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Meeting Minutes

Meeting Subject: Norwalk Tank Farm Restoration Advisory Board (RAB) Quarterly Meeting	Meeting Date: <u>27 July 2006</u> Meeting Time: 6:30 p.m. Meeting Place: Norwalk Arts & Sports Complex
RAB, PROJECT TEAM, AND OTHER ATTENDEES	
<u>RAB Community Members</u> D. Caughey E. Garcia B. Hoskins M. McIntosh (Co-Chair) W. Sterner T. Winkler	<u>Other Members</u> A. Figueroa (City of Norwalk) E. Erickson (RWQCB) J. Holdren (City of Cerritos) M. Pitta (KMEP) (Co-Chair) Lt. Col. Ramer (DESC-AMW) (Co-Chair)
<u>Other Attendees</u> H. Amini (Geomatrix) J. Brady (Geomatrix) S. Chou (Geomatrix) S. Gandhi (Parsons) R. Hassan (Parsons) B. Cardenas (Office of G. Napolitano) T. Whyte (URS)	DESC-AMW.. Defense Energy Support Center Americas West GSA..... General Services Administration HHRA Human Health Risk Assessment KMEP Kinder Morgan Energy Partners 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
<u>Absentees</u> N. Matsumoto (WRD) W. Miller	
<u>Not Attending</u> Dr. Duran (OCCS) Dr. Landolph (OCCS)	
<u>BACKGROUND</u> 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.	

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Introduction Mike Pitta, KMEP Co-Chair, Meeting Chair

Mike Pitta called the meeting to order at 6:42 p.m. Mr. Pitta asked for comments on the minutes of the April 27, 2006, RAB meeting. Mary Jane McIntosh made a motion to accept the minutes as written. Lt. Col. Jon Ramer seconded the motion. The motion passed without opposition.

Redwan Hassan introduced Sumeet Gandhi, a new Project Engineer for Parsons, who was in attendance. Shioh-Whei Chou introduced two new Geomatrix project personnel who were in attendance: Hassan Amini, Principal Hydrogeologist, and James Brady, Staff Engineer. Ms. McIntosh introduced Benjamin Cardenas from the office of Congresswoman Napolitano, and Tom Lynch, Assistant City Manager with the City of Norwalk.

Ms. McIntosh said that she received the Remedial Action Plans (RAPs) in the mail from Parsons and Geomatrix. She requested that a separate meeting be scheduled in September to go over the RAPs in detail. Elizabeth Erickson of the Regional Water Quality Control Board (RWQCB) said they have been working hard on developing these plans and would not want to delay the start of implementation. Mr. Pitta said that KMEP is ready to start as soon as RWQCB gives the approval. Ms. McIntosh said that the RAB would use the additional meeting to get a better understanding of the RAP. Wanda Sterner said that the RAB could give their tentative approval tonight, so no delays would be necessary. Ms. Erickson said that she will be reviewing the RAP over the next two weeks. She suggested that RAB members could email her their comments by September 5, 2006.

1. HHRA Update Mike Pitta, KMEP, and Shioh-Whei Chou, Geomatrix Consultants, Inc.

Mr. Pitta said that the RWQCB approved the sampling plan for the Human Health Risk Assessment (HHRA) for the Southern off-site area. Access agreements have been confirmed with occupants at 5 of the 17 proposed sampling locations. Last year, they had agreements at 14 locations, but the occupants have changed in several residences. Field work is scheduled to begin in the second week of August 2006, pending access agreements with the remaining properties.

Ms. McIntosh drafted a letter to the Office of Environmental Health Hazard Assessment (OEHHA) and handed it out the RAB members for review. Ms. McIntosh said she would incorporate the RAB's comments and send it to OEHHA.

2. KMEP Update Mike Pitta, KMEP, and Shioh-Whei Chou, Geomatrix Consultants, Inc.

Remediation Operations Update

Mr. Pitta displayed a map of the current remediation systems. He also showed two photographs of brush clearance that had recently taken place. Mr. Pitta said that since KMEP's Soil Vapor Extraction (SVE) System is 10 years old, it was in need of refurbishment. One part was even stolen recently. In May and June 2006, several parts were replaced, including: two 24" square catalyst cells; refractory material; the electrical panel, motor starters, controllers, relays, and fuses; the differential pressure transmitter; and the drive motor and an automated 10" process isolation valve / dilution valve on the system inlet. They also repainted the outside chamber. The blower was repaired in June 2006. The motor replacement was completed in July 2006. Currently, the system is awaiting the blower replacement. Mr. Pitta expects that system to be restarted in August 2006.

Mr. Pitta said the SVE System has 17 onsite and 6 off-site vapor extraction wells in the South-Central Plume area. There are two vapor extraction wells in the Southeastern 24-Inch Block Valve area. Approximately nine gallons equivalent of fuel were removed from soil and destroyed by thermal oxidation since the April 2006 RAB meeting. Approximately 450,950 gallons equivalent of fuel were removed from soil and destroyed by thermal oxidation since September 1995. The SVE System has operated for approximately 50,425 hours since September 1995. Mr. Pitta showed a graph of fuel recovered by SVE, which has declined recently.

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Mr. Pitta said there are 8 groundwater extraction wells in the West Side Barrier area; 4 total fluids (product and groundwater) extraction wells and 4 groundwater extraction wells in the South-Central Plume area; and 2 total fluids extraction wells and 1 groundwater extraction well in the Southeastern 24-Inch Block Valve area. Total groundwater extracted by the Groundwater/Product Extraction System since the April 2006 RAB meeting included: 420,000 gallons from the South Central Plume area; 251,000 gallons from the Southeastern 24-inch Valve Area; and 996,000 gallons from the West Side Barrier area. There were 17 gallons of product recovered manually. Total groundwater extracted since September 1995 includes: 23.4 million gallons from the South Central Plume area; 7.1 million gallons from the Southeastern 24-inch Block Valve Area; and 21.5 million gallons from the West Side Barrier area. A total of 52 million gallons of groundwater have been extracted, and 8,803 gallons of free product have been removed. Mr. Pitta also showed a graph of the cumulative groundwater and product extracted.

3. Semi-Annual Monitoring Event Mike Pitta, KMEP, and Shioh-Whei Chou, Geomatrix Consultants, Inc.

Mr. Pitta said that there were 96 wells sampled, including 5 Exposition wells, for the first semi-annual 2006 groundwater monitoring event. Groundwater elevations were generally similar to or lower than those reported in November 2005. Elevations were approximately one to three feet lower than in May 2005. No VOCs (volatile organic compounds) were detected in Exposition wells, with the exception of trichloroethene, which was detected in EXP-4 at a concentration of 1.1 micrograms per liter ($\mu\text{g/l}$). Well EXP-4 is located northwest and upgradient from the site. Trichloroethene is also known as TCE, a solvent, so it is unlikely to have come from the site. The EXP-4 well is one of the deep wells, and the concentration found was very small, just over the detection limit. Well EXP-4 will be sampled during the next sentry event.

Free product was detected in the northern Tank Farm area, the South-Central area, the Truck Fill Stand area, and the Southeastern area. Ms. Chou said these are the areas where we have seen free product in the past. Mr. Pitta said that the free product in the South-Central area is what KMEP's RAP is targeting. Ms. Chou said that the apparent free product thickness is less than one inch in the truck rack area. Mr. Pitta said some residual free product remains in the Southeast area.

In the South-Central off-site area, VOC concentrations remained non-detect in wells GMW-O-1 and GMW-O-2 and decreased in GMW-O-3 since November 2005. In general, the lateral extents of TPH (total petroleum hydrocarbons), benzene, MTBE (methyl tertiary butyl ether), and 1,2-DCA (1,2-dichloroethane) in the South-Central area remain similar to those interpreted during the two previous semi-annual monitoring events. Two wells in the Southern area saw an increase in benzene concentrations.

In Southeastern area, VOCs generally remained stable compared to November 2005. Benzene and 1,2-DCA were not detected. The lateral extent of MTBE has decreased since one year ago. In the western off-site area, the lateral extents of 1,2-DCA and MTBE have decreased since November 2005. Benzene was not detected in this area.

10-year Maps

Mr. Pitta showed a map of groundwater flow, which is generally east to west. In the deeper Exposition wells, the groundwater flows in the opposite direction. He next showed the 10-year maps (1996 – 2006) for TPH, benzene, 1,2-DCA, and MTBE, which were also shown at the previous meeting. Copies were mailed to each RAB member. Ms. McIntosh asked for color copies to be provided.

Second Addendum to RAP

Mr. Pitta said that the RWQCB has asked for a five-year plan for cleanup. In response, KMEP proposes to expand the SVE and total fluids extraction systems to where residual LNAPL (light non-aqueous phase liquids, also known as free product) appears to remain. The expansion will include installing six new soil vapor extraction wells; reconfiguring four existing wells to perform total fluids extraction; and continuing with enhancing maintenance activities (such as redeveloping wells that have been impacted by byproducts of biodegradation of hydrocarbons and upgrading vapor aboveground conveyance lines). The new SVE wells

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will be able to take water level fluctuations into account, which the old wells cannot. Mr. Pitta showed a map indicated where the new wells would be located.

Mr. Pitta next discussed KMEP's proposed RAP schedule, which he called the roadmap to closure. The projected enhancements schedule includes:

- Receive Approval from RWQCB – September 2006
- Complete Remediation System Improvements – November 2006
- Submit Remediation System Evaluation – November 2007
- Begin SVE Rebound Testing – May 2008
- Complete SVE Rebound Testing – November 2008
- Begin Bioventing Operation – December 2008
- Begin Bioventing Rebound Testing – September 2009
- Complete Bioventing Testing – March 2010
- Begin Verification Groundwater Monitoring – April 2010
- Complete Verification Groundwater Monitoring – April 2011
- Submit Closure Request to RWQCB – June 2011

Mr. Pitta said the rebound test is conducted by shutting off the SVE system for a period of time to see if the vapor concentrations recharge; and then repeating the process, which would help to determine how much hydrocarbons remain. Mr. Garcia asked why the levels would go up after shutting off the system. Mr. Pitta said that when the system shuts off, you stop applying the vacuum to the vapors, which may allow hydrocarbon concentrations to build up again in the vapor if residual hydrocarbons are still present in soil. Ms. McIntosh asked what happens when there is no recharge. Mr. Pitta said then they would conduct additional sampling to confirm that there are no significant hydrocarbon concentrations left. He said the target for closure is 2011. They will continuously monitor the progress, so they can make changes if necessary to meet the schedule.

Pipeline Activity Update

Mr. Pitta said that at a previous meeting, Ms. McIntosh had asked about tracer testing between the eastern boundary and the park property. KMEP had also talked recently to RWQCB about pipeline monitoring. KMEP previously conducted tracer testing in February 2003 and in July 2005. New tracer testing is proposed for August 2006, which will include the access road to Bloomfield Avenue. Mr. Pitta said that during a tracer test, probes are placed along the pipeline about 20 feet apart. The tracer is then sent into the pipeline. Then after seven days, any leaks would be picked up by the probes. If a leak is found, the area is dug up immediately.

Mr. Pitta said that KMEP reviewed their pipeline monitoring program with RWQCB in July 2006. Since the past two facility releases have been associated with valves, KMEP plans to dig up the pipeline valves in the facility and install visual leak detection alarms. KMEP's long term plan is to look for opportunities to remove some valves. Mr. Pitta described the alarm and showed a schematic. He also showed a photograph of the main line valve site that will be dug up. The new alarms and associated equipment will be ordered in August 2006. Installation will take place in September and October 2006. KMEP will report on activities at the next RAB meeting. Mr. Pitta said that line riders visually check the pipeline and leak detectors at least every other day. Joe Holdren asked how leaks in the community are detected. Mr. Pitta said that the pipeline is under constant pressure and monitoring. KMEP complies with Department of Transportation regulations for safety and leak detection. He said that main line leaks are rare. They usually occur due to third party breaks in the line. Lt. Col. Ramer said that yearly hydrostatic test and five year monitoring tests are required.

4. DESC-AMW Update Redwan Hassan, Parsons

Central Plume Remediation System Update

Mr. Hassan said that in the second quarter of 2006, 436 gallons of total hydrocarbons were removed. There

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were no hydrocarbons recycled or destroyed by the Free Product Recovery/Groundwater Treatment System. No water was treated this period.

Since April 1996, approximately 310,532 gallons of total hydrocarbon mass were removed: 55,538 gallons of free product were recovered; 1,397 gallons of dissolved phase hydrocarbons were recovered; 105,439 gallons of volatile hydrocarbons were recovered through soil vapor extraction; and estimated 148,158-plus gallons of hydrocarbons were destroyed due to enhanced biodegradation. Approximately 42.2 million gallons of groundwater were treated. Mr. Hassan next showed a graph of cumulative totals of the system recovery since April 1996. Free product recovery has been stable since about 2001-2002. Free product thickness has decreased. Some wells have just a sheen, while that highest measurement was three feet in one well.

Remediation Optimization

Mr. Hassan said they are continuing to optimize the system. SVE removed about 320 gallons within the Tank Farm and the water tank areas. SVE removed about 43 gallons from the former Truck Fill Stand (TFS) area. Mr. Hassan then showed a map with the layout of the expanded DESC remedial systems, including the biosparging wells and vapor extraction wells.

General Site Activities

Mr. Hassan said that the re-programming of the PLC, the computer for the main treatment system, has been completed. Parsons performed weed abatement at the facility, of which Mr. Hassan showed a photograph. They also conducted baseline sampling for biosparging, which was performed during the system shutdown. This was helpful, because they were able to get a look at the status of the cleanup. Parsons is also working on a modification to DESC's SVE System to use it as both a SVE and biovent system. Additional work is planned for replacing the touch screen panel and for replacing the EEPROM (memory module necessary for protection against program loss or program alteration in case of power outage).

Mr. Hassan said that maintenance of the groundwater treatment (GWT) system is in progress in order to address issues for the five year plan. Activities include: replacement of trays on the air stripper; replacement of the water level sensor on blue water tank (the tank prior to the carbon filters); replacement and recertification of the fire extinguisher and repair eye wash (safety items); enhancement of the capacity of the water filters and the arsenic removal tank (for the NPDES permit); maintenance of any damaged valves and gauges; assessing the cost of replacing the pneumatic pumps in total fluids wells with the submersible pumps to enhance the scope of GWT system (to help removal of residual product); and refurbishing some submersible pumps.

Eastern Boundary Update

Mr. Hassan said that the access agreement to Holifield Park has been approved by DESC. Field activities will be initiated after approval of the access agreement by the City of Norwalk. Ms. McIntosh said that the sticking point for the City was the need to add language to the agreement stating that the park will be restored to its previous condition. Adriana Figueroa said that this item is on the agenda for the Tuesday, August 1, 2006, City Council meeting.

Mr. Hassan said that at the last RAB meeting, Ms. McIntosh raised concerns about the Eastern Boundary wells. A biosparging workplan was submitted to RWQCB to install additional on-site biosparge wells near the Eastern Boundary as an interim measure. RWQCB had questions about vapor extraction, so Parsons will add it to the workplan. Additional investigation activities are proposed near the northeast corner of the site.

Mr. Hassan said that the RAB requested to receive quarterly data on the Eastern Boundary Wells at the meetings. He said that he will mail out a copy of the latest results. He showed a chart of the analytical results from groundwater samples taken in May 2006 at wells GMW-57, -58, -59, -60, and -61. Well GMW-58 had the highest TPH as fuel concentration, at 16,000 µg/l. Well GMW-59 had the highest TPH as gasoline concentration, at 9,900 µg/l. Well GMW-61 had the highest concentrations of benzene, at 1,900 µg/l; toluene, at 89 µg/l; and ethylbenzene, at 810 µg/l. MTBE was not detected in any of these wells. Ms. Winkler asked if they found jet fuel or gasoline. Mr. Hassan said that both are present.

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Biosparge Efficiency Measure

Mr. Hassan said that Ms. Erickson requested that they discuss the measurement of the efficiency of the biosparge system. He said they look at three things to gauge the system's efficiency. Dissolved oxygen content in the subsurface is the main requirement to aid biodegradation. They also look at the performance curve of cumulative mass removal versus the influent SVE concentration, as well as the TPH mass estimate. Mr. Hassan showed a dissolved oxygen isoconcentration map, which shows areas that need more oxygen added. He then showed a performance evaluation chart which showed cumulative mass removed and SVE influent concentration. He said that the performance evaluation is based on SVE extraction. SVE captures hydrocarbons that are volatilized after injecting oxygen into the subsurface. The site is very active in biodegradation, so it has the potential for natural attenuation. The objective of DESC's RAP is to get the maximum amount of mass removed possible to get to an asymptotic level, which would allow for natural attenuation. Then they would conduct sampling for two years to see if the levels are stable.

Mr. Hassan next showed a chart indicating the data for estimating total volume of TPH left in the subsurface. Parsons estimates that 133,752 gallons of TPH impacts remain at the site (in the northern portion of the Tank Farm). This would account for approximately 70 percent removal from the original 400,000 gallon estimate. The TPH mass distribution includes 89.59 percent as free product; 12.32 percent in soil (both saturated and unsaturated zones); less than 1 percent as soil vapors; and less than 1 percent in groundwater.

Mr. Hassan discussed estimated closure time versus the estimated workload. If we continued with the number of wells currently used for remediation in the northern area, the estimated time for closure would be 8 years. To obtain closure in one year, hundreds of additional wells would be needed, making it impractical. To obtain closure within five years, as recommended by RWQCB, much fewer wells would be needed than to obtain closure in one year, making this goal much more practical. Ms. Erickson said this analysis is excellent and will help RWQCB make informed decisions. Mr. Hassan said that 100 percent removal is impractical, so the goal is to remove 60 percent of the remaining TPH in the subsurface. Ms. Erickson added that it is impossible to remove every single molecule. Mr. Holdren asked if the number of wells need were ballpark figures, and what would happen if closure is not obtained in five years. Mr. Hassan said that yes, they are ballpark, and that they will monitor progress along they way to help meet the goal. If closure is not obtained in five years, they would continue with the cleanup. Mr. Holdren asked if it was normal to leave as much as 40 percent in the ground. Ms. Erickson said it depends on what remains and where. It could only be left in place if it was unlikely to affect groundwater and if there was no vapor intrusion that would harm people. Mr. Hassan added that they would not leave free product; it would only be absorbed-phase hydrocarbons. Ms. Winkler asked if there would be any monitoring after closure. Mr. Hassan said that monitoring would occur for two years, and then they would get a "No Further Action" determination from the RWQCB. They would negotiate with RWQCB if any further monitoring would be needed.

Mr. Hoskins asked about the status of the tar pit (located in the southwest area). Mr. Hassan said they sampled in the area and determined that the tarry substance has not moved, so it is no threat to groundwater. A "No Further Action" determination was granted from RWQCB with a deed restriction. The deed restriction would only affect a future owner if they planned to dig deep in that area.

5. RWQCB Overview of Long Range Plans Elizabeth Erickson, RWQCB

Ms. Erickson said that she has been on this project for less than one year, but it has been great. When the public is involved, such as this RAB, the cleanup at the site is usually better. She has seen a lot of good things at this site, including 10 years of delineation and 10 years of remediation. However, the site is not where she would expect it to be. SVE is not removing much any more, which is normal for these types of sites. Liquid recovery has also slowed. Things need to change. She used an analogy of continually vacuuming the same spot on a carpet – it would not get the whole carpet clean. All parties agree that improvement is needed.

She said she works with the EPA (Environmental Protection Agency) a lot. EPA looks at a site to see if a health risk exists and then if there is groundwater containment. Then they would step away from the site for 5

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to 10 years. When a site has been remediated well, such as this site, then they start to look at what the risks are. She said that she does not agree that the plumes at this site are stable. She has seen more movement than she would like. She then thanked Mr. Hassan and Ms. Chou for their hard work in putting together their five-year closure plans. "Closure" means that RWQCB walk away from the site. She said that biodegradation takes a long time. They call it "Monitored Natural Attenuation," but they would know that it is not a health hazard and is not migrating. She said that the changes on the west side shown in the 10 year maps caused her concern. She said to reach closure, they need to get to the point where there is no vapor intrusion to the surface and when there is no movement, so there is no possibility of polluting others. She said that contamination further away from groundwater does not need to be cleaned up as much as when it is closer, due to natural attenuation. It also depends on how fast each chemical moves.

Ms. Erickson distributed a handout that showed possible cleanup goals by KMEP and DESC. Mr. Hassan said that their RAP does not show these numbers. Ms. Erickson said then that these numbers can be a starting point to agreeing on the goals. Mr. Garcia mentioned that the Risk-Based Corrective Action (RBCA) Plan, which was prepared for the western off-site chemicals, was intended to give alternative goals to the RWQCB. Ms. Chou said that the numbers on Ms. Erickson's handout may have come from the RBCA Plan. Ms. McIntosh said that RWQCB never came out and said what the goals are, but we are working on that now. Ms. Erickson said that there may be different goals for different areas. If we cannot meet the federal regulations, then we will have to be able to defend our reasoning for closure without meeting them.

Ms. Winkler asked about the possible sale noted on the handout. Ms. Erickson said that the Department of Defense (DOD) is considering the sale of the property, so they asked RWQCB for an update on the remediation progress. Ms. Erickson said she told them that DOD would have to retain some responsibility after sale of the property. Mr. Garcia mentioned he once met with members of other RABs, who told him that the military disregarded their recommendations. Lt. Col. Ramer said that is why he is here, to ensure that the remediation process is conducted in a proper manner. Ms. Erickson said that every organization has its good and bad apples, but on this project the military has been very persistent and follows up well, unlike at some other sites.

6. Set Date and Agenda for Next Meeting

Ms. McIntosh made a motion to tentatively approve both RAPs so they can move forward. A meeting to discuss the RAPs in further detail is tentatively scheduled for **Thursday, September 14, 2006, at 6:30 p.m.** in the Norwalk Arts & Sports Complex. The agenda is to discuss the RAPs and the process for determining cleanup goals. Comments on the RAPs should be submitted to Ms. Erickson no later than September 5, 2006.

The next quarterly RAB meeting will be held on **Thursday, October 26, 2006, at 6:30 p.m.** in the Norwalk Arts & Sports Complex. The agenda is to include Sentry Event, HHRA update, Eastern Boundary area update and results, report on the installation of new wells, and KMEP and DESC remediation operations updates.

7. Public Comment Period

Ms. Winkler asked about the work at Holifield Park. Mr. Hassan said they would only be conducting soil sampling using a small direct-push sampler, so there will be little soil disturbance.

A motion was made to adjourn the meeting. The motion was seconded and passed without opposition. Mr. Pitta adjourned the meeting at 9:06 p.m.

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ACTION ITEMS		
Item	Responsible Party	Due Date
Meeting on RAP (tentative)	All	9/14/06
Next Quarterly RAB meeting	All	10/26/06