

MINUTES
NAVAL WEAPONS STATION SEAL BEACH
RESTORATION ADVISORY BOARD
AND COMMUNITY MEETING
City of Seal Beach Council Chambers
January 11, 2011

Participants:

Akkenapally, Sree / Insight
Bettencourt, Philip / Community Member
Fattahipour, Mitra / Insight
Ford, Tony / Insight
Fu, Christina / Department of Toxic Substance Control (DTSC)
Gandara, Jose / Restoration Advisory Board (RAB) Community Member
Jordan, Jack / RAB Community Co-Chair
Lee, Larry T. / RAB Community Member
Li, Li / Community Member
Lieberman, Tara / Richard Brady and Associates
Monroe, Bruce / RAB Community Member
Olivera, Jerry / City of Seal Beach
Reese, Brenda / Remedial Project Manager (RPM), Naval Facilities Engineering
Command (NAVFAC) SW
Rosansky, Stephen / Battelle
Schilling, Bob / Sea Alaska
Smith, Gregg / Public Affairs Officer, Naval Weapons Station (NAVWPNSTA)
Seal Beach
Tamashiro, Pei-Fen/RAB Navy Co-Chair, NAVWPNSTA Seal Beach
Thorpe, Darwin / RAB Community Member

WELCOME

P. Tamashiro commenced the meeting at 6:00 pm at the City of Seal Beach Council Chambers by welcoming all participants. Attendees were asked to introduce themselves and to sign in and collect handouts at the front table.

P. Tamashiro introduced Gregg Smith, the Public Affairs Officer for NAVWPNSTA Seal Beach, and announced that three presentations will be given tonight: A brief overview of the Installation Restoration Program (IRP) and Munitions Response Program (MRP) Project Highlights; and an Annual Budget Review for Fiscal Year (FY) 11 by B. Reese; and IRP Site 70 2010 Performance Monitoring for Enhanced In-Situ Bioremediation by S. Rosansky and M. Fattahipour.

B. Reese began with an overview of the IRP and MRP Project Highlights. She first recognized the NAVWPNSTA Seal Beach Environmental Team members involved, and then defined the Defense Environmental Restoration Program (DERP). Next, she briefly reviewed

NAVWPNSTA Seal Beach IRP/MRP Site Status and discussed the following open IR Sites in more detail: Site 7, Station Landfill; Site 40, Concrete Pit/Gravel Area; Site 70, Research Testing, and Evaluation Area; Site 74 Skeet Range, Site 75, KAYO-SB Ag Well, and Site 229, Former UST Site. She then briefly discussed the MRP Site Inspection status.

Questions and answers discussed during the Project Highlights Presentation are summarized below.

Question: Of the 68 sites that you mentioned that have been closed, how many have had remedial actions completed on them?

Answer: Of the 68 sites, fifteen sites had gone through some sorts of cleanup actions, which may include removal actions and remedial actions. More details about these cleanup actions can be found on the station's web site: <http://www.cnic.navy.mil/SealBeach/OperationsAndManagement/EnvironmentalSupport/EnvironmentalCleanup/index.htm>

Question: Is Site 74 more unsettled now than it was a year ago? Funding or not, is the Navy unsettled on the way forward for this site? Is the material dredgeable?

Answer: In terms of selecting a specific technology for Site 74, it has not been determined. Approximately one year ago, the Navy ended the process of conducting an Engineering Evaluation/Cost Analysis (EE/CA), which is an evaluation of the effectiveness, implementability, and costs of various removal action alternatives, with a recommendation for a favored alternative. Removal action is typically used for simpler projects; however, although the cleanup at Site 74 may be simple, which includes dredging, Navy legal determined that Site 74 was not eligible for removal action due to the large expected cleanup costs for the site. As such, the Navy must follow the remedial investigation (RI)/ feasibility study (FS) route, and document the decision of remedy selection with a Record of Decision (ROD) signed by the Navy and the regulators. It is important to note that the EE/CA provided the Navy with important information from which to begin the RI/FS process. The possible cleanup alternatives identified by the FS will be subject to discussions with regulators, and community members will have the opportunity to provide input into selecting the final clean up remedy. The intention is to minimize the amount of damage to the wetland during the cleanup process.

Comment: Of the 75 sites initially identified under the IR Program, it is important to state that time and money was dedicated to active study or cleanup for each site.

Answer: Yes, for all sites identified under the IRP/MRP, the Navy have to follow the rules under the Comprehensive Environmental Response,

Compensation, and Liability Act (CERCLA) to conduct the investigation and/or cleanup for each site identified.

Question: Does re-vegetation remain a challenge at Site 7?

Answer: A site visit was conducted on the morning of January 11, 2011, by the Navy and DTSC regulators. It was observed that the vegetation cover restoration is progressing, and the site is looking much greener than last year due to the large amount of rain received this season and last year.

Question: Climate change has caused numerous global changes to occur such as rising sea levels, shifting vegetation patterns, and declining pollinator populations. How have climate change and the El Nino Southern Oscillation affected the re-vegetation stock and plant pallet for Seal Beach?

Answer: Climate change has not changed the re-vegetation stock at Site 7. Site 7 is a relatively small area, and conditions influencing the re-vegetation efforts are pretty much localized. Re-vegetation at this location has been difficult not because of changing climatic conditions, but because of the high salinity of the soil at the site. Site 7 is highly tidally influenced, and salt is deposited from the evaporation of sea water. The most sensitive time for seeding vegetation is during seed germination, and the high salt content of the soil has made it difficult for seeds to germinate in this environment. The surrounding environment is fully vegetated with the same salt tolerant species as in the past. Unfortunately, these species did not naturally re-populate the site as was hoped, and as such, different planting methods have been adopted. Some soil amendments have been added to improve the mineral content of the soil and organic matter has been added to aid in the re-vegetation process. In summary, in terms of speciation, there has not been an observed change at the site as a result of climate change.

P. Tamashiro announced that B. Reese would next give a brief presentation on the IRP/MRP Budget Status for NAVWPNSTA Seal Beach.

B. Reese gave a brief review of the IRP/MRP Budget Status. She began with a review of the Project Costs for FY 10. Next, she discussed the projected Budget for FY 11. B. Reese stated that the budget has decreased slightly from previous years, and no new funding has been allocated for the MRP until FY 12. B. Reese then briefly discussed the FY 11 projects receiving previous funding (FY 10 or earlier) and the projects receiving new funding (FY 11), and showed a graph depicting FY 10 - 20 IRP and MRP Budget projections. In summary: the estimated cost to complete IRP/MRP (FY 11-20) = \$26 Million, and the estimated total IRP/MRP at NAVWPNSTA Seal Beach (FY 90-20) = \$90 Million.

There were no questions or comments during the Budget Status Presentation.

P. Tamashiro briefly discussed the current status of the Five Year Review for NAVWPNSTA Seal Beach. P. Tamashiro stated that the last technical presentation at the October 12, 2010, RAB Meeting was intended to be a 5-Year Review for Site 40 remedial action. However, following NAVFAC SW headquarters review, it was determined that the report did not meet the requirements for a 5-Year Review Report. Navy policy requires that risk assessments and indoor air quality evaluation be included in the review, although there is currently no receptor for the contaminated shallow groundwater at Site 40, and there is no indoor air quality issue at the site. In addition, Navy policy requires that all sites that are currently in the post-Record of Decision (ROD) stage be included in the 5-Year Review, which would mean both Site 40 and Site 70 need to be included in the report. At this time the Navy does not have funding to complete this report. P. Tamashiro continued to state that although the Navy is behind on the 5-Year Review Report, the Navy had constantly kept the public informed of the status of the remediation activities at IRP Sites 40 and 70 by presenting them in the quarterly RAB meetings. She welcomed any feedback the public had for the remedial actions at these two sites at any time.

P. Tamashiro announced a 10-minute break.

Upon return, P. Tamashiro introduced S. Rosansky of Battelle and M. Fattahipour of Insight to deliver the IRP Site 70 2010 Performance Monitoring for Enhanced In-Situ Bioremediation Presentation. Due to the advanced technical nature of the presentation, attendees were encouraged to ask questions throughout the presentation.

M. Fattahipour started by stating that Site 70 was one of the largest bioremediation sites for the Navy. She began the presentation with an overview of Site 70's remedial action background, then discussed in detail the enhanced in-situ bioremediation (EISB) process; identifying the 2009 and 2010 injection locations, and biobarrier installation approaches. She also discussed the 2010 performance monitoring and reviewed the updated conceptual site model. She then turned the presentation over to S. Rosansky who began with a discussion of the site lithology and groundwater elevations and gradients. S. Rosansky then reviewed the remedy performance and showed a two-dimensional trichloroethylene (TCE) plume projection, three-dimensional TCE/cis-dichloroethylene (cDCE)/vinyl chloride (VC) plume visualizations, and plume cross sections to illustrate the volatile organic compounds (VOC) plume results. He also discussed the measurement of the Dehalococcoides population and VC reductase gene copies, explained graphs of the typical trends expected for dissolved oxygen, oxygen reducing potential and pH, and reviewed the results of the vapor monitoring that was conducted. He then summarized the remedy performance, stating that VOC data supports that bioremediation is working effectively; and concluded with lessons learned and recommendations.

Questions and answers discussed during the Site 70 Presentation are summarized below.

Question: How is the water year (WY) defined?

Answer: The WY is defined from September to September. Specifically, the WY is defined from October 1st to September 30th of the following year.

Question: Is there an error on the second bullet under “Differences from 2009” on page 16 of the handout?

Answer: Yes, rainfall in WY 2010 water year was 15.5 inches, which increased 6 inches from WY 2009, which was 9.44 inches. Water levels across the site have increased approximately 6 feet. This increase is attributed to increased rainfall and reduced irrigation, as water is not being pumped out for irrigation. Furthermore, measurements indicate that the installation of the biobarriers has not adversely impacted groundwater flow.

Question: Is there a record of the ratio of second sand to deep sand? You show that there is a well screen at 170 feet below ground surface, but did you distinguish between the mixture of sand and clays? Mainly, is there potential for seepage to exceed drill depth?

Answer: The lithology of the site was well defined, and the upper fines were subdivided. The wells were installed using sonic drilling technology, during which a continuous core at each location was taken and recorded. The geology of the site may vary, but it is based on a detailed geologic study. In addition, there are several wells that penetrated the different lithologic units. The purpose of these deep sand point-of-compliance (POC) wells was to see if the deep sand had been impacted. These wells were screened at deeper than 160 feet below ground surface, and do not show contamination in the deep sand.

Question: What is the quality control of the field instrumentation?

Answer: Within an order of magnitude it is not considered significant, over one it is.

Question: Some geologists are skeptical of this particular type of technology, as they believe it has a high potential for rebound. What are your thoughts?

Answer: In a source area where there is TCE, which sorbs into the soil more readily than VC, there is a limitation on how fast TCE will desorb from the soil and into the groundwater. If you inject the Emulsified Vegetable Oil (EVO), and more TCE desorbs from soil, you may potentially see rebound in groundwater, but that is the beauty of this technology. Once the TCE is degraded in the groundwater, it creates a TCE concentration gradient between the soil and the groundwater, which would then accelerate the rate of dissolution of TCE from the soil to the groundwater, therefore, accelerate the cleanup process. In the case of Site 70, we anticipated this, and the design of the treatment grid would allow us to perform additional injections, over a 15-year period. This process is relatively inexpensive, comparing to soil heating and thermal heating.

The bacteria, once injected into a series of wells, are alive and actively grow and expand. It is Navy's policy to not implement any new pump and treat remedial actions. Especially in a salt water intrusion prone area such Seal Beach, pump and treat would create more of a problem.

Question: Will the rising groundwater levels have an impact on the results?

Answer: If the contamination was at a shallower depth, rising groundwater levels would have more of an effect, and would increase the potential for dilution. However, the rising levels are not significant at this site due to the large amount of water and the depths of the wells. Furthermore, the presence of byproduct production (methane and hydrogen sulfide) further shows evidence of success in the remedial action at Site 70.

P. Tamashiro announced the end of the Question and Answer period.

P. Tamashiro announced that the RAB Community Co-Chair position is being offered up. If anyone is interested in serving as the RAB Community Co-Chair please contact P. Tamashiro by email: pei-fen.tamashiro@navy.mil or phone: (562) 626-7897. If there is interest, then an election will be held during the next RAB Meeting, otherwise, J. Jordan will be willing to continue to serve.

ADJOURNMENT

P. Tamashiro adjourned the meeting at approximately 7:40 p.m.