FINAL

Meeting Minutes

Meeting Subject: Norwalk Tank Farm Restoration Advisory Board (RAB) Special Meeting	**Meeting Date**: **28 September 2006** **Meeting Time**: 6:30 p.m. **Meeting Place**: Norwalk Arts & Sports Complex

RAB, PROJECT TEAM, AND OTHER ATTENDEES

RAB Community Members
E. Garcia
B. Hoskins
M. McIntosh (Co-Chair)
W. Miller
W. Sterner
T. Winkler

Other Members
A. Figueroa (City of Norwalk)
E. Erickson (RWQCB)
J. Holdren (City of Cerritos)
Lt. Col. Ramer (DESC-AMW) (Co-Chair)

Other Attendees
H. Amini (Geomatrix)
J. Brady (Geomatrix)
S. Cain (RWQCB)
B. Cardenas (Office of G. Napolitano)
M. Cervantes (Office of M. Escutia)
S. Chou (Geomatrix)
A. Deierling (CB Richard Ellis)
S. Gandhi (Parsons)
R. Hassan (Parsons)
N. Irish (The Source Group)
K. Kirby (CB Richard Ellis)
B. MacDonald (The Charles Co.)
S. Martin (KMEP; attending for M. Pitta)
K. Olowu (DESC)
T. Whyte (URS)

Absentees
D. Caughey
N. Matsumoto (WRD)
M. Pitta (KMEP) (Co-Chair)

Not Attending
Dr. Duran (OCCS)
Dr. Landolph (OCCS)

Acronyms:

DESC-AMW	Defense Energy Support Center Americas West
GSA	General Services Administration
HHRA	Human Health Risk Assessment
KMEP	Kinder Morgan Energy Partners
LNAPL	Light non-aqueous phase liquids
MTBE	Methyl tertiary butyl-ether
OCCS	Offsite Chemicals Cleanup Subcommittee
1,2-DCA	1,2-dichloroethane
RAB	Restoration Advisory Board
RBCA	Risk-Based Corrective Action
RWQCB	Regional Water Quality Control Board
SVE	Soil Vapor Extraction
TPH	Total petroleum hydrocarbons
URS	URS Corporation
WRD	Water Replenishment District of Southern California

BACKGROUND

DESC-AMW and KMEP are conducting environmental cleanup activities at the area in and around the former Defense Fuel Support Point Norwalk, also known as the Tank Farm, located at 15306 Norwalk Boulevard, Norwalk, CA. The RAB is an advisory committee of local citizens and project members that reviews and comments on documents relating to the environmental cleanup. All RAB meetings are open to the public and are scheduled quarterly on the last Thursday of the month at 6:30 p.m. in January, April, July, and October unless otherwise voted on by the RAB community membership.

MEETING MINUTES **28 September 2006**

1. Introduction Mary Jane McIntosh, Community Co-Chair, Meeting Chair

Mary Jane McIntosh called the meeting to order at 6:36 p.m. Ms. McIntosh asked the guests in attendance to introduce themselves. The review minutes of the July 2006 RAB meeting was tabled until the next quarterly meeting.

2. (a) Review of Revised Remedial Action Plans (RAPs) Shiow-Whei Chou, Geomatrix Consultants, Inc.

Shiow-Whei Chou distributed a handout from KMEP titled "Responses to comments received from the RWQCB [Regional Water Quality Control Board] and RAB [Restoration Advisory Board] on the draft report 'Second Addendum to Remedial Action Plan, Defense Fuel Support Point Norwalk.'" Elizabeth Erickson of the RWQCB said she would respond at a later date to the responses contained in the handout.

The first three comments in the handout were from the RWQCB. The first RWQCB comment regarded the need of Figure 2 to include the area of influence of the Soil Vapor Extraction (SVE) system, and the need of the RAP to describe the approach to eliminating movable LNAPL (light non-aqueous phase liquids, or free product) below the water table. Ms. Chou said that they would update the figure. Residual LNAPL will be removed by using a combination of SVE and total fluids extraction (TFE). When LNAPL thicknesses decrease to less than 0.5 foot, they anticipate lowering the water table using TFE and/or groundwater extraction to expose more soil to SVE.

The second RWQCB comment regarded the concentrations of methyl tertiary butyl-ether (MTBE) and 1,2-dichloroethane (1,2-DCA) being reduced to levels below human health concerns. Ms. Chou said that the maximum concentrations of MTBE and 1,2-DCA detected west of the site in May 2006 are below the conservative cleanup goals established in the Risk-Based Corrective Action (RBCA) Report.

The third RWQCB comment regarded location of wells and said that more emphasis needs to be placed on cleanup of the hydrocarbon plume under properties to the south of the site. Ms. Chou said that the proposed additional wells are in locations were residual LNAPL appears to remain. Based on May 2005 groundwater data, most of it appears to be on-site. KMEP will continue to monitor groundwater quality on- and off-site.

The next group of comments on the handout was from the RAB members. The first RAB comment asked how the five year objective was selected and if it is realistic. Ms. Chou said it was based on discussions with RWQCB. Ms. Erickson said that the five-year schedule did come from RWQCB. She said that after 10 years of delineation and 10 years of remediation, the site is not as far along as they would like it to be. Therefore, we now should be talking about the end game. Five years is not set in stone, but realistic. Bob Hoskins said he wants to nail down a time frame, since he has heard different schedules in the past, and now we are hearing about possible sale of the property. Ms. McIntosh said that no matter who owns the property, KMEP and DESC will still be responsible for cleanup.

The second RAB comment was that there needs to be more emphasis off-site contamination. Ms. Chou said that remediation of off-site areas is currently being addressed under previously developed remedial actions. They propose increasing TFE and pumping in the south-central area to control off-site migration.

The third RAB comment asked for an in-depth assessment of the remediation systems and justification of their effectiveness. Ms. Chou said that this will be clearer in the final draft. Mr. Hoskins requested that a section on phytoremediation also be included.

The fourth RAB comment asked if any other technologies were explored. SVE and TFE have been effective in remediating LNAPL. Other technologies will be considered after LNAPL remediation. Ms. McIntosh said that she was concerned that the RAP just adds more of the existing technologies and does not add new technologies. She needs to be convinced that the existing technologies will work to meet the five-year goal. Ms. Chou said existing technologies have been effective in removing much of the LNAPL. They looked at the existing technologies and evaluated why the effectiveness had dropped. Some of the well screens are

below the water table. The new wells will have new screen intervals, so they should be more effective. Eugene Garcia asked if it would be more effective to have the system run continuously, instead of a 4 to 6 month hiatus due to breakdowns. Ms. Chou agreed, saying that the entire system has been refurbished, so that breakdowns will be less likely to happen in the future.

The fifth RAB comment asked for details on steps to control off-site migration of contamination. Ms. Chou said that additional TFE wells on-site will be used to control off-site migration. Increased pumping will allow groundwater flow towards the site. Monitoring of groundwater quality will continue, and modifications will be recommended if conditions do not improve.

The sixth RAB comment was about the schedule for monitoring wells for the rebound test. Ms. Chou said that all SVE wells will be monitored on a monthly basis.

The seventh RAB comment was about the eastern area. Ms. Chou said that KMEP will continue to work with DESC on investigating and developing a remedial action for this area. Ms. McIntosh said she talked to Congresswoman Napolitano about this area. It is important due to its proximity to the park. Once the investigation is complete, she would like it to be summarized in an addendum to the RAP. Mr. Hassan said that they found higher concentrations in the park than on-site. They need to conduct further investigation in the park, so they need to check to see if they need a new access agreement. The source has not been identified yet.

The eighth RAB comment was about the KMEP plan for post-remediation testing and monitoring. Ms. Chou said that they anticipate one year of verification monitoring on a quarterly basis. Ms. McIntosh requested two years of monitoring, to be uniform with DESC's plan. Ms. Erickson said that the number of wells to be monitored will be determined when we get to that point.

The ninth comment asked to see detailed steps to be taken to ensure stability of pipelines in the future. Mr. Martin said that KMEP meets and exceeds federal and state regulations. Ms. McIntosh said she spoke with Mike Pitta, who told her that the tracer tests were completed recently, and there were no issues. Scott Martin from KMEP said that they take pipeline integrity seriously and pointed out that the cost for pipeline maintenance was small compared to the cost of remediating leaks. Lt Col Ramer said that he works with KMEP almost daily, and they are the most diligent company when it comes to pipeline upkeep.

The next five comments on KMEP's handout were from Ms. McIntosh and were overall comments on both RAPs (KMEP and DESC). The first was in regard to the lack of new technology proposed. Ms. Chou said that SVE and TFE have been effective in reducing LNAPL, but less effective in removing residual LNAPL. Removal of residual LNAPL will use the same technologies, but with more SVE wells with modified screen intervals, and with an expanded TFE well network. The second question was about prevention of off-site migration, which Ms. Chou addressed in a previous comment. The third comment was regarding the eastern area, which Ms. Chou said would be investigated with DESC. The fourth comment was about the rebound test schedule. Ms. Chou said it would be conducted on a monthly basis.

The fifth comment mentioned that cleanup goals were being proposed without a clear indication of expectations from RWQCB. Ms. Chou said that the general cleanup criteria in Section 6.3 were established in the RBCA report. Once they are met, discussions with RWQCB will be conducted to obtain site closure. Ms. Erickson then distributed a handout with state and federal water quality goals and with proposed cleanup goals for benzene, MTBE, 1,2-DCA, BTEX (benzene, toluene, ethylbenzene, and total xylenes), and TPH (total petroleum hydrocarbons).

Mr. Garcia asked about the contamination south of the Tank Farm, south of Cheshire Street. Ms. Chou said that they collected data in the area and will present it at the next meeting. Mr. Martin said that residential cleanup goals will be used for residential areas, and that the commercial cleanup goals would not apply. Ms. Erickson agreed, saying that residences with contamination under them would have to be cleaned up to residential standards. Wanda Sterner asked if wells would pull vapors back on-site. Ms. Chou replied that

there is more vapor on-site, so that is where the wells are proposed. Lt Col Ramer asked about the standards on the chart that Ms. Erickson distributed. Ms. Erickson said that the water standards were for drinking water, and soil was using industrial standards. Lt Col Ramer said that the groundwater beneath the site would probably not be used for drinking water, at least not for many years. Ms. Erickson said that that is what is in the regulations. Even if it is not being used for drinking water today, it still needs to be cleaned up as best as possible. Ms. Sterner pointed out that the trees on her property are drinking the water. Lt Col Ramer said that the contamination will not get into the drinking water, and that drinking water levels probably cannot be achieved for the aquifer 25 feet down. Mr. Hassan said that drinking water wells are very far below the aquifer that has the contamination. The aquifer with the contamination is not used for drinking water.

Next Ms. Chou responded to an earlier question from Tracy Winkler on why laboratories use elevated reporting limits. Ms. Chou said that sometimes the lab needs to dilute the sample. Then they would need to multiply the detected concentration by the dilution factor. Geomatrix is conservative when preparing the related contour maps.

2. (b) Review of Revised Remedial Action Plans (RAPs) Redwan Hassan, Parsons

Mr. Hassan distributed a handout with Parsons' responses to RWQCB and RAB comments on their RAP. Mr. Hassan said that the five year plan was from RWQCB's request. He also referenced the table that he presented at the previous meeting, with scenarios for the status quo, and completing remediation a 1 year, 5 years, and 8 years. The economic component of these scenarios showed that costs for the 1 year option would be exponentially higher.

Mr. Hassan next began a PowerPoint presentation. He said the purpose of the revised RAP was to develop a strategy to achieve site closure in the next five years. The goals in the original RAP, prepared in 1995, were to remove floating fuel product until only sheen remains, to reduce dissolved-phase concentrations in shallow groundwater to control off-site migration, and to reduce dissolved-phase concentrations to below clean-up levels (5,000 parts per billion). The 1995 RAP proposed total fluid (free product) recovery with 16 wells (others were added later); groundwater extraction with 8 wells; and SVE with two vertical and four horizontal vent wells, with an option to add more wells later and an option to convert to bioventing later. Subsequent actions since then included biosparging, with wells installed in 1999, 2001, 2004 and 2005, and the expansion of the SVE system underneath the tanks and into the Truck Fill Stand (TFS) area in 2004.

Mr. Hassan said that the free product recovery system has worked well with skimming pumps. Fuel thickness in wells has decreased, and the extent of floating product has decreased. Since Parsons came on the job about three years ago, there has been no product recovered, and there has not been an increase on product. Active fuel recovery is now asymptotical. Parsons recommends stopping active fuel recovery and recovering the remaining fuel with absorbent socks. Mr. Hassan then showed a map highlighting the free product remaining.

The SVE recovery has not decreased. Methane detected in the Tank Farm area shows that the system is not all aerobic. Parsons' recommendations include continued operation of the SVE system; adding more vents; and considering converting to bioventing if methane concentrations decrease. He next showed a SVE map which highlighted the methane concentrations. It showed that the levels are high enough to continue SVE in the central area. SVE has not started in the eastern area yet, but will soon. They hope to lower methane concentrations there and switch to bioventing.

With the groundwater extraction system, TPH concentrations in most wells are low or declining, but some are still high. Groundwater extraction has not been effective at mass removal. High concentrations on the eastern (wells GMW-59, GMW-60, GMW-61) and western boundaries (MW-14) may indicate off-site migration. Parsons recommends to continue groundwater extraction and to add new wells to prevent off-site migration. Mr. Hassan then showed a trend analysis map, which highlighted areas of high, decreasing, and low

concentrations of TPH. TPH has decreased in the central area.

Mr. Hassan said that results from biosparging show that TPH concentrations in most wells are low or declining, but a few are still high. Some areas have low amounts of dissolved oxygen (less than four parts per million). Parsons recommends additional biosparging at the eastern and western boundaries. Mr. Hassan showed a map with the dissolved oxygen concentrations and the areas that need more oxygen.

The revised RAP approach includes stopping active free-product recovery; the use absorbent socks to recover fuel in the TFS; additional SVE vents in various areas; new groundwater extraction wells for containment at the northeast and northwest boundaries; and new biosparge points for containment at the northeast and northwest boundaries.

Although not a part of the revised RAP, Mr. Hassan next gave an update on the Holifield Park and eastern boundary investigation activities. For the soil investigation, a direct-push rig was used to install soil borings. Soil samples were collected from 12 locations at 5 feet below ground surface (bgs), 10 feet bgs and 25 feet bgs. For groundwater extraction, hydropunch samples were collected from 12 locations. No hydrocarbon impacts were observed in the soil. Analytical results suggest that there are hydrocarbon impacts in groundwater from an unknown source. Hr. Hassan next showed a table of the groundwater analytical data. For borings 14, 15, and 16, the TPH as fuel, TPH as gasoline, and benzene concentrations were higher than anything found on-site. Therefore, it is possible that there was another source. He then showed maps highlighting the plumes as defined so far. Therefore, further investigation activities are necessary to delineate the extent of the plumes and to find the likely source. Mr. Garcia asked if they analyzed for compounds other than those shown on the chart. Mr. Hassan said no, since the sampling of the Goldenwest well in the park was non-detect, they had low expectations for this sampling event. They will take more samples and conduct a forensic analysis. No MTBE was found. Ms. McIntosh asked that Mr. Hassan contact the owners of the Goldenwest well and request a map of their pipeline and other information. She said that Goldenwest had a refinery on Carmenita Road, but now they are out of business; they were bought out by Thrifty Oil. Mr. Hassan said there were a couple of items to iron out: the access issue, and the need to sample closer to the nearby Dolland Elementary School. Adriana Figueroa said she would check into the access issue, and she suggested conducting the sampling near the school when school is not in session, such as after hours or on weekends.

Next Sumeet Gandhi of Parsons discussed some of the responses to comments. In regards to the question of why use the groundwater extraction system, he said that they looked at the data from the last 10 years, a pump test conducted in 1993, and other tests. They concluded that groundwater treatment (GWT) has successfully decreased free product (with the product removal pumps), and that off-site migration is an issue. GWT effectiveness can be increased by replacing product removal pumps with submersible pumps; by installing larger diameter wells; by increasing flow rate; and/or by using peripheral wells as injection wells. Mr. Gandhi next showed a map with locations of groundwater extraction. He said they will be changing the pumps and adding larger diameter wells. They will also be adding injection wells and groundwater extraction wells to prevent off-site migration. Mr. Gandhi then showed a map with the biosparge locations and areas of influence, including on the western and eastern boundaries and other areas. They also plan to install new biovent and SVE wells, and Mr. Gandhi showed a map with the modeled area of influence for these new well locations. They plan to concentrate on the areas with the higher impacts.

Ms. McIntosh said that the two presentations tonight did answer a lot of her questions and alleviates most of her concerns. She thinks the five year plan may be realistic for DESC, but she is not sure about KMEP. She said Mr. Pitta told her that KMEP is committed to the five-year plan.

Next Kevin Kirby of CB Richard Ellis discussed his companies' interest in the site and some of his background working at other cleanup sites.

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Mr. Garcia referred to figures 8, 9, and 10 of Parsons' plan and asked how the isoconcentration lines were drawn south of Cheshire Street when there are no wells in that area. Mr. Hassan said that they are interpreting data from wells GMW-O-4 and O-5, but the map scale needs to be revised and will be corrected.

Ms. Erickson said she is very pleased with all the work that has gone into these reports and the presentations. She recommends closing the comment period so they can finalize and implement the RAPs. She will summarize her comments and then discuss them with the technical team in a telephone conference. Her assessment right now is that the first step is to get LNAPL and the dissolved phase plumes contained within the property. She also said that from her calculations, she came up with fewer wells needed. However, she would rather use the consultants' numbers. Ms. McIntosh asked for everyone to get any final comments on the RAPs to Ms. Erickson by Tuesday, October 3.

Joe Holdren asked if the five year plan was etched in stone, or if the goals were not met, then what would happen. Lt Col Ramer said that five years is the goal. However, if it is determined that it would not be possible to meet the cleanup goals within five years, DESC would continue with the cleanup as long as needed until the goals are reached. Ms. McIntosh said that she got the same commitment from Mr. Pitta for KMEP. Mr. Martin added that KMEP will take additional steps down the road if needed to meet the five year goal.

3. Public Comment Period

A motion was made to adjourn the meeting. The motion was seconded and passed without opposition. Ms. McIntosh adjourned the meeting at 8:36 p.m.

ACTION ITEMS

Item	Responsible Party	Due Date
Final RAP comments due	All	10/3/06
Next Quarterly RAB meeting	All	10/26/06