



California Regional Water Quality Control Board

San Diego Region



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DATE: July 29, 2009

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SUBJECT: MISSION VALLEY TERMINAL CLEANUP STATUS REPORT

Background

The Mission Valley Terminal (MVT) is a fuel storage facility and pipeline transfer station for fuel (gasoline, diesel fuel, and jet fuel) supplied to San Diego and the surrounding areas. As a result of historical petroleum storage and distribution operations since the 1960's, soil and groundwater in the vicinity of the MVT have been impacted by accidental releases of petroleum liquids (see attached Site map). While these leaks and spills originated on the Terminal property, the impacts to soil and groundwater extend off the terminal property, including the area beneath the Qualcomm stadium and surrounding parking lots.

The California Regional Water Quality Control Board, San Diego Region (Regional Board), issued Cleanup and Abatement Order (CAO) No. 92-01 in 1992 to direct the investigation and cleanup of the release. CAO No. 92-01 required the Discharger to remove liquid petroleum and install the remediation system that is currently removing dissolved, liquid, and vapor phase petroleum hydrocarbons from the subsurface on and off of the MVT property. The Regional Board adopted Addendum No. 5 to the CAO in 2005 which includes new compliance dates for cleanup and abatement of groundwater pollution beyond the terminal property. Addendum No. 5 requires the Dischargers to remove residual light non-aqueous phase petroleum liquid (liquid gasoline) from subsurface soil and groundwater by December 31, 2010, and reduce the concentrations of dissolved phase petroleum hydrocarbon waste constituents to attain background water quality conditions by December 31, 2013.

California Environmental Protection Agency

Cleanup Status

To meet the cleanup deadlines, Kinder-Morgan is implementing a Corrective Action Plan as required by the CAO (and approved by the Regional Board staff). Extensive remedial activities have taken place since approximately 1999. As of the first quarter 2009, the active remediation and monitoring system consists of:

1. Three groundwater extraction wells are located on terminal and 16 groundwater extraction wells are located in the off-terminal area. All of these wells serve to provide hydraulic containment and remediate groundwater by removing approximately 500,000 gallons per day and by lowering the water table to enhance the effectiveness of the vapor extraction system.
2. A total of 172 soil vapor extraction wells are being used to remove hydrocarbons from the subsurface.
3. A total of 79 groundwater monitoring wells are located on-terminal and 141 are located off-terminal to evaluate the effectiveness of the multi-phase remediation and comply with the CAO Off-Terminal.

Kinder Morgan is providing detailed quarterly groundwater and remedial progress reports. Additionally, they provide annual reports evaluating the remedial progress. The monitoring data is used to adjust and optimize the remedial systems. As of first quarter 2009, Kinder Morgan reported that the remediation system had removed 661,098 pounds of hydrocarbons from the subsurface in the off-terminal area.

To comply with the 2010 cleanup deadline, Kinder Morgan has proposed to use multiple lines of evidence which include: a detailed evaluation of all data collected from the soil vapor extraction system, soil vapor wells, and groundwater monitoring network; results from the HypeVent model; and bench scale weathering testing.

To track progress and maximize the efficiency of the corrective action, Kinder Morgan has taken a unique approach by using the HypeVent¹ model to evaluate the changes of the LNAPL plume through time. The HypeVent model allows Kinder Morgan to evaluate and improve the ongoing remedial progress, evaluate when remediation is nearing completion, and to more clearly define the remedial end points for the off-terminal LNAPL zone. If a portion of the cleanup area is not on track to meet cleanup goals, appropriate actions have been taken. To date, additional actions taken include installing a larger capacity blower for the SVE system, additional soil vapor extraction wells, and additional groundwater extraction and monitoring wells. Additionally, Kinder Morgan has collected soil cores for a bench-scale accelerated weathering testing. This study proposes to provide a line of evidence for the site specific practicable endpoint of

¹ HypeVent is a partitioning model that simulates mass removal from the vapor phase. LNAPL and vapor compositions are tracked through time.

the selected remedial approach, and data collected during the study will provide example progress pathways from current off-Terminal LNAPL zone conditions to the theoretical practicable endpoint of remediation.

Complaint to Regional Board

The City of San Diego (City) is a key stakeholder for the off-terminal area (Qualcomm Stadium). The City's long term plan is to develop the local groundwater resources for municipal use. The City may propose to locate municipal wells within the footprint of the methyl tert-butyl ether (MTBE) plume.

The City submitted a letter² to the Regional Board at the July 1, 2009 Board meeting in Dana Point. The City's letter contains the following assertions:

1. Regional Board Staff has repeatedly refused to meet with the City and has not been willing to partner with the City in seeking the City's advice and expertise for the purpose of enhancing and expediting the remediation of the groundwater aquifer;
2. Regional Board staff has not supported the City's request to require alternative or additional remedial approaches, including re-injection of treated groundwater; and
3. Regional Board staff has not responded to the City's request for "...RWQCB not to re-enroll Kinder-Morgan in its NPDES permit...[and] to mandate water re-injection...."

The City requested intervention by the Regional Board to direct the Regional Board staff to work with City representatives to explore the feasibility of re-injecting treated groundwater to accelerate the remediation of the contaminated aquifer and enhance the quantity of the water in the Mission Valley Aquifer.

The Regional Board responded to the City in a letter dated July 16, 2009.³ The facts detailed in this letter and provided in the enclosures demonstrate that the City's assertions are unfounded and fail to acknowledge Regional Board staff's efforts to include the City as a key stakeholder in the groundwater remediation process. The Regional Board staff has been and will continue to closely monitor the progress of the cleanup and the effectiveness of the remediation system.

² City of San Diego, Contamination of Mission Valley Aquifer and Qualcomm Stadium: Application for re-enrollment in NPDES General Permit Kinder Morgan Energy Partners, Mission Valley Terminal, June 25, 2009.

³ RWQCB, Response to City of San Diego's Letter, dated June 25, 2009, Mission Valley Terminal, July 16, 2009.