the RAB display at the picnic for former AEC (Atomic Energy Commission) workers. He said a lot of people looked at the display and were really impressed by the process, asked a lot of questions, and they received a lot of good comments. Rodger Allison indicated that there are two RAB displays available for use and the RAB members are welcome to take those displays out in the public.

MMRP Update

Alex Smith from Shaw Environmental briefed the RAB from a slide presentation. Please see exhibit 3 for his presentation.

Regarding the Feasibility Study (FS) Amendment discussion on slide 7 of Alex's presentation, Vaughn Moore asked if this was the fence they were putting up around the 600-84 building and fencing off from the Central Test Area. Alex explained that ultimately the proposed remedy is to place a fence around the Munitions Response Site (MRS) [i.e. the green shaded area on slide 7]. Vaughn asked if the area around building 600-84 had already been tested for contamination. Alex explained that the area around the building did go through the remedial investigation process so there is the potential for unexploded ordnance to remain there, but this area comes out of the Military Munitions Response Program (MMRP). Safety issues addressing matters such as potential UXO conditions will be handled by the facility's active operations safety program. Vaughn said building 600-84 was one of the first places you were taken to after being hired on at the plant. He said there was a slab adjacent to that building where mini mines were tested.

Rodger Allison mentioned that a comment period will be open to the public regarding the MMRP Proposed Plan. The RAB will probably see discussions of this during presentations even before it is presented to the public.

Regarding Alex's discussion of the investigation at the Historical Small Arms Range, Paula Graham asked if there was flooding that occurred near this site in the past. Rodger explained that no flooding other than heavy rainfall has occurred here. Since this site is adjacent to Long Creek, Paula then asked if the heavy rainfall could wash the lead out into the creek. Alex explained that it could. He pointed at slide 18 of his presentation and indicated that the lead contaminated soil is close to Long Creek itself due to where the bullets hit. Additionally, erosion is bringing the lead down to the creek bed. Alex further

explained that it wasn't necessarily flooding that has caused this, but more because of natural erosion. Vaughn asked if the old posts were still present from past westward firing. Alex thinks there is still some framework present from these posts. Vaughn noted that there were also shotguns fired at the site.

Rodger asked what kind of lead movement downstream would we expect in the case of heavy flooding, such as the 8 inch rainfall we had a couple of years ago. Alex explained that lead is pretty heavy so some of the smaller particles would be easier to move. Rodger asked if Shaw evaluated this and Alex said they did sample the stream and he will discuss the results later in his presentation. Alex explained slide 20 of his presentation where they collected photos of some bullet fragments in and adjacent to the stream. They found these fragments right behind the targets as expected. Alex said they sampled downstream of the Historical Small Arms Range and they didn't see any individual bullets or fragments.

Vaughn said that when they were using the plant lake [i.e. Lake Mathes] as a water supply, they had heavy rains that flooded the areas downstream [i.e. Historical Small Arms Range] all the time. Vaughn further stated if there were, on average, two heavy rainfalls a year since 1950's that it has to move something down that creek [i.e. Long Creek]. Alex said he suspects that individual bullets would be moved a little in that situation. However, during August sampling, the water level was pretty low. The fact that there is an accumulation of lead that has not moved from the site shows that the lead is pretty heavy and the bigger portions of the lead will stay where they are.

Long Creek Sampling

Alex explained that Shaw collected surface water and sediment samples from within Long Creek. Shaw started sampling upstream above the MRS, at the site, and also collected samples downstream of the site. Alex explained that all the water samples and sediment samples collected from within the creek were non-detect, with the exception of one elevated surface water sample [collected right at the area with elevated lead detections in the surface soil]. The results of lead in the water was below the drinking water standard. Paula asked how far down the creek they sampled. Alex showed how far down the creek sampling occurred on slide 21 of his presentation. Two samples of surface water and sediment samples were collected upstream, five samples were collected near the area where elevated lead was discovered in the nearby surface soil, and three samples of water and sediment were collected downstream. Paula noted that all these samples were only collected from within the plant boundary, and maybe samples should be collected a little further downstream. Alex explained that since there were four non-detects in the surface water after the one detect, the water really isn't an issue. We were very interested in sediment because when sediment moves it may also move fragments of bullets; however, all the sediment samples collected were below their screening threshold for ecological receptors. Rodger asked about the yellow designation on the figure shown on slide 21 of Alex's presentation. Alex explained this yellow triangle designation represents the only surface water detection, which is below the drinking water standard. Alex further explained that they were able to just barely detect lead in the water right at the area with elevated lead detections in the surface soil. These samples were taken during a low water level event, which represents worse case conditions; had samples been collected during a storm event, lead would not have been detected.

Vaughn asked if they went all the way down Long Creek to the beaver dam. Alex indicated he was unsure where the beaver dam was. Vaughn explained its locale as about 150 feet north of the plant boundary. Alex said Shaw didn't go that far down the creek because they did not detect any actionable levels leaving the site. Paula commented that lead seems to be a problem in water even in cities and homes...from the water coming in and such...she said she would feel a lot better if Shaw went further downstream to collect additional samples. She mentioned the RDX, for example, and how it has moved out in the water and polluted wells. Alex explained that RDX is more mobile in the environment. Paula

said she understands but children can't be exposed to very much lead. Rodger said metals; lead in this case, doesn't move or doesn't move far. You find it very near the pile of lead shot and bullets, but it doesn't travel far. Rodger further explained children's exposure to lead is predominantly from paint and fuel. We don't have that situation here, children are not being exposed and it is not escaping from us. Dan Cook indicated that the lead contaminated soil has been washed away, that is why we are finding the lead bullets that were left behind is because during the heavy rainfall the lead contaminated soil was washed away down to the Skunk River and ultimately to the Mississippi River. Rodger clarified that the fact that sediment had moved downstream in the past did not prompt action from the Army in this case. We can only react to the current conditions. Dan agreed.

Luenne McCracken asked if the beaver dam located downstream of the site would stop a lot of the sediment and hold it right there. There was discussion about the location of the beaver dam and it being the possible reason Long Creek is backed up. Vaughn said when they went down to the gentleman's house on Long Creek where the creek comes out of the plant, they were notified of the beaver dam about 150-200 feet inside the plant fence and has been there approximately 8 years. Rodger thinks that if that was the case we would see flooding and our Natural Resources Manager would have reported such a thing. Rodger said that he checked with the plant's Natural Resources Manager to follow up on Vaughn's comment about the creek backing up right at the bridge as Vaughn indicated during the tour. The Natural Resources Manager informed him that it has been 3-6 feet right there at the bridge for 18 years but if you go upstream or downstream a few hundred feet either way, it is shallow. The plant's Natural Resources Manager indicated that there is an optical illusion at the bridge on Long Creek at the Historical Small Arms Range site. The water is turbid during high flow conditions and depth cannot be determined. When the rest of the creek is shallow, then there is no turbulence and it looks deeper in this spot.

Vaughn referenced Brush Creek and indicated that something is blocking the Creek at the plant boundary. Vaughn mentioned that Brush Creek is so dry; folks are using the creek bed to drive 4-wheel drive vehicles in the sand down along old highway 61. Vaughn said the individual that lives down in the Brush Creek area said they get much less water movement down the creek than what they used to get. Vaughn said the sewer treatment plant runs 24 hours a day; 7 days a week if he remembers correctly so there should be some water moving down the creek bed. Rodger said in dry years, Brush Creek becomes an intermittent stream.

Vaughn said that he monitors the plant creeks approximately 2-3 times a month and they keep track of the water flow and the movement and they aren't seeing near the water flow they are used to seeing in the creeks.

Getting back to the Long Creek issue, Rodger indicated that if there is a beaver dam along Long Creek downstream of the Historical Small Arms Range, it may be worth sampling. We need to confirm whether the dam is there. Alex said they need to walk the creek and find the dam and collect a sample.

Vaughn mentioned Long Creek, when it leaves the plant fence to the Skunk River, those fields on either side of the fence used to be planted and they quit planting those fields due to the constant flooding down there. Vaughn further explained that the creek will come up and spread out and there are five places that have standing water that doesn't drain back into the creek and that water is eventually pushed down into the ground. This poses a concern to Vaughn because of the sites upstream within the plant that could have affected Long Creek and thus the offsite areas around where it floods.

Vaughn expressed particular concern in what has run into Lake Mathes through the years and the upcoming project to drain Lake Mathes.

Rodger indicated that the work they have completed on Long Creek is the same sampling they have done at Brush Creek. Rodger explained that the Army has sampled Lake Mathes and all stretches upstream and downstream.

Rodger went on to say that the Army was aware of contamination at the Historical Small Arms Range in the past, but it was deemed as an active site until recently. The site was declared inactive and accepted in the MMRP. This allows the Army to assign resources to investigate it for clean up purposes. However, downstream we are not finding any lead in the water or sediment. Rodger indicated that what escaped from us in the past cannot be recreated. Rodger said that Vaughn described the pathway perfectly and the Army has monitored the situation and found nothing other than what is addressed today under the MMRP and IRP cleanup programs at those sites all along that drainage way. Rodger then explained that the Army intends to eliminate identified source areas, such as the Historical Small Arms Range.

Vaughn indicated that when he heard that Lake Mathes would be drained to fix the dam, he was concerned and wants to know what is in the lake sediment. He indicated that he thinks that will tell them what is in there and what went down the stream over the years because a lot of it will stay there. Vaughn mentioned the ammonium nitrate line upstream of Lake Mathes and the fact that nothing grew at this site...not even weeds. Elyn Holton-Dean indicated that she appreciates Vaughn's concerns and asked if it was acceptable to place this discussion on the agenda for the next meeting to enable the team to do some homework on it. This was acceptable to the group.

Mark Hagerla asked about the reason for the recent change to the Feasibility Study. Alex explained that the Central Test Area had some property move out of the MMRP because it was ineligible for MMRP cleanup. The Army held a meeting with EPA and the Parties agreed that the best way to handle it was to revisit the Feasibility Study and revise the boundary for that site. Rodger said the area [building 600-84] was inactive when MMRP started evaluating the site, but a subcontractor started using the site which places it in an active status and thus ineligible for MMRP. The Army anticipated that this area was going to go inactive, but it never happened.

Mark Hagerla asked if some of these areas would end with the Record of Decision. Mark further indicated he has an issue with that and is afraid these areas will get lost. Alex explained that the sites will have land use controls in place so that they always remain on record. There will also be five year reviews conducted for sites where wastes remain in place such as these. These five year reviews are conducted indefinitely.

Mark clarified his concern about fencing these areas off. Fencing them is not cleaning them up and these areas won't be available to use for civilian use. Rodger said we are cleaning up the areas to industrial re-use, not residential use. Rodger explained that if the plant is ever shut down and land transferred to civilian use, then a whole new set of rules come into play and the Army has to take additional measures in order to ever be able to transfer this property to civilian use. In order to be sure that this occurs 5-year reviews are conducted just as Alex explained. Mark said there have been lots of records lost over the years and the more records and paper trails we have, the better. Rodger said he understands Mark's concern and that is his focus too. Alex explained that for sites where contamination migration is a concern, fencing would not be an appropriate alternative. However, fencing is usually an option for munitions items that don't move in order to keep people away from them.

FUSRAP Update

Tony Jones from the US Army Corps of Engineers briefed the RAB from a slide presentation. Please see exhibit 4 for his presentation.

Line 1 EU5-Q

There was open discussion about this planned excavation. Tony indicated that American Ordnance (AO) and the Army are looking at this excavation to help determine where two small water sources are present and affecting this planned excavation. Tony said they have a couple of theories behind this water. They assume the water is coming from a steam line or a clean water source from AO. Ron Frerker added they have sampled this water and it came back non-detect for explosives and it had good clarity. The water appears to be fugitive potable water, but they don't know for sure. Rodger said the water is going down the drainage way to Brush Creek and the Army found RDX levels of 25ppb that was making its way to Brush Creek. Rodger added that these levels in the surface water could be caused from being flushed through some contaminated soil, or could be coming from a groundwater source that's making its way through the drainage way. The source is not clear yet. The team thinks that because of its clarity, and because it is flowing so freely in such a dry year, it may be from unknown portable water. Vaughn said there use to be a spring on that backside of Line 1.

Line 1 EU9B-D

Vaughn noticed the generator as shown on slide 14 and asked if they were pumping water out of this excavation. Tony said yes and explained that the water was treated before discharge at their water treatment facility.

Vaughn asked if building 1-70 was going to be torn down or if FUSRAP was just going to keep digging around it. Rodger explained that the intent is to take the building down. The building is on the list but no funding has been allocated yet.

Rodger asked about the pilot study as referenced on slide 16 of Tony's presentation. Tony explained that the study was to determine the best way to sort the DU from the soil.

Hans Trousil asked where the backfill material was coming from, in regards to Line 1. Ron explained that it came from a number of onsite locations that the natural resources folks have pointed out. Ron explained the process of how they sample the areas and evaluate the soil and send out the soil information to get approvals from EPA and such. Then, after they get the approvals they use the soil as backfill.

Inquiry Topics

Rodger explained the inquiry topics as questions posed by Vaughn at the last RAB Meeting:

- **Air dispersion at the Firing Site:**
Without going into too much technical detail, Rodger explained what happens when something goes into the air. Air emissions are regulated by particulate matter. The size of microns. Normal stuff can travel anywhere from 30 feet in the air to miles. What happens with uranium, for example, it goes up in the air, the particles may make it up into the stratosphere and travel for miles and miles, but the heavier usually drop out after about 300 feet and can go as little as 30 feet. So, what happens at the firing site, since Lake Mathes is about a mile away, most of it will fall out in the vicinity of the Firing Site. If any does make it to the water then it will get diluted further. Some particles may further settle out and others will transport away.

- Long Creek water depth near Pistol Range:
Rodger indicated that he spoke about this earlier during the MMRP presentation and the Natural Resources Manager said this particular area has been 3-6 feet in depth ever since he has been here for 18 years, and there is a bit of an optical illusion here.
- Cap & Rock disposal from 1-85-2:
Vaughn clarified that he is interested in where the caps went off 1-63 cell 2, 3, 4, 5, and 6, especially cell 6. Rodger indicated that this is in FUSRAP's court.
- Why Army transferred to Burlington Water:
Rodger said he visited some historical documents and called the Burlington Water Works and the gentleman there informed him that the Army provided a no-cost loan of about 1.3 million dollars back in 1976-77 timeframe because Burlington didn't have the capacity to transport the amount of water the plant needed. They paid that loan through reduced water rates. It also provided a backup system/dual delivery system from the water works station into Burlington as well so it benefited both parties. The reason the Army went this direction was because it cost too much for the IAAAP to maintain its own water treatment system.

Paula Graham said that she knows about that contract and has read it. She has always wondered something being in the lake water. She has seen statements mentioning letters or documents stating that the lake was contaminated. She hasn't seen any of those documents; she has been too busy researching stuff for the Division A workers. Paula explained the working conditions and lung problems associated with former workers.

Rodger empathized and indicated that he understands and applauds her research efforts, but what happens in our situation is that he can't go back and recreate past conditions and clean up what was there in the past. Paula said she would like to see a copy of the letter from the former plant manager, Roy Holmberg, to see what he said about the water. Vaughn said that a statement was made by Roy Holmberg and is captured in a document stating what happened at the Firing Site. Rodger asked if they were referring to the ATSDR 2001 or 2003 document. Vaughn said it was a little earlier document. Vaughn indicated that Mr. Holmberg never said what the contamination problems were, but he did say there was contamination in the plant lake – Vaughn thinks this report was in 1972 or 1977. Rodger said he is unsure how to retrieve this document. Rodger said individuals and organizations could initiate a FOIA request to try to access this document.

Rodger said the Army is very open with the data it has, its processes, its challenges, and how it addresses those challenges. Vaughn said that when they started the RAB, a lot of people that worked at the plant couldn't believe what the Army was telling them, there were things brought out in the RAB meetings that couldn't even be discussed back when they worked out at the plant. Rodger said there was a definite cultural change through the 1980's and 90's and open dialogue emerged because the Army wanted to get away from this cloud of secrecy. Rodger explained that there are parts that the Army can't talk about and security is always looking over his shoulder, because we don't want to pull the curtain back too far and share information with our enemies.

LTC Bruens said he applauded Paula's efforts. He stated that we have sampled Lake Mathes in the past and will continue to do so as we drain it. His intent is to take samples while the lake is being drained and both water and sediment samples will be collected. LTC Bruens said if there is a way to find those 1970's documents referenced earlier, we will ask. However, the chances may be thin to find those documents. Today we are much better on keeping track of documents

because we can digitize them and keep track of them better and back then with everything being paper, some things would get lost and whether that was intentional or not, we don't know, but if it is findable, we will attempt to find it. Very little of what we do at the plant is classified, that is why he is open to tours and such. Vaughn said after September 11th they have had problems getting some of the information from different sites.

Thurman Huffman said that he has a neighbor that worked 20 years in the IAAAP water plant. He left in 1972 and said Lake Mathes water was contaminated when he left. Thurman asked if anyone would like to talk to this man. Rodger explained that the Army has sampled the lake so it may not be beneficial to speak with the gentleman to address current cleanup goals. However, it may be beneficial for someone who is evaluating the former worker health issues to talk to this gentleman.

Paula asked if Rodger had read the plant site profile. Rodger is unclear as to which profile Paula refers. Luenne McCracken said she will email the web address to Rodger where he can find the site profile. Paula indicated she has learned a lot from this document. Paula said she is not here to cause trouble; she is just trying to find out information to contribute what she can to what needs to be cleaned up. Rodger said that is what we are all here for, while we can't focus on correcting what happened in the past, we do want to make sure that we follow the law as well as our ethical and moral responsibilities to prevent what happened in the past from happening in the future. Paula said we do need to think of the people who are sick and dying.

Alan Koenig said he started working at the plant in 1977 in the drafting department, but while he was here they lost several folks in their department.

Public Comment

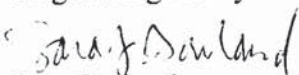
No public comment other than what was discussed in the above sections.

Next Meeting/Draft Agenda


The next meeting is scheduled for January 15, 2013, at the Comfort Suites Hotel. Agenda topics suggested were, Lake Mathes Draining - Sediment Sampling (Vaughn would like to know if a rear tire off a pickup truck that came from 1-13 building is still in the bottom of the lake), Possible Beaver Dam in Long Creek downgradient of the Small Arms Range, IRP project update, Old Fly Ash Waste Pile status, and Technical Assistance for Public Participation.

The meeting was adjourned at 7:00 p.m.

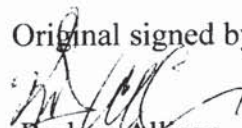
Original signed by:


Sara Garland
Secretary

Original signed by:


Elyn Holton-Dean
Community Co-Chair

Original signed by:


Rodger Allison
Army Co-Chair

Exhibits: 1 Attendees
 2 Agenda
 3 MMRP Update
 4 FUSRAP Update

Exhibit 1

RAB MEMBERS PRESENT

Mark Hagerla
Elyn Holton-Dean
Dean Vickstrom
Vaughn Moore
Alan Koenig
Hans Trousil
Kim Perlstein

RAB MEMBERS NOT PRESENT

Eric Orth
Bruce Workman

GOVERNMENT MEMBERS PRESENT

LTC Michael Bruens
Rodger Allison
Dan Cook

GOVERNMENT MEMBERS ABSENT

Sandeep Mehta

PUBLIC

Alex Smith
Thurman Huffman
Annette Parchert
Mike Ray
Paula Graham
Luenne McCracken
Linda Wobbe
Ron Frerker
Anna Christensen
Tony Jones
David Evans
John Carroll
Jim Bard
Lee Young
Rick Arnseth
Cyril Onewokae