



# Naval Air Station South Weymouth, MA Restoration Advisory Board (RAB) Meeting Minutes February 14, 2013

## 1. INTRODUCTIONS/ APPROVAL OF PRIOR MEETING MINUTES

John Goodrich, RAB facilitator, opened the meeting at approximately 7:00 PM. He requested that all attendees, including RAB members, regulators, and audience members, sign in. He noted that the meeting agenda, handouts, and the sign-in sheet were available on the table at the back of the room. The sign-in sheet for the meeting is provided as Attachment A. J. Goodrich asked if everyone had time to read the minutes from the October 2012 RAB meeting and if there were any comments. There were no comments.

J. Goodrich reviewed the agenda for the meeting. The meeting agenda and the action item tracking list are provided as Attachment B. In accordance with the agenda, the presentation and discussion would be followed by the updates and action items portion of the meeting. The minutes, agenda, and action items for the meeting are posted on the BRAC PMO website: <http://www.bracpmo.navy.mil/>.

## 2. PRESENTATION

J. Goodrich introduced Phoebe Call to give the presentation on the Industrial Operations Area (IOA). There will be a second presentation by Dave Barney on the Explanation of Significant Differences (ESD) for the Fire Fighting Training Area (FFTA). The referenced IOA slides are included in Attachment C and the FFTA ESD slides are in Attachment D.

### IOA

P. Call stated that this was the first time the IOA has been discussed with the RAB. The objectives of the presentation are shown on Slide 2. The IOA is in the center part of the Base; it is immediately north of the old Hangar 1, south of Building 81 and Building 82, and is approximately 20 acres (Slide 3). The shape of the IOA was determined by including areas with industrial activities during Base operations, such as storage of industrial materials, coal and equipment for the power plant, power plant operations, and materials moved by truck and along the railroad spur.

Slide 4 presents information on the environmental sites and buildings within the IOA. There are 16 environmental sites within the IOA that have been previously investigated. They include: 8 EBS RIAs; 4

CERCLA AOCs; and 4 MCP petroleum sites. Twelve of these sites have been closed out; 2 RIAs (RIA 33 and RIA 82) and 2 AOCs (AOC 14 and AOC 83) are still active. The majority of the area is now covered by asphalt, but was not always, which was considered in the development of the sampling plan. The atmospheric dispersion from the power plant was also taken into account.

Slide 5 shows the zoning districts within the IOA. The labels show the mixed use village district, village center district, main street overlay district, and recreation district. The allowable uses are similar for all four zoning districts and include residential, indoor and outdoor recreation, and commercial. The established zoning and allowable uses were used to identify potential future receptors for the human health risk assessment (Slide 6).

The two main objectives of the IOA field program were: to address low level dispersed contamination in the surface soil due to industrial operations; and to assess suspected subsurface contamination at RIA 33 and RIA 82 where removal actions had been conducted previously (Slide 7). The 16 environmental sites included in the IOA investigation had been identified and investigated as part of the EBS program based on information about releases or other concerns. The IOA field program also included areas where there were no identified environmental sites to determine if contaminants were present in the surface soils due to the past industrial activities in the IOA.

While planning the field investigation, all historical data from previous site investigations were reviewed and evaluated (Slide 8). Although the focus was on soil, groundwater data were also reviewed. A Tech Memo issued in May 2010 tabulated and summarized the historical data. Based on that information and identified data gaps, the Navy developed a Sampling and Analysis Plan (SAP). Because there were some outstanding issues with subsurface soils at the two RIAs, a subsurface soil sampling component was included in the SAP. Groundwater data were evaluated in the Tech Memo and it was agreed that groundwater was not a medium of concern. There is no surface water or sediment present at the IOA, so they were not media of concern. The field program was conducted in accordance with the approved SAP.

The 20 acres were divided into a grid of 0.5 acre 'exposure units,' which is an accepted size for risk assessment purposes. Building footprints and areas excavated during removal actions were excluded from the sampling program. There were 49 exposure units (EUs) identified to cover the entire IOA.

The target analyte groups for the surface soil program included polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals. These three analyte groups were selected based on the operations and activities that occurred in the IOA. Samples were collected from 0 to 2 feet below ground surface (bgs) or 0.5 to 2 feet bgs beneath asphalt. Different combinations of samples were collected to fill in the gaps in the historical data set and ensure there was a complete data set for each

EU. Samples for dioxin analysis were collected at a subset of locations, targeting current or formerly grassy-area EUs to assess potential atmospheric deposition from power plant operations. Slide 9 shows DPT drilling to collect a sample at EU 28, where only dioxin analysis was required to complete the historical data set. The IOA EU grid is shown on Slide 10 with different colors to indicate what sample analyses were required. For example, white EUs had no prior samples or analytical data and dark green EUs had PCB, PAH and metals data and only needed samples collected for dioxin analyses.

The subsurface program was focused on RIA 33 and RIA 82. At RIA 33 (Building 117) a floor drain removal action was completed in 2002; there was concern that not all of the impacted soil had been removed. Specific areas were targeted and samples collected for VOC, PAH, and metals analyses. At RIA 82 samples were collected for PAHs and metals analyses. RIA 82 is a former coal storage area between Buildings 117 and 8 (Power Plant) where seven USTs were removed in 2000. Similar to RIA 33, there was concern that not all of the impacted soil had been removed.

Slide 11 presents information on the subsurface soil field program. The subsurface soil samples from the soil borings were screened in the field using a PID and Petro-FLAG analyzer for total petroleum hydrocarbons to determine locations for sample collection for laboratory analysis. At RIA 33, 15 soil borings were advanced around the former floor drain system. Based on field screening results, 5 samples were collected shipped to the laboratory for analysis. For RIA 82 six soil borings were advanced and after field screening four samples were collected and sent to the laboratory for analysis (Slide 12).

M. Bromberg asked for clarification about the location of Building 117. D. Barney responded that it is the Aircraft Intermediate Maintenance Department (AIMD) Building, located behind the fire station. It is southwest of Dave's building (the CSO) and next to the power plant.

After the samples were collected, analyzed, and validated, the new IOA data were combined with the historical data. The combined data set was evaluated using the typical EBS screening process. Screening criteria were the EPA residential soil Regional Screening Levels (RSLs) for PAHs, PCBs, and metals; the Toxicity Equivalence Quotient was used for dioxins. Base background values were also used as screening criteria where appropriate.

The results of the surface soil screening evaluation are summarized on Slide 13. Concentrations of five PAHs, nine metals, one PCB, and one pesticide exceeded the RSLs in one or more EUs. The results of the subsurface soil screening evaluation (Slide 14) indicated a few PAH and metals exceedances; most concentrations were less than Base background values.

Compounds with RSL exceedances were further evaluated in a human health risk screening evaluation. The risk evaluation was performed in accordance with the EBS Streamlined Human Health Risk

Assessment process. Based on the established zoning in the IOA, future residents and commercial receptors were the exposure scenarios evaluated. The residential exposure scenario is considered protective of all possible future land uses since residents would more likely be exposed more frequently and for longer periods than other receptors. A risk screening was first conducted for each individual EU. Five EUs were identified as surface soil 'hot spots' and grouped into a high concentrations area.

D. Galluzzo asked how close the hot spots were to residents right now. P. Call stated that she will answer that in an upcoming slide.

Risks were calculated for the surface soil high concentration area and low concentration area (basically remaining area), and then for all subsurface soil. Ecological risk was not evaluated since there is no significant habitat for ecological receptors.

The conclusions of the risk screening evaluation are presented on Slide 15. P. Call noted that the slide presents the conclusions in the draft project report. Comments from the regulators on the draft report are being reviewed by the Navy. There may be changes to the report based on the comments and the Navy's responses. There was no unacceptable risk associated with the low concentration surface soil EUs and subsurface soil for all receptors. There was a potential cancer risk for a child and lifelong resident associated with the high concentration area surface soil. The risk drivers for this potential risk were identified as the Site chemicals of concern (COCs). Preliminary remediation goals (PRGs), or cleanup goals, were calculated for these compounds. The concentrations of the surface soil COCs were then compared to the PRGs. Exceedances of the PRGs for various COCs are located primarily in the high concentration area EUs just north of Hangar 1. There are no activities or development in the high concentrations area at this time.

D. Galluzzo asked if the residents should be notified of this problem. D. Barney stated that the majority of these samples were collected from beneath asphalt and pavement, so they are not readily accessible.

The conclusions and next steps for the IOA investigation are presented on Slide 16. There were no risks associated with the subsurface soil at RIA 33 and RIA 82. PAH contamination exists in surface soil in the five EUs in the high concentrations area. There are arsenic, chromium, and lead PRG exceedances in the high concentrations area and EU 49. The Navy is reviewing comments on the draft Project Report. Responses will be prepared and discussed with the regulators. Once the report is finalized, the Navy will discuss risk management decisions and/or actions to be taken with the members of the BRAC Cleanup Team.

M. Parsons asked about work that was performed on the water tower involving removal of lead paint around the water tower. Is the water tower functional? D. Barney stated that there had been a removal

action completed near the water tower and the IOA surface sample in that EU was collected outside the excavation area. The water tower is drained and shut off. P. Call pointed out the extent of the excavation area associated with the water tower (AOC 15).

M. Parsons asked if there were going to be additional samples collected. D. Barney stated that historical sampling has been based on historic release points (water tower, hazardous waste material storage area, AIMD, underground storage tanks, floor drains). There were a lot of individual areas investigated and addressed, but in 2004/2005 there was concern that the large amount of industrial activity may have affected the area. The results of the IOA investigation confirmed that this area was impacted by general industrial operations. M. Parsons asked if there could be a tour in the spring. D. Barney said yes.

P. Call addressed D. Galluzzo's concern about residents. Since no one is living in the high concentration area now, the exposure would be more analogous to a trespasser scenario instead of a residential scenario. The chances of there being a risk associated with a trespasser scenario would be very different than if someone was actually living there.

D. Galluzzo asked what prevents the asphalt from being torn up and the buildings from being torn down allowing the soil to become easily accessed. P. Call noted that tonight's presentation is on the investigation and the risk assessment. As presented in the conclusion slide, the next steps are to review the comments from the regulators and discuss what needs to be done. Before this property can be determined suitable for transfer for the developer, something will have to be done, but that the next steps still need to be determined.

C. Keating agreed with P. Call. There is no current threat; the risks discussed are based on someone living there in the future. D. Chaffin added that there is only unacceptable risk if someone is exposed (direct contact or ingestion). There are a few trespassers, but they are not being exposed currently to any significant extent. The property is still in the Navy's control. The concern for residents is reasonable for the future, but at the present time there is very limited exposure. P. Call clarified that the only calculated risk was a potential cancer risk for a future lifelong resident or future child resident.

M. Bromberg asked if the scope of the five areas with exceedances was known. D. Barney stated that the lateral extent is unknown. More testing will be discussed or it may be included in the confirmation samples associated with an excavation. D. Chaffin added that those are refinements for the next step.

M. Parsons asked how long this process will take. D. Barney stated that there will be a period of discussion based on regulators' comments. Depending on what level of effort is needed after that the next steps will be determined by the available funding. He indicated that he would like to address the IOA soon.

M. Smart asked if there were any surprises or were the findings consistent. P. Call and D. Barney both indicated that there were no surprises and the results reflect the past industrial uses.

M. Parsons asked if the arsenic was natural or manmade. What type of chromium was it? D. Chaffin responded that there are a few places where arsenic concentrations are higher than the background value. There are a number of industrial activates that could have caused that. P. Call added that samples were analyzed for total chromium.

M. Bromberg asked if there was a groundwater problem. P. Call responded that the historical data were reviewed by the Navy, EPA, and MassDEP. The consensus was there was nothing of concern in the groundwater and no need for the Navy to take additional samples. Thus, this investigation focused on soil. D. Chaffin added that as part of previous investigations, groundwater samples have been collected throughout the area. C. Keating noted that she has reviewed the groundwater data and is not concerned and that Bill Brandon is taking a closer look at the data.

D. Galluzzo asked how close the five hot spots are to inhabited buildings right now. P. Call indicated they are approximately ½ mile from the IOA. D. Barney stated that there are dog walkers and bike riders, but there aren't a lot of kids.

M. Smart asked if the Navy would fence it off. D. Barney stated there is currently a fence between the IOA and the airfield and the new housing.

#### FFTA ESD

D. Barney stated that everyone should have received a notice of availability for the FFTA ESD in the RAB mailing. ESDs are used to document a change to a remedy and the response to be taken to address the change. The FFTA ESD is nearly identical to the Hangar 1 ESD completed in 2011. There are similar circumstances for both sites and ESDs: both have perfluorinated compounds (PFCs) in groundwater at concentrations greater than the EPA Provisional Health Advisory (PHA) levels for groundwater used as drinking water.

D. Barney reviewed the history of the FFTA, IR Site 4. There were multiple remedial investigation sampling events which included soil, groundwater, surface water, and sediment sampling, toxicity testing and assessment, a human health risk assessment and an ecological risk assessment. Slide 2 presents background information about the FFTA and the ESD. A No Action ROD was signed in September 2004. The Site was then investigated under the MCP to address petroleum concerns. The Navy completed a removal action centered in the middle of the FFTA in 2008. The property was considered suitable to transfer without restrictions and was included in a FOST. However, due to the known use of Aqueous

Film Forming Foam (AFFF) at the site for firefighting training purposes, the Navy identified the FFTA as an area to be tested for PFCs. The Site was therefore held back from transfer. Based on the presence of PFCs at the FFTA, the No Action decision needs to be modified.

The ESD describes what action is planned and presents the groundwater analytical results in tabular form. In addition to the EPA PHA values applicable to groundwater used for drinking water, the Navy Marine Corps Public Health Center calculated values for other exposure scenarios. Slide 3 presents the groundwater results compared to the various screening criteria. D. Barney noted that the significant change in concentrations from 2010 to 2011 is not indicative of PFCs degrading, but rather is due to different objectives for the two events. The objective of the 2010 sampling event was to determine the presence of PFCs and wells in the FFTA operations area, with potentially higher concentrations, were selected. The objective of the 2011 event was to determine the extent of the PFC contamination and a different set of wells were sampled. The extent of contamination in groundwater is presented on Slide 4. The yellow and green shapes indicate the estimated extent of PFOA and PFOS groundwater exceedances, respectively.

The ESD adds an institutional control prohibiting the use of site groundwater as a drinking water resource. While the groundwater aquifer is not very productive and it is not classified as an aquifer protection area, the institutional control will prevent this use of the groundwater. Groundwater monitoring will be performed. The institutional control will be implemented and documented as a deed restriction. The ESD includes language for the restriction to be incorporated into the deed. Slide 5 presents the groundwater restriction boundary. Soil, surface water, and sediment samples in the vicinity of the FFTA have been collected and analyzed; they were not identified as media of concern.

The next steps for the FFTA ESD are summarized on Slide 6. The public comment period is February 4 - 22, 2013. The Navy and EPA anticipate signing the ESD in March 2013. Once the ESD is signed a FOST Addendum will be prepared to document that the parcel is suitable to transfer. A deed restriction will be placed on the 8.8 acre FFTA site and the property will be available for transfer.

A. Malewicz asked if the land use control included irrigation. D. Barney responded that he believes the comparison of the PFC concentrations to the irrigation-based screening values indicates that irrigation was not a concern, so groundwater would be available for irrigation. M. Parsons expressed concern that since the parkway has an irrigation system there would be the possibility of drawing the water from this area. D. Barney agreed that this is a possibility which is why monitoring is included in the ESD. C. Keating added that the Navy has also agreed to monitor surface water and sediment, even though there is no risk, just to determine that there is no continued migration of PFCs.

A. Malewicz stated that the Commonwealth is not completely on board with using this water for irrigation. Her concern is that this will require long term monitoring and policing of the Site. She wants to make sure that the institutional control is very solid and workable, especially where this is an emerging contaminant. She wants to see this as being effective in the long term and manageable for the life of the Site.

C. Keating noted that EPA has asked for a notification of any permits relating to any groundwater use. The boundary of the Site includes areas beyond the known PFC contamination where groundwater concentrations do not exceed the PHA values (e.g. a buffer zone).

M. Brennan asked why LUCs are being used instead of trying to clean it up. D. Barney responded that significant efforts to remediate the Site have already been completed to address the petroleum concerns. Any additional source was removed during the MCP removal action. It is difficult to say how long it will take for PFCs to attenuate as there is not a lot of information on PFCs. C. Keating added that another thing to keep in mind is that there is no viable drinking water in this area and irrigation is not even viable since the aquifer is not very productive.

M. Parsons noted that a golf course was being planned right next to this area. C. Keating stated that it might be right next to it but it is not feasible to draw water from this area given the low productivity of the aquifer. D. Chaffin added that an institutional control can be used because drinking water is not considered a future use of the aquifer.

D. Barney stated that there is a different situation at Hangar 1 where there is an aquifer protection district. Remedial alternatives will probably have to be evaluated at that site to address the PFCs in groundwater. He indicated that there are potential remedial approaches, but they are at a research stage and have not advanced beyond pilot testing. Whether these remedial approaches are viable or implementable are big questions.

D. Galluzzo asked about the migration and extent of the contamination. D. Barney stated that the extent of contamination on the figure (Slide 4) is indicated by both the yellow and green outlines. C. Keating noted that monitoring will occur outside the extent of the contamination to check for migration of PFCs.

### **3. UPDATES AND ACTION ITEMS**

#### Action Items:

1) Landfill LTM exceedances – D. Barney stated that yes there are exceedances of LTM criteria but the sites all have remedies in place and are in LTM. The LTM programs include groundwater, surface water, and sediment sample collection and landfill gas measurements at RDA and WGL and groundwater

sample collection and landfill gas measurements at Small Landfill. He does not want to either minimize the fact that there have been exceedances or to cause alarm, but these are sites with remedies in place. It was suggested that a future RAB topic be a discussion of LTM findings over time and the nature of the LTM programs. There is more data for the RDA, while the WGL and Small Landfill have only been in the LTM program for a year or so.

C. Keating stated that the next 5 year review is to be completed in 2014 so all this data will be compiled and the Navy will need to address any risks identified during the data evaluation process.

M. Smart asked if the data were gathered electronically in real time or if it has be collected by hand. D. Barney stated that samples are collected by hand.

M. Bromberg asked if we should wait for the 5 year review to compile the exceedances. D. Barney noted that more information is needed than just looking at the exceedances alone, for example what criteria are exceeded. The LTM programs were developed to gather sufficient data for comparisons and to present trends over time. M. Bromberg added that his concern is how exceedances go from high to low. He would be curious to see the trends. D. Barney indicated that the longer you look at the data the clearer the picture becomes and it is easier to understand what is happening at the Site when looking at all of the LTM information.

M. Parsons asked about seeing fluctuations in the groundwater concentrations. C. Keating noted that it is very common to see changes in the water table and then fluctuations in groundwater concentrations. M. Bromberg clarified that he was more concerned with possible surface water and sediment risks; if there were exceedances associated with these media why would you wait to take action. D. Chaffin stated that those media are being monitored and he feels comfortable saying that they have not seen anything that would constitute an unacceptable risk. D. Barney added that there are surface water exceedances associated with dissolved metals.

2) Is the RDA design adequate for the measured methane concentrations? D. Barney checked the Final Design Analysis Report and the gas management layer design analysis. Methane and other gases were measured at various locations throughout the landfill during the remedial design. That information as well as historical information on the contents in the landfill was used in the design analysis. The guidelines in the Clean Air Act were followed to determine how much gas would be formed by the landfill and then extremely conservative parameters were used in the calculation of the system needed for the RDA. From these calculations it was determined that a passive gas system was more than adequate for the low levels of gas that were anticipated. However, based on the landfill gas measurements something else is going on that needs to be addressed. Within the next few months the wick drains/passive diffusion wells will be installed along the perimeter of the landfill. In conclusion, the cover system was designed to

handle the gas that was expected from the landfill, but circumstances are occurring that require modifications.

IR/EBS Program Site Update: D. Barney reminded everyone that a RAB update is on the back table. He stated that the final SRA FS was issued in early December and the draft Proposed Plan was issued in late December. The Proposed Plan is being mailed out to the community. A public meeting is scheduled for February 27, 2013 at 7 pm with a public hearing at 8 pm. This is in the middle of the 30-day public comment period.

#### Conclusion/Next Meeting

J. Goodrich wrapped up the meeting. The next RAB meeting will be the second Thursday in May (May 9, 2013). The meeting will again be held at the New England Wildlife Center, 500 Columbian St., Weymouth, MA. A potential topic is details about the landfill LTM programs and annual reports/trends.