

**Restoration Advisory Board (RAB) Meeting
Recreation Center
U.S. Army Soldier Systems Center
June 3, 2004
Meeting Minutes**

I. Attendance

RAB Members Present

Joel McCassie, Co-Chair	Environmental, Safety, and Health Office (ESHO), U.S. Army Soldier Systems Center (SSC)
Robert Campbell	Massachusetts Department of Environmental Protection (MADEP)
Dr. Charles Czeisler	Community Member
Marco Kaltofen, Co-Chair	Community Member
John McHugh	Restoration Officer, U.S. Army SSC
A. Richard Miller	Community Member
Leo Pessin	Community Member
Dr. Harlee Strauss	Community Member
Christine Williams	U.S. Environmental Protection Agency (EPA)

RAB Members Absent

Lisa M. Allen	Representative of Natick Board of Selectmen
Anthony Doheny	Community Member
James Fitzgerald	Community Member
Sidney Gantman	Community Member
Stephen Lubic	Representative of Natick Board of Selectmen
Elizabeth McCoy	Employee Member, Natick Soldier Center
Kelly McQueeney	Community Member
James Straub	Massachusetts Department of Conservation and Recreation (DCR) [formerly the Department of Environmental Management (DEM), Lakes & Ponds]
Dr. Kannan Vembu	Representative of Natick Board of Selectmen

Others in Attendance

Michelle Bonanca	ESHO, SSC
James Connolly	ESHO, SSC
Anne Marie Desmarais	Environmental Insight
Stacey Greendlinger	US EPA
Brian Gressler	Recorder, PP&A
Erin Healy	Environmental Consultant, ICF Consulting
Michael Kipp	US Army Environmental Center (USAEC)
Kevin Palaia	Environmental Consultant, ICF Consulting
Jeff Pickett	Environmental Consultant, MACTEC
Harold Prebensen	ESHO, SSC
Stan Reed	Environmental Consultant, MACTEC
Rod Rustad	Environmental Consultant, MACTEC
Kathleen Thrun	Environmental Consultant, ICF Consulting
Jerry Whitaker	US Army, Public Affairs Office (PAO)
Ken Wiggins	USAEC
Dr. Steven Young	Tsunami Technologies, LLC

II. Handouts

1. Approach to Cleanup: Buildings 22 and 36 Feasibility Study - Soldier Systems Center, 3 June 2004
2. Performance-Based Contracting, 3 June 2004
3. Copy of Email from Dick and Jill Miller dated Friday, May 28, 2004 3:53 PM, RE: RAB Meeting – June 3, 2004

III. Meeting Minutes

Mr. Kaltofen called the meeting to order at 7:04 pm. He then asked for a review of the minutes from the April 2004 meeting.

Mr. Miller stated that he had handed out a possible addendum to the minutes and that he hoped the changes would happen. He also noted that he wished to discuss a request in said addendum for an action item.

Mr. Kaltofen stated that the action items would be addressed during the General Comments phase.

General Comments

Mr. Kaltofen then asked for General Comments.

Mr. McHugh stated that the Army was working through the Draft Letter Work Plan memo for additional human health and ecological risk assessment activities handed out during a previous meeting and hoped to discuss it at September's meeting.

Mr. Miller stated that he was interested in the status of the DoD proposed RAB rule, particularly in the context of it being time sensitive.

Mr. Kaltofen stated that they would be discussing the status of the RAB rule at a later point.

Mr. Miller stated that he was also interested in updates on other parts of Lake Cochituate and how they fit in with a previous proposal to address the plusses and minuses of the lake draw down. He stated that if the State chooses to perform a lake draw down, there would be implications on the contaminated silt on the lake bottom. One such implication might be to release the silt and cause harm. Another might be to expose it and cause correction, or the opportunity for removal and correction. He noted that there have been attempts to perform chemical treatment in South Pond. These attempts are currently stalled until at least until 2005 by the appeals process, which has already run twice and is likely to run a few more times. He stated that he did not believe that chemical treatment was an option, noting that this was the third season in which a Eurasian water mill foil problem in Lake Cochituate has been known, and that the problem has been spreading from South Pond, to Middle Pond, and a little bit of North Pond. Because North Pond is split between Framingham and Wayland, different local rules apply. Wayland had been using chemical treatments in the area around the town's swimming area for several seasons. When they came back to get a permit for this season, it was approved. The Board of Health subsequently recommended against chemical treatment because alternatives had not sufficiently been examined. This occurred after the Conservation Commission had approved it, but he gathers that the approval has since been rescinded. Framingham has also not given approval for chemical treatment near its beach area. As a result, both towns are looking at alternatives. He believes that

the State will approve chemical treatment if such an alternative is not arrived at in due time in order to prevent the problem from spreading to other areas. Decisions must be made this summer. There is a volunteer group trained to do careful hand pulling. Another group is proposing suction harvesting. He wishes the RAB to have as much understanding as possible on the subject now so that the RAB's understanding can be made available to the State in the course of their decision making process. He then asked if there is anything that he can be doing now on this issue.

Mr. Kaltofen stated that the State Department of Conservation and Recreation (DCR) (formerly Department of Environmental Management – DEM) representative (Mr. James Straub) should be questioned on how best to proceed as a next step. He asked if Mr. Miller could prepare a proposal for the RAB and said representative.

Mr. Miller stated that he wrote such a proposal for the last meeting and asked if the RAB can address this issue in a more serious fashion before DCR requests them to.

Mr. McHugh stated that the previous written proposal dealt specifically with lake draw down and not sediment removal.

Mr. Miller noted that sediment removal came up in the discussion of said written proposal.

Mr. McHugh stated that sediment management will be looked at again in September. Over the next fall and winter, when feasibility alternatives will be evaluated, options could be looked at. However, a conduit of information will be maintained through the summer with the State in order to keep up to date on harvesting at specific locations around the facility, ensuring that the RAB is informed.

Mr. Miller asked if that means that the issue won't really be addressed until this coming winter.

Mr. McHugh stated that sediment actions need to be looked at during a feasibility study, and that such processes would be conducted this fall/winter timeframe.

Mr. Miller stated his belief that this would be missing the boat.

Mr. McHugh stated that that is the CERCLA process, wherein you perform a remedial investigation, examine risk, move into a feasibility study, and so on.

Mr. Miller stated that he understood why that was the process for an intensive research project, but that he still believes that something can be done in the meantime.

Mr. McHugh stated that he understands the desire for action, but pointed out that a proposed plan and a hearing are required before any action can be taken.

Mr. Miller stated that he only desires discussion, not action.

Mr. McHugh asked Mr. Miller what he specifically was asking for beyond communication this summer.

Mr. Miller stated that given the expertise in this area on the RAB, he did not feel it was necessary to wait a year to begin to prepare notes.

Ms. Williams stated that it is within the timeframe that Mr. McHugh discussed that the documents upon which those notes are to be based will be developed and released. At the

moment, the documentation of the feasibility study does not exist.

Mr. Miller stated that he understands that there will be limitations based on lack of detail, but that that should not stop the RAB from beginning to formulate an opinion that can later be applied to the details in the feasibility study. He noted that he wished that the DCR representative was present on a regular basis to help address these kinds of issues.

Mr. Kaltofen asked if one of the issues is that people might be hand pulling weeds, necessitating contact with sediment when a human health risk assessment may yet to have been performed.

Mr. McHugh stated that they wouldn't want just anyone out there harvesting because of the potential risk.

Mr. Miller stated that the State has a new SOP on harvesting guidelines designed for town conservation commissions to aid in determining what should and should not be considered.

Mr. McHugh stated that the number of days required for harvesting is something that could be looked into. He noted that he was trying to address lake draw down specifically, as that was Mr. Miller's original issue.

Mr. Miller stated that the timeframe being discussed to decide whether or not lake draw down is a plus or minus is still his biggest concern in this area.

Mr. McHugh stated that, in terms of this process, lake draw down could be an alternative, but he can't advance it in front of other alternatives at this point in time. He added that the feasibility study will address a number of issues including but not limited to no action and lake draw down.

Mr. Miller stated that in the process of looking, he hopes to discover whether or not there is an opportunity here to affect change in a positive sense or prevent change in a negative sense.

Mr. Kaltofen stated that he would be willing to discuss the issue immediately following adjournment of the meeting with Mr. McHugh and Mr. Miller to look at what is possible. He stated that anyone who wanted to contribute resources could also come forward. He then asked if there were any other comments. There were none.

Mr. Kaltofen introduced Jeff Pickett, Stan Reed, and Rod Rustad of MACTEC Engineering and Consulting to present on the Building 22 and 36 Draft Feasibility Study.

Building 22 and 36 Draft Feasibility Study

Mr. Pickett stated that in April, Mr. Reed provided an overview of what the feasibility study was going to contain for the Buildings 22 and 36 ground water. The presentation tonight is meant to provide greater detail on the approach to clean up of the ground water. Mr. Reed has been working with groundwater modeling provided by Dr. Steve Young to help refine the alternatives and determine cost and time frameworks.

Mr. Reed stated that tonight's presentation is meant to provide more detail on the alternatives and approaches being evaluated. He pointed out that the first few slides repeat relevant information discussed in April. Slide 2 shows remedial action objectives (RAOs) based on risk assessment done during the remedial investigation, laying out the goals and objectives of the feasibility study. Slide 3 is an aerial view of the plume area. He identified the location of Building 36 and noted that sources of the plume are not specifically defined in the slide. Slide 4 lists the six alternatives

evaluated in the feasibility study. He noted that Dr. Young supported MACTEC in this effort with his groundwater modeling expertise, especially in determining the time required to reach the cleanup goal of 5 micrograms per liter of PCE using each of the potential alternatives.

Mr. Reed stated that the first alternative, as shown in Slide 5, is No Action. This alternative is required for evaluation by the National Contingency Plan (NCP) and serves as a baseline against which to compare the other alternatives. He noted that it is not likely to be a selected alternative. Under the No Action alternative, no active remedial action is performed, no institutional controls are implemented, no restrictions are placed on ground water or land use, no monitoring of the plume is performed, and there are no on-going reviews.

Mr. Reed stated that the next alternative is Monitored Natural Attenuation (MNA), as discussed in Slide 6. He explained that MNA relies on natural processes including dilution, dispersion, and degradation in the aquifer to achieve cleanup goals. It does not include active remediation processes, but it can be advantageous in certain situations. It includes pre-designed studies to enable optimization of the location of groundwater monitoring wells, institutional controls to prevent use of ground water, installing monitoring wells, regular monitoring of ground water, inspections to ensure that institutional controls remain in place, and regular 5 year reviews to ensure that human health and the environment are protected. The estimated cleanup time based on the MNA alternative is estimated to be approximately 650 years. This is mainly due to the fact that ground water moves very slowly, meaning that it takes a long time for the contaminants to flush out of the aquifer.

Mr. Reed stated that the third alternative is Groundwater Extraction, also referred to as pump-and-treat, as shown in Slide 7. Groundwater extraction involves the installation of groundwater extraction wells that pump water out of the ground; piping of that water to a treatment system (the T-25 Area treatment system will be used); treating the ground water; and discharging it with other ground water treated from the T-25 Area. Pre-design studies optimize the locations of monitoring wells and groundwater extraction wells; test the aquifer; and optimize well design. New data from the pre-design studies will be added to the groundwater model. The same institutional controls used in the MNA alternative will be employed including monitoring wells, groundwater monitoring, control inspections, and 5-year reviews. The groundwater extraction alternative does a good job at containing contaminated water, preventing its discharge to the lake. Dr. Young assessed several approaches with different numbers and locations of extraction wells to develop the best configuration. He then pointed out the boundaries of the plume as shown in Slide 8. He showed possible locations of extraction wells for a containment scenario. A "centerline" pumping configuration, using a string of wells, resulted in cleanup of the plume in approximately 30 years. A "hot spot" pumping configuration resulted in a cleanup time of approximately 23 years. Because there is a level of ambiguity involved in modeling, there is likely not a lot of difference between the "centerline" and "hot spot" projections. In this alternative, there is a force main run along First Avenue up to the existing T-25 Area treatment system. Individual wells would be connected to that main line.

Mr. Reed stated that the fourth alternative is Enhanced In-situ Biodegradation, as shown in Slide 9. Enhanced in-situ biodegradation takes advantage of the fact that PCE can be biodegraded under anaerobic conditions. This process will occur naturally if conditions are right, but such conditions don't exist naturally in this case. In order to create such an anaerobic condition, a Hydrogen Release Compound (HRC), a lactic acid, is injected into ground water. HRC is very viscous, and it dissolves slowly as the ground water passes by it, serving as a food source for bacteria, leading to oxygen use, and setting the stage for degradation. The components of this alternative are similar to those seen before. The pre-design study is slightly more involved and includes testing on the alternative itself. There are several reported uncertainties with this

alternative. First, it is difficult to treat ground water under the building. Second, it is sometimes difficult to achieve uniform HRC distribution. Estimated cleanup time using this alternative is approximately 20 years.

Mr. Miller asked that, if the cleanup estimates of 30 years for “centerline” and 23 years for the “hot spot” groundwater extraction are considered similar within the scope of the model, is this 20 year estimate equally as similar?

Mr. Reed replied that the estimates are probably similar. He noted that the two pumping solutions differed only in location of the wells.

Mr. Rustad replied that the estimates should be viewed as relative to each other, rather than as absolutes.

Mr. Pessin asked how soon groundwater extraction could begin if such an alternative is chosen.

Mr. Reed replied that once the feasibility study is completed, the process could begin immediately, probably early next year if everything proceeded smoothly. He then stated that the fifth alternative is Permeable Reactive Barriers, as shown in Slide 10. PCE will degrade if passed through iron particles, industrial iron filings in this case, not an iron oxide that will rust. The filings are placed in the ground and form a vertical curtain across flow of ground water. He then showed a schematic of the process. There are different means by which the barrier can be installed, including digging a trench with a back hoe, creating a slurry of iron and sand, and filling the trench with that slurry or injecting the filings into the ground with a high power injection machine. Given the number of underground facilities in the area in question, the trench method is probably impractical. Two barriers would be required in the Buildings 22 and 36 area, one at the southern end of the plume and one at the northwest end of the plume. Because ground water is only treated as it moves toward the barrier, the estimated cleanup time for this alternative is approximately 650 years, much like the MNA alternative. It is also unclear how long of a useful life the barriers have. It is currently believed to be 20 to 25 years, when another injection would be required to replenish and reactivate the iron. Despite these shortcomings, barriers are often used because they do serve to contain the plume within their boundaries. What goes beyond the wall is clean.

Mr. Rustad stated that permeable reactive barriers are likely better suited for an area with faster groundwater flow.

Mr. Miller asked if the barriers do anything to clean the original area.

Mr. Rustad replied that they do not.

Dr. Strauss asked if it is possible for the ground water to flow under or around the barrier.

Mr. Reed replied that the barriers need to be installed deep enough so that there is a low permeable area directly beneath it. He noted that there is a silt layer in the area in question about 40 or 50 feet deep. The barrier also must be wide enough to cover the whole width of the plume.

Mr. Rustad noted that the term barrier is a misnomer, as there is a generally a higher permeability in the barrier than in the surrounding soil.

Dr. Strauss asked if, using the injection method, the barrier could be installed to the 50 foot depth previously mentioned.

Mr. Reed replied that installation at 50 feet was possible with both the injection and trenching method. He then stated that the final alternative is Groundwater Extraction Plus Mass Removal, as shown in Slide 11. This alternative is a hybrid of Groundwater Extraction and Enhanced In-situ Biodegradation. In this process, HRC is injected into those areas with the highest PCE concentration and groundwater extraction wells are also installed. Not as much HRC is injected as in a pure enhanced in-situ biodegradation solution. Pumping from the wells not only acts as previously described, but also helps to move the HRC and ground water through the aquifer, reducing cleanup time. Groundwater extraction also serves to help collect any unwanted byproducts of the biodegradation processes, containing the process. Such a hybrid approach reduces some of the uncertainties associated with biodegradation alternative alone.

Mr. Kaltofen asked Mr. Reed where the extraction and injection wells would be located on Slide 8.

Mr. Reed pointed out an extraction well in front of Building 22, an extraction well beside where the water tower used to be, an extraction well on the north side of Building 36, and an extraction well on the west side of Building 36. If HRC were to be used alone, there would be 250 to 300 injection points, creating rows of point's perpendicular to groundwater flow. In the combined scenario, HRC injection points would be fewer, reserved for along the east side of Building 36, as groundwater flows west.

Mr. Kaltofen asked if the introduction of HRC results in the production of vinyl chloride (VC).

Mr. Reed replied that HRC would not likely produce VC, because the biological process is capable of going all the way to non-chlorinated and non-toxic end products. At some sites, the process has stalled, but there would be tests performed to see if bacteria necessary to achieve an anaerobic state are present at the site, and if they aren't present, they can be added.

Mr. Kaltofen asked if, in the process of using HRC, one might expand one's RAOs to include metabolites.

Mr. Reed replied that that was possible and that such possibilities could be identified in the evaluation process. He then stated that it was necessary to keep the real objective, PCE removal, in sight.

Mr. Kaltofen asked if VC or cis-1,2-dichloroethene (cis-1,2-DCE) have ever been seen.

Mr. Rustad replied that they have not been found in the ground water at the site in question.

Mr. Kaltofen asked if they would be looking for VC and cis-1,2-DCE in the monitoring wells if HRC was used, especially given that the VC has a tighter standard than PCE.

Mr. Rustad replied that such monitoring is currently done in the suite of analyses during the quarterly monitoring program and would continue following the initiation of the Building 22/36 remedy.

Mr. Kaltofen, asked if that meant that such monitoring is therefore included as part of the HRC financial package.

Mr. Reed replied that it was.

Mr. Kaltofen stated that a RAO of under 2 micrograms per liter of VC really could not be avoided.

Mr. Reed stated that, since the VC is not there now, he agrees in principal, but it is not necessarily an applicable worry in this discussion

Mr. Kaltofen asked that, if there were over 2 micrograms per liter of VC, it could not simply be left there.

Ms. Williams replied that since the site is in a Zone 2, the goal is a return to drinkable standards, so the VC would have to be cleaned up.

Dr. Strauss asked if there was going to be an HRC pilot study.

Mr. Reed replied that that was not the case, but that they would do testing to determine the nature of the biological community at the site to ensure that it is suitable for the process. A bacteriologist is brought in for this purpose. He stated that the cleanup time required for the extraction and mass removal alternative is approximately 11 years based on the modeling. He pointed out the time benefits involved in combining methodology.

Mr. Reed then discussed a summary of the contaminant mass remaining and estimated cleanup time for each alternative, as shown in Slides 12 and 13.

Mr. Kaltofen asked if the mass remaining is all dissolved in the ground water.

Mr. Reed replied that the mass represents PCE dissolved in ground water and sorbed to soil. He then discussed the estimated costs for each alternative as shown in Slide 14. There are three costs presented. The first is the up front Capital Costs from construction, installation of monitoring wells, implementation of institutional controls, and similar items. The second is the Present Value Cost, which represents a sum of money that, if invested now at a given interest rate, could be drawn from in the future to perform necessary activities. This includes the capital cost, annual cost, and periodic cost associated with the alternative. The third is Cumulative Cost, showing both the capital costs and long term costs for estimated cleanup time.

Dr. Czeisler asked if escalation had been built into the monitoring costs for the longer solutions.

Mr. Reed replied that a constant rate per year was used for monitoring costs and agreed that, in reality, those costs will go up. Guidance on preparing such cost estimates suggests that this is the way to present the information, however.

Mr. Miller stated that the 20, 23, and 30 year time estimates are within possible model variances as discussed earlier. He asked if there is any additional vagrancy in the bottom line.

Mr. Reed replied that the estimate is based on current knowledge and current understanding, but it is an estimate.

Mr. Rustad stated that there is a margin of error.

Mr. Miller asked if there was any particular bias that seemed more likely.

Mr. Rustad stated that if a bias existed, it would generally apply to each of the alternatives.

Mr. Reed stated that while the overall timeframes might shift in actuality, the relative timeframes between the alternatives is what is worth examining.

Dr. Czeisler stated that the original projection when pumping started 6 or 7 years ago at the T-25 Area, called for 30 years of cleanup, but in reality, it seems to be moving faster than that. He asked if this was a similar projection and whether or not there was still 20 more years of cleanup projected.

Mr. McHugh replied that it is a similar projection, just moved forward in time and there is still possibly 20 years of cleanup left at the T-25 Area, which Dr. Young has modeled. After the 20 years, natural attenuation will still be in effect.

Dr. Czeisler asked if HRC was a new technology and why it was not used 6 or 7 years ago.

Mr. Reed replied that HRC was new at the time. Its use has grown more widespread over the last 6 to 7 years.

Dr. Czeisler asked if it was worth using HRC on the T-25 Area to accelerate it.

Mr. Reed and Mr. Rustad stated that they were not familiar enough with the T-25 Area to give an answer.

Mr. McHugh stated that using HRC on the T-25 Area is something that can be investigated and discussed during the forthcoming 5 year review.

Mr. Reed stated that using HRC would depend upon the distribution of contamination.

Mr. Rustad stated that HRC use is not always applicable.

Dr. Czeisler asked if it would be possible to ensure that such an investigation be a part of the review.

Mr. McHugh stated that it may already be regulated as so.

Ms. Williams stated that anything that shortens cleanup times is viewed positively by the Army.

Mr. Kaltofen stated that it made sense given where the T-25 Area sits to investigate the possibility, especially if the HRC vendor was going to be on site anyway. With new technology in mind, Waterloo University is using injected nano-particulate iron. He asked if that technology was too new.

Mr. Reed replied that the technology was new and that the lifetime of the particles was very short, requiring multiple injections in the timeframes required for the site at hand, and an extremely high cost.

Mr. Kaltofen asked if such a solution was clearly outside the limits of the other alternatives being discussed.

Mr. Reed stated that it is still viewed as experimental and unproven.

Mr. Kaltofen asked if it had been approved for any other sites in the region or in Massachusetts.

Ms. Williams stated that she was unaware of any such approval.

Mr. Kaltofen thanked Mr. Reed and Mr. Rustad and introduced Dr. Young to discuss the Groundwater Model Update.

Groundwater Model Update

Dr. Young introduced himself, noting that he presented to the RAB occasionally over the past 5 years. He stated that the model he has developed is updated as new data is collected every couple of years and prior predictions are examined relative to the current reality and the new projections. The purpose of his presentation is to review the regional flow model and to show the level of detail that is being provided in support of the Building 22/36 feasibility alternatives just discussed by MACTEC. The main regional flow model covers an area larger than the SSC facility. It is made up of nine layers. The upper seven layers are each approximately 15 feet thick. The bottom two layers are approximately 50 feet thick and are comprised primarily of bedrock. The SSC facility is shown in red on the slide. From these data, a flow field is created, and from that, a contaminant transport model around SSC can be determined. Using a larger area than SSC to start with allows for inclusion of data beyond the site, including lake contributions and waters from the highlands.

Dr. Young then reviewed the data used to calibrate the original model in 1999. Looking down from the top, it shows the model domain, the lake levels, the facility, simulated water table levels and elevation, and a shallow A-interval aquifer and middle B-interval aquifer. The layers are different, and they should be. Dots show where information to calibrate the model was collected from monitoring wells. At the time, there was only a small amount of data collected from around Building 22 and Building 36 on the south side. Therefore, data collected in the last 3 to 4 years now needs to be included in the model. Once the data are included, affects to the region can be examined. Specific data collected with a bearing on Building 22 and Building 36 include water table measurements, showing where the water table divides and, therefore, where the plume splits. The silt is a tight formation with a depression. It has a big impact on where contaminants can be. The silt was likely deposited in the ice age and then the sands came in on top of it. The average hydraulic conductivity between 140 and 95 feet above mean sea level is 4 feet per day, which is a relatively low conductivity. A second set of information comes from ICF. Data came from extraction wells that were pumping in November 1996, what the Springvale wells were pumping, and what the lake elevation was. In all, this summarizes how the original regional model was developed. Since then, there are new and different T-25 Area pumping arrangements that required testing against the model, new extraction and monitoring wells were added in 2003.

Dr. Young then discussed how the new data has changed the model. He looked at the old model and compared it to actual data collected at wells since 1998. What is being measured is the pressure head, from which water flow can be determined. With the model, he can, for example, alter the amount of water being pumped at Springvale and what affects such a change might have on groundwater flow. He stated that, over the course of a month, water table values will fluctuate about half a foot on average due to rain fall. What is important to note is that there are different flow fields in top layers then middle layers, with different properties responding differently to the varying lake levels. There are enough monitoring wells to look at numerous layers. At deep levels, we now know that the water table diversion does not exist, for example.

Dr. Young then advanced the model 5 years to the current T-25 Area pumping scenario. More wells have been added and they are pumping at different rates. You can see the change in the plume. Different scenarios under different conditions are explored, utilizing data often combined from multiple surveys over the course of a month. The average error here is about 1 foot. There is

roughly a 40 foot range in water table measurements. The next step is to refine the model to a higher detail specific to Building 22 and Building 36. In this more detailed view, grids are broken down into 25 square foot sections. In this more detailed look, he provided both an original transport model in red and an updated, larger transport model in blue.

Dr. Young next showed the concentration levels in the plume around Building 22 and Building 36. It should be noted that the depression of silt still contains contaminants. In theory, non-aqueous phase liquid (NAPL), or heavy particles, fall down into the depression due to gravity and don't follow groundwater flow. The residual that the NAPL leaves takes away from the mass. The silt is performing a service, therefore, by containing these contaminated particles in its depression. However, the transport times are so long because of the silt. This is why the estimated cleanup times discussed by MACTEC stretch as long as 650 years. HRC is being examined for this reason, as it is hard to pump the low flow areas. The next slide showed the maximum concentration of the plume combining all of the layers into a more simplified depiction, for each of the six alternatives. The model shows how the plume reacts to pumping options, including containment pumping. The efficiency of the wells is relative to the plume concentration and relative to how permeable the aquifer deposits where the wells are located are. In designing the pumping scenarios, objectives include protecting the lake, cost, removal, and containment. To standardize the results, all pumping scenarios occur at a total of 20 gallons per minute.

Dr. Czeisler asked why there was a well located away from a hot spot.

Dr. Young replied that approximately 7 well location alternatives were tried, and the hydraulics simply worked best where the well is currently modeled. He pointed out that on the HRC model, they were able to aggressively address hot spots under buildings.

Mr. Miller asked if the accumulation of material in the depression discussed earlier was immune to cross flow.

Dr. Young stated that the mechanism for the materials going into the depression is gravity, which is much quicker than the groundwater flow mechanism required to move the material once it deposits in the depression. The material is dissolved in the water, but gravity still rules here. There is not a pure phase blob falling down and displacing material.

Dr. Czeisler asked why the centerline has 6 pumping wells and the hot spot has 4.

Dr. Young replied that you have to design, at times, to the capacity of the treatment facility. You also have to be aware of wells competing against each other. He noted that the controlling issue is the area that will take the longest to pump out, not the shortest.

Dr. Young then provided model prediction PCE results from all T-25 Area pumping and monitoring wells that showed at least one measurement above the MCL of 5 parts per billion of PCE. He noted that there is a spike when you turn off or turn on the pumping wells. The goal is for the model to be within 10% of the actual value, and the model seems to predict within this goal.

Dr. Young then showed a 27-year simulation of the T-25 Area PCE plume based on a newly calibrated model going as far back as 1998. As you go forward in time, wells turn on and off, causing an obvious effect. At 10 years, the wells go off (as originally planned), and natural attenuation continues. There is still a little bit of mass left at the end of the 27-year simulation, and this mass had not been there in earlier predictions. However, it is certainly possible to pump longer, change the pumping rates, or make other changes to speed up or complete the process.

Mr. McHugh stated that 10 years is arbitrary in terms of shutting off pumps.

Dr. Young next showed data from each pumping and monitoring well as before, this time concentrating on TCE instead of PCE.

Dr. Czeisler asked Dr. Young to explain the concept of drawing new ground water in from somewhere else when you turn pumps on.

Dr. Young replied that that is not always the case, but here it was.

Dr. Czeisler asked how you know that cleanup actually occurred when you then turn the well off.

Dr. Young replied that there is no such dilution in the monitoring wells even if they are near pumping wells. Water can only go so many different ways to match the data that have been collected. If you pump and the levels go up, you need to know where the contaminated water came from. If you pump and the levels go down, you need to know what the source of clean water is, because such clean water is the only reason for the drop. The longer you get monitoring data, the better the model.

Dr. Young then showed another 27-year simulation of the TCE plume. He stated that there are 4 new monitoring wells to the north of the site, since the last time he presented, including one in the deeper C-interval. The model results accurately predicted the contaminant concentrations at this new deeper well, and we now have a pretty good understanding of the groundwater flow in this area.

Mr. Kaltofen asked if the maximum concentration in all of the layers was being presented.

Dr. Young replied in the positive.

Mr. Kaltofen asked how the northwest boundary was interpolated.

Dr. Young replied that there are a couple of ways to interpolate. We know that roughly 60% of the water going into the Springvale wells is from the lake. There is a 2 or 3 to 1 dilution factor. As the plume approaches the lake, clean water is coming in, and causing significant dilution. There is probably some mass going up there, but the dilution factor is huge. This was known by the USGS.

Mr. Kaltofen asked if the layer is receiving water vertically and horizontally.

Dr. Young replied in the positive. When the model was calibrated, there was a stable isotope analysis showing 55% to 75% of the water was coming from the lake depending on seasonal variations. The same data are shown in the modeling results. Dr. Young noted that at 27 years, some levels are still at 10 ppb because additional mass is in the model. Again, maybe it means pumping a few more years.

Dr. Czeisler asked why pumping at Lakewood Road or Fisher Street at Year 15 was not a possibility.

Dr. Young replied that the Army is open to discussing any ideas, and they are already planning to examine data at various data points.

Dr. Czeisler stated that he was concerned about the ranges in this or any model, especially when there are few data points up north. There used to be a small pump building in the 9/27 shopping plaza for about 8 years, with a beeline for the Springvale wellfield. He asked if that would be a good investment, because the downside is high.

Dr. Young replied that the wells recently placed in the north are there to monitor against just such a downside.

Dr. Strauss asked if the blue in the model is 90 feet down.

Dr. Young replied that it is roughly 60-70 feet down.

Mr. McHugh responded to Dr. Czeisler's earlier question, stating that it is in the Army's interest to look at different options and that they will look at all options.

Mr. Kaltofen stated that the animation at Year 11 explains why Natick Labs is a Superfund site. Everything else we have done has been to manage where the plume goes. We did a lot of things, but this is the A priority, even more than the dioxin.

Laughter

Dr. Young summarized that it may take a few more years of pumping as a result of new data showing higher mass. He noted that there are steps under consideration that can speed things up.

Mr. Miller asked if the 38 lbs of PCE and 75 lbs of TCE discussed earlier is an original estimate.

Dr. Young replied this is what existed January 1998. About 80 to 85% of that mass will be removed in both cases.

Dr. Czeisler asked if the arbitrary Year 10 pump shut down was used in the estimate.

Dr. Young replied that that was the original design and it was run on the base case example, but that actual field sampling data will determine how long the actual pumping occurs.

Dr. Czeisler asked how long Dr. Young thinks pumping should occur.

Dr. Young replied that 12 or 13 years total should suffice, but that it, again, would depend on the field sampling data, and not simply the model results.

Dr. Czeisler asked if it is possible to change pump shut off dates with this animation.

Dr. Young replied that the animation could not do that, but that it was possible to develop one that did. He noted that Mr. McHugh has already asked for such a presentation.

Mr. Miller asked if a copy of the presentation would be made available.

Mr. McHugh stated that a report discussing Dr. Young's presentation would be completed in about 30 days.

Dr. Czeisler asked if it would include the animation.

Dr. Young replied that Mr. McHugh would have the animation for those interested, once the

review process was complete.

Mr. Kaltofen stated that because of the current Year 10 pump shut down, he looked forward to another visit from Dr. Young as it should be on the agenda again before the 5-year review. He thanked Dr. Young and then turned the Chair over to Mr. McCassie.

Mr. McCassie introduced Mr. McHugh to discuss the new DOD proposed RAB Rule on performance based contracting.

DOD RAB Rule on Performance Based Contracting.

Mr. McHugh stated that in April's meeting, the DOD proposed RAB rule was discussed briefly. The DOD received comments from multiple sources. Changes have been made, particularly as it applied to guaranteed firm fixed price contracting. It will be published in the Federal Register for 30 to 60 days from now with 30 days after that for public comment. He noted that performance based contracting (PBC) had briefly been discussed in the past. The Army has started an initiative to incorporate PBC. Mr. McHugh introduced Ken Wiggins and Michael Kipp from the U.S. Army Environmental Center to discuss PBC. He asked if there were any other questions before they began.

Mr. Kaltofen asked if it was possible to get a draft of the RAB rule now.

Mr. McHugh stated that he did not have a current draft. He noted that he does not know anything about the draft beyond what he has already mentioned.

Mr. Kaltofen stated that the Town of Natick has put together a subcommittee that includes RAB members to make comments on the draft when finalized. They will ask about changes to the draft proposal. He asked if there was a way to be kept abreast of these changes without having to go through the Office of the Undersecretary.

Dr. Strauss stated that it was not worth forwarding until the new proposed rule is out.

Mr. Kaltofen stated that he needed something to give the new subcommittee if they are to hold off on comment for up to 60 days.

Mr. McHugh stated that he could put what he just said in writing for Mr. Kaltofen, copying the Town representative.

Dr. Strauss stated that the process would likely go beyond November.

Mr. Kaltofen stated that he was aware of this.

Mr. McHugh introduced Ken Wiggins.

Mr. Wiggins stated the presentation he is giving is a shortened version of one presented on the Army Environmental Center website providing general information. He stated that the purpose of PBC is not privatization of cleanup programs, but rather just another method of contracting to do the kind of work that is already being contracted. The Army will maintain oversight, management, and responsibility for the program. The roles of the various stakeholders do not change. The PBC initiative is not changing process, just introducing a new way of doing contracting. It is not a cure all to be applied across the board, just something to look at each installation to see if it applies, going forward with it if it does. PBC is not a new concept, it is not

the Army's idea, and it is not unique to environmental programs. It is born of reforms mandated by the Government Performance and Results Act, the Federal Acquisition Streamlining Act, and the President's Management Agenda. In 2002, roughly 1/4 of DOD contracts were performance based. As the Army began to award PBCs in the last fiscal year in association with the Installation Restoration Program, they consisted of about 10% of the program. This year and next year, the Army is looking to increase that percentage.

Mr. Miller asked when the President's Management Agenda was developed.

Mr. Wiggins replied that it is President Bush's agenda. He stated that PBC is a means of soliciting bids from offerors based on results instead of activities...what, not how. The objectives for a PBC include items like "achieving response complete" instead of outlining the steps the contractor is expected to take to achieve that end result. The focus is instead on achieving the end goal by a certain date, leaving it up to the contractor to propose the necessary steps that they would follow. Within the Army's environmental PBC program, there are three performance objectives. The first is response complete at a site, where the remedy has been constructed, operated, has achieved results, leaving only the possibility of long term monitoring as an additional task. The second is putting a remedial remedy in place where the remedial action has been constructed and is operating but has not achieved final cleanup goals. An example would be a pump and treat system. The third is long term monitoring and successful 5-year review, occurring after response complete. The PBC concept requires continued monitoring of the contractor for performance. The Army is not merely washing its hands of the program and expecting results. Nothing has changed in the way that contractors are monitored.

Mr. Campbell asked if PBC is contracting for services on remediation or long term monitoring tasks, and not assessment tasks.

Mr. Wiggins replied that a piece of the pre-decision phase could be incorporated, such as doing a feasibility study. If a program is well characterized and the path forward is clear and presumptive, then it is an ideal candidate for the PBC initiative. It allows the contractor some flexibility and innovation when looking at alternatives for accomplishing the remedy.

Dr. Strauss asked if PBCs are guaranteed fixed price or cost plus.

Mr. Wiggins replied that, to date, all awarded PBCs had been guaranteed fixed price, generally with insurance, though other forms were possible.

Dr. Czeisler stated that in a PBC fixed price feasibility study, the contractor would have no incentive to do extra work, as the contractor would lose money if any contingencies arise.

Mr. Wiggins stated that not all sites lend themselves to PBCs. When you have complicated groundwater issues, PBCs might only apply once a decision document (e.g., Record of Decision) is completed. It applies well to the feasibility stage when the program is straight forward, well characterized, and it lends itself to presumptive remedies.

Mr. Campbell stated his concern over the appropriateness of a PBC when the site still has numerous questions outstanding that would require a flexible investigation.

Mr. Wiggins stated that PBC may not apply in such a scenario.

Ms. Williams asked if there is an opportunity for the RAB to be involved with a contractor who has a PBC at the feasibility stage to ensure that the 9 criteria, one of which includes public

participation, is adequately met.

Mr. Wiggins replied that PBCs do not change that process.

Mr. Kaltofen asked how having a PBC in place prior to completion of a ROD would affect things like the discovery of new contamination under Building 22 and Building 36 and other issues that didn't come up until well into the feasibility study process, such as the importance of background site selection and looking at different remedies. He asked who would have to go to the insurance company if the PBC were in place prior to the completion of an FS.

Mr. Wiggins replied that the contractor is required to file a claim against insurance that they have purchased in the event of contingency. There are two types of conditions. The first covers a known site that ends up with a greater extent, higher concentration, or unknown contingencies. The second type provides coverage for unknown sites. To date, the first type of insurance has been required. The bidder can combine insurance if there is a possible benefit to the Army and the contractor demonstrates in the proposal why both types of insurance are a benefit. Coverage is typically 100% of the cost of the contract.

Mr. Kaltofen stated that in the case of background site selection, we would not even be involved in that process as it deals with a what, not a how. Finding a completely new site means going to the second form of insurance but that isn't required. If the insurance company denies a claim, we wait for the contractor to successfully sue the insurance company.

Mr. Wiggins stated that an unknown site would likely be contracted separately, avoiding that problem.

Mr. Kaltofen asked if the PBC is therefore based on the achievement of certain goals at known sites, but if there is a different release in the same area, then the Army has a new PBC.

Mr. Wiggins stated that that would be correct if there was no insurance for an unknown site.

Mr. Kaltofen asked if there was a change in conditions such as the higher mass that Dr. Young described earlier; it would fall under the first type of insurance.

Mr. Wiggins replied in the positive.

Mr. Kaltofen stated that the host community picks up risk. Either the community is waiting for insurance company to pay out or they are not involved in how the remediation process is selected.

Mr. Wiggins stated that they are attempting to anticipate uncertainties. He noted that things are no better or worse under the existing system, wherein if you find an unknown site, you still have to modify the contract or find a new contractor.

Dr. Czeisler stated that the situations would be different, because if the new work exceeds the value of the contract, the contractor will run out of insurance.

Mr. Wiggins stated that the Army would pay for anything above 110% one time in that case.

Dr. Czeisler stated that insurance companies are not going to insure the contractor without some contingency that they do their initial assessment properly, digging enough wells and so on, leading to litigation.

Mr. Wiggins stated that such an issue has not arisen in the PBCs awarded so far. The contractor has had experience performing PBCs in the private sector and has only had to use insurance once or twice with no problem either time. There are many hypotheticals, but the way that the requirement is structured leads him to not anticipate a problem occurring.

Mr. Kaltofen asked how many PBCs the Army has done for feasibility studies and remediation.

Mr. Wiggins replied that 18 PBCs had been awarded to date. Nine have been part of the base realignment program and nine in the installation restoration program. Some are just for remedial action, some include feasibility, some are just for optimization and long term monitoring.

Mr. Kaltofen asked how many contractors have done feasibility and remediation under PBCs to date.

Mr. Wiggins replied that he is only aware of the PBCs awarded in his branch, of which one involves a feasibility stage.

Dr. Czeisler asked how many contractors received those 18 contracts.

Mr. Wiggins replied that there are at least four companies performing those 18 contracts.

Mr. Kaltofen asked if all of those four had to deal with insurance in association with a PBC.

Mr. Wiggins replied that only the one company had to do so in the private sector.

Mr. Miller stated that he has real life experience of a company not wanting to do extra work on a fixed price basis. In this case, there were repeated problems in the realm of public housing construction in New York City. Awards were invariably given to the low bidder, and the low bidder pitched a price under their costs to get the contract in the first place. As such, when they found a problem, they did not report it until it became a big enough problem to re-price the contract at a reasonable profit. They could have reported the issue before it became a big problem, but it made no sense for them to do as such. This lasted at least the 20 years that he watched.

Mr. Wiggins stated that the Army has rigorous criteria for evaluating bidders. Because oversight of the contract is the same as on current contracts, they don't anticipate problems.

Dr. Strauss asked how it was possible for PBCs to save money when contractors are paying insurance premiums.

Mr. Wiggins replied that premiums running between 8-13% of the cost of the contract. The 18 contracts to date have run roughly 15% below the cost to complete level of other contracts despite this.

Mr. Pessin stated that if he were a contractor, he'd be loathe to bid on this type of contractor as there are too many variables.

Mr. Campbell stated that the contract is likely so tightly drawn that the contractor is not going to do something outside of the scope without getting a change order.

Mr. Wiggins stated that PBCs are designed to limit change orders.

Mr. Campbell asked if PBCs allow change orders.

Mr. Wiggins responded in the positive.

Dr. Strauss asked where the savings comes from.

Mr. Wiggins replied that the savings come from combining design, implementation, and 5 years of operation into a single package with savings on both sides. They also try to combine multiple sites into one package to make it attractive for bidders.

Dr. Strauss asked if they were single operational units.

Mr. Wiggins replied that they were not.

Dr. Czeisler stated that his concern is that the biggest savings that the Army may be trying to achieve results in a realignment of incentives. In the current system, the contractors have incentives to find problems. In a PBC, they do not, and this might be deliberate by the Army.

Mr. Wiggins stated that his experience has been that most of the contractors work in good faith. The Army is looking to get away from a lack of incentive to complete. The incentive is to get it right the first time. He then stated that the intent of the PBC is to try and improve the cost and schedule performance without sacrificing cleanup effectiveness. There is a greater certainty of budget and schedule. The liability is capped at the amount of the contract. In the current system, funding is adjusted on an annual basis. When the budget and schedule are capped, the Army knows it won't change. Cleanup is expedited by staying on schedule, not cutting corners. A lot of problems result from schedule slippage. A PBC leads to a greater commitment to staying on schedule.

Mr. Kaltofen stated that during his work on the Central Artery Tunnel, they let out a lot of PBCs. A great majority of what they worked on was change orders. He asked how that works.

Mr. Wiggins stated that it is a similar process to contract modification. There is a mechanism for change orders built into the system.

Mr. Kaltofen asked how the public and the RAB involve themselves in that process.

Mr. Wiggins replied that it would be done through the same process as occurs now.

Mr. Kaltofen asked if this would occur before negotiating with contractor over a change order, there would be a period of public comment.

Mr. Wiggins stated that the stakeholders would have to agree, but he is not sure if there is period of public comment associated with this phase of the contract process. Modification is for work that needs to be done not currently covered in the PBC.

Mr. Kaltofen asked if the RAB was no longer dealing with the how, just with the remedial goals.

Mr. Wiggins replied in the positive.

Mr. McHugh stated that the same phases under which the contractor submits work plans to the RAB exist under the PBCs.

Mr. McCassie stated that there is still public comment.

Ms. Williams asked if any of the timing would change between the RAB, the regulators, and the Army.

Mr. Wiggins replied that nothing changes as far as the process. He went on to describe the roles of PBC stakeholders including regulator participation in the initial scoping meetings, the draft performance work statement, the bidder's site tour, and technical evaluation of the bidders.

Mr. Pessin asked what is meant by regulator.

Mr. Wiggins replied state and EPA officials.

Mr. Pessin asked if the RAB was involved.

Mr. Wiggins replied that they are apprised of progress.

Ms. Williams asked if they are allowed to comment on documents.

Mr. Wiggins replied that they could comment on documents that are not procurement sensitive. Regulators, as public officials, participate in that effort, but they are not allowed to discuss details of the performance work statement or the activities.

Mr. Kaltofen asked if the RAB is excluded from participating in the adoption of the performance measures of the contract before they are finalized.

Mr. Wiggins stated that that is correct.

Mr. Kaltofen stated that that is a significant change.

Dr. Czeisler stated that he and Mr. Miller served on an advisory committee dealing with an invasive plant species. The group asked the State what the course of action was. The State decided to issue a contract. The contract was not issued for a year. The performance work statement was negotiated between the State and the bidders during that period. By the time the contractor was selected, they had priced and been contracted to perform a specific plan. When the plan was presented to the advisory committee, there was no opportunity to affect change. This was unsettling because they had been meeting for a year.

Mr. Wiggins stated that the performance work statement just has the objective for a particular site and asks for offers to submit a bid on costs to achieve that.

Dr. Czeisler stated that in order to respond to that, the contractor must already select and price the means to meet the goal. Because they have priced it, they are now committed to those means.

Mr. Wiggins stated that Dr. Czeisler's example applies to a site where the ROD or decision document hasn't been issued. They still have to get approval for the proposed process through the normal means.

Mr. Miller stated that because of the delay, the only option was to wait until the next summer if they wanted to discuss it further. In real life, the committee was dialed out of any practical level of involvement.

Mr. Kaltofen stated that what's missing in this document is the understanding that the regulator is the representative of the RAB, just as the RAB is the representative of the community. They are not a separate species from RAB members. The RAB members need to have ultimately the same goal. In developing the PBC format, it appears that the regulator has been divorced from this role. The amount of information made available to the regulator versus the RAB is disappointing. There is nothing that the regulator has access to that a member of the community cannot also access through the freedom of information act (FOIA). The purpose of the RAB is to eliminate the red tape required for that access. As this has been laid out, the roles of the regulator and the public have been changed and are assuming a relationship between the regulator and the public that isn't there. He does not want to go back to having to negotiate this issue without the functionality of the RAB.

Mr. Wiggins stated that, as the next slide shows, it is the Army's belief that there is no change in the role of the RAB. The activities that existed prior to PBC are still in place. He doesn't agree that the role of the regulator has been changed or that the RAB has been separated.

Mr. Kaltofen asked if Ms. Williams had previously stated that the regulator could not disclose certain things to the RAB.

Mr. Wiggins replied that the performance work statement cannot be disclosed and the regulator's involvement in the technical evaluation of the contract cannot be disclosed.

Ms. Williams asked if the non-disclosure of the technical evaluation was a Federal Acquisition Regulation (FAR).

Mr. Wiggins replied in the positive. There are no RABs involved in technical evaluation of contracts.

Ms. Williams stated that perhaps more public involvement after a decision has been made is required so that the RAB has an opportunity to buy into the remedial action.

Mr. Wiggins acknowledged Ms. Williams.

Mr. Pessin stated that all of the documents created by or available to the RAB are available to the public. He asked if this would change.

Mr. Wiggins replied that it would not.

Mr. McHugh stated that, for example, when he does a contractor modification, the RAB does not see the scope of work now. However, the RAB does communicate about the general parameters of the scope of work.

Mr. Wiggins stated that that would not change.

Mr. Pessin asked for confirmation that anything discussed at these meetings would still be available to the public.

Mr. Wiggins replied in the positive. He then went on to discuss the Army's responsibilities in PBC. The Army retains responsibility over the program as before. Responsibility is not being handed over or privatized in any way. The process followed for PBC implementation includes: the first step is installation prioritization, followed by preliminary planning, and preparing for the site scoping visit in which it is determined if the site has any PBC viable sites.

Mr. Campbell asked if the Army has a list of approved contractors.

Mr. Wiggins replied that they are currently working through Northern Region Contracting Center utilizing contractors on a GSA list.

Mr. Campbell asked how a site with a long history with a contractor who might not be on that list would be approached.

Mr. Wiggins replied that the first criterion is technical acceptability.

Mr. Pessin asked if, under a GSA schedule, does not the GSA merely provide 4 contractors to choose from?

Mr. Wiggins replied that they prefer to have a full and open process to increase the competition and quality of bidders.

Mr. Miller asked how exclusive the list of contractors would be. Some good contractors who have worked here see too much overhead in some of the formalized bidding process. He wondered if they would merely be presented with a big business solution every time.

Mr. Wiggins stated that the Army has no control over who bids, but they do want to make it attractive and competitive.

Mr. Miller asked if a PBC system would change that, setting up new guidelines that may shift the way that the small companies exist now.

Mr. Wiggins responded that the Army is looking for contractors with certain capabilities depending on what phase is being awarded. Companies can meet the larger demands of the PBC by teaming if they do not have in house capabilities. It is no different than the current system.

Mr. McCassie asked if past technical performance was part of the evaluation.

Mr. Wiggins responded in the positive.

Mr. Miller stated that he is worried about other factors creeping in and removing companies from the selection process.

Dr. Czeisler asked if megafirms will be a necessity.

Mr. Wiggins replied that PBCs are not limited to large firms, as there are small business set asides where applicable.

Mr. Kaltofen asked where the RAB integrated with the PBC implementation process.

Mr. Wiggins replied that they were involved in everything after site scoping associated with procurement, so that is all procurement sensitive. The site visit is open to everyone. Proposal evaluation is procurement sensitive.

Mr. Kaltofen asked if that meant that the RAB became involved afterwards.

Mr. Wiggins replied that they are involved in everything up to the site scoping and everything

beyond that is procurement sensitive.

Dr. Czeisler stated that the problem is that it is not normal because the contract is fixed price. As such, the contractor has to have a plan. When the process at this site began, a plan had not yet been determined.

Mr. Wiggins replied that the way the contract is structured, there are three basic contract line items: Pre-ROD, post-ROD, and long term monitoring. Each line item is for a separate amount, and each subsequent amount is an option. In the pre-ROD or FS stage, if something does drastically change, the contract would have to be modified.

Mr. Kaltofen stated that the parallel to the current process would be RAB involvement beginning after the ROD was signed.

Mr. Wiggins stated that if the feasibility study is not yet completed, then the RAB's involvement would begin at the feasibility stage.

Mr. Kaltofen stated if the methods and approach are going to be selected and evaluated prior to award of contract, it's essentially the same thing as including the RAB after the ROD is signed. This runs counter to the mission of the RAB.

Mr. Wiggins stated that, as he mentioned earlier, there is no clear path as far as what the remedy is. Such a site is probably not a candidate for PBC.

Mr. Kaltofen stated that it does beg Dr. Strauss's earlier question of where the cost savings are. He is unsure how you can remove flexibility, but remain flexible.

Mr. Wiggins stated that flexibility exists where there is a clear path forward as far as a presumptive remedy. It is possible that the contractor may have an innovative or new approach in that scenario.

Mr. Kaltofen stated that, as was discussed earlier in regards to Building 22 and Building 36, the really innovative stuff likely does not have the track record required for implementation.

Mr. Wiggins stated that there are some sites that don't lend themselves to PBC. The Army is not trying to apply it across board at all installations, which is why they perform a site scoping for each installation.

Dr. Czeisler asked if there is a mechanism for citizens to protest if a site is selected for a PBC.

Mr. Wiggins stated that complaints could be made through the RAB process. The Army is not looking to make a decision as to what remedial action is, just trying to apply a contracting approach, which is the Government's prerogative. Comments have been received in the past. The Army is looking to improve the process with input from the various stakeholders. We welcome any ideas to improve the process.

Dr. Czeisler stated that the Army should meet with the RAB after site scoping.

Mr. Wiggins stated that there is an Action Report made available to the RAB.

Dr. Czeisler asked if a draft could be made available before the report is final.

Mr. Wiggins replied that the report is made available before a decision is made.

Dr. Czeisler asked if the Army would formally present their decision and reasoning before the RAB.

Mr. Wiggins replied that they would.

Mr. Kaltofen stated that the nature of the cleanup and the way that specific goals were prioritized in remediation and even some of the technical details of how those goals would be met was worked out with the inclusion and comments of the RAB. The cleanup that has resulted has been more effective. While it may be the prerogative of the Army to not involve the RAB in certain areas, it may not be wise. It is important to remember that for all of the technical capabilities of the contractor, nobody is more motivated and knowledgeable about the area than the community.

Mr. Wiggins stated that he does not believe that the Army is excluding the RAB from those activities with which they have been involved in the past. He hoped that seeing the Action Report would help to alleviate some of the concerns expressed this evening. The intention is not to implement PBC where it does not make sense.

Mr. Miller stated that PBCs might be more applicable when the RAB is less active or assertive. He does not see assurances that community expectations will be met by this program. He believes this RAB expects to have changes develop on a regular basis, and how the RAB is incorporated into developing those changes is a major place where those assurances are not there at this time. Finally, he is concerned nationally that PBCs seem to discourage RABs from continuing to meet after the project is completed, beyond the 5 year reviews.

Mr. Kipp stated that it would be helpful for the RAB to speak to the RAB at Fort Devens, where a PBC is currently in place. The Fort Devens RAB is very involved.

Mr. Miller asked how long the PBC had been in place.

Mr. Kipp replied approximately 2 years.

Dr. Czeisler asked who the contractor is.

Mr. Kipp replied that the contractor is Arcadis.

Mr. Wiggins stated that the last slide provides a link to the Army Environmental Center's website. There is additional information available there including Frequently Asked Questions.

Mr. McCassie asked if there were any other questions. He thanked him for his time. He asked if there were any public comments.

Public Comments

Mr. Miller asked if this was the time to address his changes to the April 2004 minutes.

Mr. Connolly replied that everybody got a copy of the changes proposed by Mr. Miller. The Army's intention was that they be talked about.

Mr. Kaltofen stated that he had neglected to make a motion to accept the minutes. He so moved to accept the minutes as amended by Mr. Miller.

Mr. McHugh stated that Mr. Miller's two new action items were still to be discussed, and felt that they should not be included in the amended minutes.

Mr. Kaltofen accepted the minutes as amended, minus the two action items pending a discussion to follow the close of this meeting.

Mr. McCassie seconded the motion. There were no objections.

Mr. McCassie then tentatively scheduled the next meeting for September 2, 2004.

The meeting was adjourned at 10:43 PM.

Action Items

1. Dr. Czeisler asked if it was worth using HRC on the T-25 Area to accelerate it.

Mr. Reed and Mr. Rustad stated that they were not familiar enough with the T-25 Area to give an answer.

Mr. McHugh stated that using HRC on the T-25 Area is something that can be investigated and discussed during the forthcoming 5 year review.

2. Dr. Czeisler asked why pumping at Lakewood Road or Fisher Street at Year 15 was not a possibility.

Dr. Young replied that the Army is open to discussing any ideas, and they are already planning to examine data at various data points.

Dr. Czeisler stated that he was concerned about the ranges in this or any model, especially when there are few data points up north. There used to be a small pump building in the 9/27 shopping plaza for about 8 years, with a beeline for the Springvale wellfield. He asked if that would be a good investment, because the downside is high.

Dr. Young replied that the wells recently placed in the north are there to monitor against just such a downside.

Mr. McHugh responded to Dr. Czeisler's earlier question, stating that it is in the Army's interest to look at different options and that they will look at all options.

3. Mr. Miller asked if a copy of the presentation would be made available.

Mr. McHugh stated that a report discussing Dr. Young's presentation would be completed in about 30 days.

Dr. Czeisler asked if it would include the animation.

Dr. Young replied that Mr. McHugh would have the animation for those interested, once the review process was complete.

4. Mr. Kaltofen asked if it was possible to get a draft of the RAB rule now.

Mr. McHugh stated that he did not have a current draft. He noted that he does not know anything about the draft beyond what he has already mentioned.

Mr. Kaltofen stated that the Town of Natick has put together a subcommittee that includes RAB members to make comments on the draft when finalized. They will ask about changes to the draft proposal. He asked if there was a way to be kept abreast of these changes without having to go through the Office of the Undersecretary.

Dr. Strauss stated that it was not worth forwarding until the new proposed rule is out.

Mr. Kaltofen stated that he needed something to give the new subcommittee if they are to hold off on comment for up to 60 days.

Mr. McHugh stated that he could put what he just said in writing for Mr. Kaltofen, copying the Town representative.

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