

**IOWA ARMY AMMUNITION PLANT
RESTORATION ADVISORY BOARD
MINUTES
July 20, 2010**

The Restoration Advisory Board meeting was called to order by Elyn Holton-Dean at 5:05 p.m. on July 20, 2010 at the Comfort Suites Hotel.

Minutes Review

The minutes were accepted as written.

Agenda Review

There was one change to the agenda. The presentation that was scheduled for this RAB offered by LTC Tommie Hewitt will be postponed to the next RAB meeting (i.e. October).

Public Comment

On behalf of the RAB, Elyn-Holton Dean offered her thanks and appreciation to Rodger Allison, Linda Wobbe, and Sara Garland for putting together the IAAAP RAB tour last week.

FUSRAP

Ron Frerker briefed the RAB from a slide presentation. Please see exhibit 3 for his presentation.

Ron's presentation centered on FUSRAP's excavations at the West Burn Pads South (WBPS) and their fieldwork progress. Explosives and Barium are the materials of concern at the WBPS. Barium in particular was considerably more of a problem than they anticipated in the beginning.

Vaughn Moore asked where FUSRAP was getting their borrow soil to backfill excavations. Ron explained the location of the borrow area as on the other side of Spring Creek and up. Vaughn asked for clarification on the location and if this borrow area was by the Long Creek Cemetery area on Gate 1 Road. Rodger Allison explained that the referenced borrow area was not by the Long Creek Cemetery area on Gate 1 Road, he rather explained that the borrow area location is within the East Burn Pads Area. Ron explained that this borrow area was one of the two or three approved borrow site areas. FUSRAP recently completed testing of this borrow area soil. Rodger further clarified the location of the borrow area as northeast of the WBPS large excavation that Ron has been referring to in his presentation.

FUSRAP's largest excavation at the WBPS (known as excavation "DEF") abuts Spring Creek to the east and an unnamed tributary to the south. Ron explained FUSRAP's plan to sample Spring Creek that included two water samples and a comparison of the results to clean up standards.

Ron furthered added the possibility of doing a transect across the creek itself, if there is a large differential between the creek sampling results, to determine if any contamination is moving through the area. They don't anticipate much contamination and if results look good, FUSRAP will perform a risk analysis of it and send a report out with their recommendation.

Ron mentioned that FUSRAP has excavated a total of 25,000 tons of contaminated material from the WBPS. A large majority of this material was sent to trench 6 for treatment and/or disposal.

Paula Graham asked how much barium contamination FUSRAP discovered. Ron explained that they found numbers that went into the 10's of thousands ppm and they found TCLP results as high as 1000 ppm. Ron further stated the TCLP limit for cleanup is 100 ppm; thus making the levels they found 10 times higher than the cleanup level. Ron explained that the higher contamination was found in the large excavation down by Spring Creek (i.e. excavation "DEF").

Paula Graham asked the size of this large "DEF" excavation. Keith Jefferies with Safety and Ecology Corporation and Ron Frerker with the U.S. Army Corps of Engineers described the size of the large excavation. This area was later confirmed to be approximately 280' x 230' and maximum depth to stopping at bedrock was 12'.

Paula Graham asked if this area was close to Line 1. Ron explained that it was not. This excavation area is within the WBPS near Spring Creek.

Paula Graham asked for the levels of RDX found. Ron explained that very early on during the investigative process the levels were higher, of course, but in the last stages the levels were all under 5 ppm for the most part and a lot were less than 2 ppm (the cleanup level is 1.3 ppm).

Lueene McCracken asked how this barium got over there (i.e. to the WBPS). Ron explained how the material appeared to have been placed within that area and periodically covered over with clean fill, and then more contaminated material was placed there. Ron further indicated, that they later confirmed this procedure with a former worker. Lueene commented that they knew that it was bad stuff when they placed it there, or they wouldn't have covered it up with clean soil.

Vaughn Moore mentioned that while he was onsite during the RAB tour last week, they talked about the uncertainty as to whether the creek came up and went in the hole (i.e. FUSRAP's "DEF" excavation) or the hole filled up and went out into the creek. Ron explained their confidence of this based on the trash found in trees above the culvert that the water level in Spring Creek was up so high that it rolled up into their "DEF" excavation and then rolled back out again. Ron mentioned the good news being that their sediment controls were in place and none of them were lost. Ron further added that this was a major rain event. Vaughn questioned the water flow rate at the time of this major rainfall event. Keith Jefferies explained that he doesn't know what the flow rate was at that time, but from the time of this large rainfall event to last week, there is about a 7-8 ft differential in the height of Spring Creek. Ron added, that during this large rain event, all five culverts were completely filled with water to the top and they found trash above the culverts which is an indicator that there was more flow than those five culverts could handle. Ron further added that this was a substantial flow because those culverts are either 6 or 8 ft high.

Matt Jefferson commented that it is a little surprising that barium came so close to the edge of Spring Creek, so it is EPA's intention to do further investigation down the creek. Ron mentioned FUSRAP's plan to collect a composite sediment sample on the creek side of their riprap for their investigational purposes and they will report back to EPA and Army on the results. Steve Bellrichard asked whose responsibility it was to investigate this. Matt expressed his uncertainty with whose responsibility it is at this point; the details will get worked out sometime because this still is an issue than needs addressed.

Vaughn Moore asked if they have completed soil sampling all over the Division B Burning Field. Ron explained that FUSRAP dug 27 test pits, and based on EPA's comments they took additional samples. Ron added that they also completed two circumference samples in triangles and that's when this large "DEF" excavation all grew together. The one large "DEF" excavation use to represent three individual excavations (i.e. "D", "E", and "F").

Vaughn Moore explained how the burning fields actually functioned (the troughs and burning pads were used constantly, but there was also a lot of holes dug and stuff buried throughout the entire burning field area).

Vaughn Moore pointed out that FUSRAP shows the burning field as 12-15 acres, which Vaughn indicated was much underestimated. Vaughn said the burning field went clear out and almost up to the tree line with a signed, wooden posted, barbed wire fence surrounding the entire perimeter. Vaughn Moore and Thurman Huffman gathered around a map of the installation for location clarification and Vaughn mentioned that they dug in quite a few areas within the fenced area of the burning grounds (Vaughn recalled some aluminum sheets that were buried so they didn't get gigged during an IG inspection). Vaughn said there was a lot stuff that was dug and dumped everywhere. Rodger clarified that the entire Explosive Disposal Area includes burning fields (i.e. the north, east, and west burn pads), the fire training area, and the north burn pads landfill. Vaughn explained as the years moved on, a lot of this stuff has grown up, they don't mow it anymore, and Mother Nature has a way of taking over. Rodger said he recalls the fence that Vaughn is talking about along Gate 1 Road. Rodger added that this fence was the barrier fence for the outline of the entire Explosive Disposal Area. Vaughn said there was a lot of stuff that was intentionally dumped and buried here. Rodger explained that results of groundwater testing would indicate if an area was missed. Rodger added that they found the WBPS because the groundwater monitoring results kept revealing explosive hits, which lead to the investigation and ultimate cleanup of the WBPS. Rodger indicated that the Army would still continue to monitor the groundwater once FUSRAP is finished cleaning up the site to ensure no areas were missed. If something pops up, they will start searching again. Ron said 12-15 acres is actually the area that FUSRAP was given responsibility for and Rodger agrees that the entire Explosive Disposal Area is much larger than that.

Luenne McCracken asked what happened to all the contaminated trucks/equipment that was used historically to haul and dispose of this contaminated material. Luenne also mentioned that she has heard some really hot radioactive trucks were taken into the woods and buried. Ron clarified that none of the contamination he is referring to at the WBPS is radioactive material. Luenne further stated that she is unsure where this stuff was buried, but heard it was taken out into the woods and buried somewhere. Ron explained that from his experience in St. Louis where they are cleaning up a radioactive site is that it is easier to decontaminate a truck than it would be to bury it. Ron explained the decon procedure and said that the radioactive materials don't stick to the metal and can be cleaned with a swipe. Ron added that the decon procedure for rad is not a difficult procedure now and was not back then. Ron said they had the same rumor in St. Louis and other sites but never found anything. Ron further explained that it would be a lot cheaper to decon a truck and reuse than it would be to bury it. Vaughn Moore explained the historical process of getting rid of equipment. When the utilization time was up, equipment was taken to the main garage, washed and cleaned out, and the public came out and bid and bought them. He said the public bought a lot of this equipment or it was given to organizations. Vaughn remembers two dealers in town who use to buy 50 at a time. Rodger acknowledged the rumor of the unauthorized equipment burial. He agrees with Vaughn's explanation and understands the accountability processes for things like vehicles back then. However, he said the Army would still keep their eye out for this, especially knowing that it is a concern and is being passed

on in the community. Ron said he doesn't think risk of radioactive material was comprehended back then like they do today.

Eric Orth explained the flyover that was completed over the installation a few years back to look for radioactive material so if there were a buried contaminated truck, it's either buried deep enough and not showing up or the contamination is light enough that it is probably not a risk. So, this doesn't mean that it didn't happen it just means that for radioactivity, the installation has some screening data. Ron confirmed that this flyover was completed in 2001 and was completed over the entire 19,000 acres. Vaughn didn't think the flyover depicted the 33 lb piece of DU at the Firing Site. Eric Orth said that DU doesn't put off a lot of radioactivity. Rodger thinks that the flyover did depict DU within the Firing Site as expected. Steve Bellrichard confirmed that the Report with the flyover results did depict DU in the area questioned by Vaughn.

Vaughn Moore mentioned that four years ago he knew an individual who visited the plant, rode around in the plant, but never got out of the vehicle, and when he went through the detector at the Burlington airport, he tested positive for explosives. Vaughn added that the gentleman picked up the explosives in the vehicle that was driving him around, and therefore, the stuff can be moved. Going back to the process for getting rid of equipment, Vaughn added that the equipment wasn't detailed.

Ron wrapped up his presentation by mentioning that Line 1 fieldwork would restart this summer.

IRP Project Update

Rick Arnseth briefed the RAB from a slide presentation. Please see exhibit 4 for his presentation.

Operable Unit 7 Supplemental Remedial Investigation (OU7 SRI)

Matt Jefferson asked for clarification of those sites included in OU7. Rick recollected some sites as: The Old Fly Ash Waste Pile, Line 3A Pond, Central Test Area, Incendiary Disposal Area, and Possible Demolition Site, but couldn't recall all the sites from memory. The sites within OU7 were not ready to be addressed when they originally assigned sites to OU1. Rick added that many of the OU7 sites have already been remediated for the soil media, while the bulk of the OU7 SRI focuses on other media that hasn't been addressed (i.e. surface water and sediment).

Offsite Area

Vaughn Moore asked how all the rainfall affects the contaminated groundwater plume. Rick explained how the rainfall would eventually make its way down to and dilute the plume, but it would take awhile because the plume is ~50 ft bgs. Vaughn asked if there was any way that this large rainfall would push out the plume. Rick explained how that there really wasn't a way for this rainwater to push out the plume because this would require the water to mound up, and Rick's impression from the sandy soil in the off post area, is that water doesn't accumulate too much out there; rather, it just goes right down to the water table.

Monitoring wells underwater in offsite retention basin area

Steve Bellrichard asked the level of the water table in relation to the wells in the offsite retention basin area. Rick explained how the water table isn't as high in the wells as is located in the high water retention basin, but for whatever reason this area is currently holding water now. Rick was told that when they decided to place wells in this area, the owner mentioned that the area never held water, but for whatever reason, the area is holding water now.

Brush Creek

Mark Hagerla asked if Tetra Tech was testing Brush Creek during rainfall events since in the past Brush Creek has shown high levels when it rains. Rick explained how they periodically take samples at the plant boundary and a couple locations upstream. Rick further added this sampling regimen is done on a routine basis, to calculate an average value, and sometimes they catch a rainstorm event and sometimes they don't. Mark asked if the Army knows where the contamination in Brush Creek is coming from. Rick explained their Brush Creek investigations to date, including the 2-year study of the Main Waste Water Treatment Plant evaluation to determine its possible source, but right now the best explanation is that it may be some contamination coming off of Line 1 somewhere. Rick mentioned the surface water sampling event completed not quite a year ago where they sampled a couple of the tributaries that drain Line 1. This sampling event revealed two locations with elevated RDX levels. Rick thought he shared this information with the RAB a few meetings ago. Rick said Line 1 hasn't been investigated yet, but IRP and FUSRAP are in the process of examining Line 1 and it seems to be the most likely candidate for the continuing contamination in Brush Creek. Mark asked the level of RDX in Brush Creek. Rick recalls the level fluctuates around 8 ppb at the plant boundary (cleanup level is 2 ppb). Mark asked where it is on the priority list to find the source contributing to the contamination in Brush Creek. Rodger explained that it is the Army's ultimate goal to find the source, and explained how the Army has been eliminating source areas throughout the years as sites along Brush Creek are evaluated. Right now, the Army is looking for that last nugget of information which appears to be on Line 1 somewhere. Rodger explained how nothing has us anywhere on Line 1 until the surface water sampling event that Rick mentioned earlier, in response to some problems FUSRAP was having in some of their excavations. Rodger further explained the cleanup priorities and how it is difficult to determine if this is a higher priority than the off site issue; both sort of blend together. Mark expressed his thoughts of finding the source of contamination as a priority and indicated that the Army has been talking about it for years now and is aware of the problem. Matt said that, from the EPA's perspective, this is a high priority for them, and one of the main goals is to get this area cut off so it is not continually contributing to the offsite groundwater. Mark asked Matt if EPA was involved in selecting how and where the Army collects samples in Brush Creek as he wants reassurance that the sampling is being completed at the right time. Matt affirmed one of the problems as Line 1 and intensive investigation is necessary in that area to find out what is going on. Ron added the likelihood of contamination along an old wasteline/trough on Line 1 that is scheduled for removal this summer. There is data showing the wasteline is contaminated, and there are breaks in the line, leading one to believe the likelihood that this is a contributor. Rodger mentioned the complexity of Line 1 and sees the need to share specific preliminary information with the RAB at the next meeting in regards to programs involved; suspected places contributing to contamination, etc.

Vaughn Moore mentioned a pipeline that ran on the backside of Line 1. He recently spoke with a gentleman who helped install the pipeline and the gentleman recalls all the surface water in that area which caused trouble during installation of the pipeline. Vaughn went on to say that in order to get the manholes to stay down, they would put weights on the pipes. Ron asked if they tiled that area. Vaughn said they dug down deep and filled that up with big rock and dropped the manholes and would bang it a little bit to try to get it solid enough. They had to do two to three sections of it a couple different times because surface water kept moving that stuff and it wouldn't drain. This pipeline ran on the backside of 1-70. Ron asked if this was during AEC timeframe. Vaughn said that yes it was during AET timeframe, and it was put in to drain everything out of those buildings and it ran between lines 2 and 3 as well and was pumped over to the dam/Lake and washed down Long Creek.

History of Off Post Actions

Rodger Allison briefed the RAB from a slide presentation. Please see exhibit 5 for his presentation.

Rodger provided this update to provide answers to questions asked during the April 2010 RAB Meeting.

Historical Water Filtration Units

Paula Graham asked what was in the water at this time, TNT and breakdown products? Rodger concurred. Paula asked if the filters were located where water enters the homes. Rodger concurred.

Bruce Workman asked the direction of the contaminated groundwater plume in the offsite area. Rodger responded that the plume moves generally to the south/southeast. Rodger added that the Mississippi River hydrologically pulls the plume with the plume going underneath the Skunk River at 65 ft below ground surface. The bottom of the Skunk River is generally at 40 ft.

Paula Graham asked about the RDX in the aquifer and location and size of the affected aquifer. Rick Arnseth explained that it is known as the surficial aquifer; it is the first aquifer below ground surface and it's continuous from about 10-15 ft below ground surface down to 65 ft. Paula asked if this same aquifer extended up close to the plant. Rick explained how there is a different aquifer up close to the plant and explained the geology up towards the plant (i.e. the plant is sitting on terraces that are more clay rich). Then as one moves south of the plant, one can see where the geology steps down in a terrace-like setting. This type of geology (i.e. the affected aquifer) starts a little bit in the fields north of 61 and probably extends to the Mississippi River. Rodger asked what source Paula could consult to find more information on this. Rick said that some of the best information is located in the Offsite Feasibility Study; she may also want to ask IDNR for groundwater maps of Lee County or a Geological Survey of Lee County. Rodger indicated that Paula may also want to get a Geological Survey of Des Moines County as well.

Hans Trousil asked if home owners in the region where Rathbun Regional Water Supply was provided, were required to disconnect from their private well once they were connected to Rathbun Regional Water Supply. Rodger explained that home owners were not required to disconnect from their private well because many of them still wanted to use them for other purposes (such as watering the lawn, etc). It was the Army's responsibility to provide them an alternative drinking water source. Rodger went on and explained the hookup procedure where they ensured two distinct pathways existed (i.e. water lines) to prevent mixture of the two water sources. Rodger went on to explain the one hookup that required a waiver because the homeowner wanted a three-way hookup.

Hans Trousil asked if Rathbun Regional Water Supply was made aware of the groundwater plume during the hookup process. Rodger said that Rathbun Regional Water Supply was made aware of the plume, but at that time, the exact location of the plume was unknown. Hans asked about the service lines and asked if they were made of plastic or copper. Hans explained the IDNR requirements regarding service lines in a contaminated area and the special casing that is necessary. Rodger explained the Land Use Control process that the Army has been working with the State and counties on.

Public Comment

Rodger mentioned the passing of long-time RAB Member Marjorie Fitzsimmons and took a moment of silence for her and her family.

Rodger introduced, Mr. Jim Bard from San Antonio with the Army Environmental Command, who is replacing Joan Jackson.

Rodger mentioned the 40mm Test Range that American Ordnance (AO) plans to place in the Lines 6-9 area, which is within the boundaries of some cleanup sites. Rodger indicated he would provide more details as they become available; he just wanted to give everyone a heads up of what is coming. Paula asked when the test range would start. Rodger stated that by March 2011 AO plans to start full-scale operations. Vaughn questioned why this ground was chosen since it is in the process of being cleaned up. Rodger explained that others areas were also considered, but this centralized location was chosen. Rodger briefly mentioned the recent removal of most of the buildings on Lines 9 and 5A under the Facilities Reduction Program. This program exists to reduce the environmental liability, clear areas for expansion, and remain flexible to meet new mission requirements. Paula asked if the 40mm would be assembled here. Rodger concurred and indicated that some production will be moved here from Tennessee.

Vaughn Moore asked if some of the facilities on Line 1 would be expanded. Rodger indicated that he thinks Line 1 will be modernized and possibly some very small expansions and adjustments. Rodger said he would keep the RAB informed as new information comes in.

Mark Hagerla asked if the plant had to tear down a certain number of buildings first prior to construction of new buildings. Rodger concurred and said that many times this is the case due to the Safety/Quantity Distance Arc requirements.

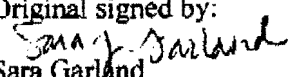
Matt Jefferson added that there are a few activities (groundwater sampling and the capping of the Trench 6 area of the IDA) where the EPA will be providing field oversight.

Next Meeting/Draft Agenda

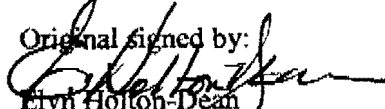
The next meeting was scheduled for October 19, 2010 at the Comfort Suites Hotel. Agenda topics suggested were Line 1/Brush Creek Interaction, IRP project update, CC Update, FUSRAP, and training session for the new RAB members (i.e. what a RAB is).

The meeting was adjourned at 7:30 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 FUSRAP
- 4 Restoration Project
- 5 History of Off Post Actions

Exhibit 1

RAB MEMBERS PRESENT

Mark Hagerla
Elyn Holton-Dean
Eric Orth
Bruce Workman
Vaughn Moore
Alan Koenig
Sivert Iversen, Jr.
Hans Trousil

RAB MEMBERS NOT PRESENT

Dean Vickstrom
Kim Perlstein

GOVERNMENT MEMBERS PRESENT

LTC Tommie Hewitt, Jr.
Rodger Allison
Matt Jefferson

GOVERNMENT MEMBERS ABSENT

Dan Cook

PUBLIC

Paula Graham
Lueene McCracken
Ron Frerker
Linda Wobbe
Thurman Huffman
Linda Loebach
Dave Sadoff
Chris Hempel
John Carroll
Christinia Crippes
Steve Bellrichard
Joan Jackson
Keith Jefferies
James Bard
Tammy Allison
Sara Garland