

**REGULAR MEETING OF THE GROUNDWATER QUALITY COMMITTEE
OF THE BOARD OF DIRECTORS
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
12621 E. 166th Street (Corner, Bloomfield & 166th), Cerritos, California
1:30 P.M., MONDAY, JULY 12, 2004**

AGENDA

EACH ITEM ON THE AGENDA, NO MATTER HOW DESCRIBED, SHALL BE DEEMED TO INCLUDE ANY APPROPRIATE MOTION, WHETHER TO ADOPT A MINUTE MOTION, RESOLUTION, PAYMENT OF ANY BILL, APPROVAL OF ANY MATTER OR ACTION, OR ANY OTHER ACTION. ITEMS LISTED AS "FOR INFORMATION" MAY ALSO BE THE SUBJECT OF AN "ACTION" TAKEN BY THE BOARD OR A COMMITTEE AT THE SAME MEETING.

- I. DETERMINATION OF A QUORUM**
- II. PUBLIC COMMENT**
- III. MINUTES OF THE REGULAR GROUNDWATER CLEAN-UP COMMITTEE MEETING OF JUNE 7, 2004**
Staff Recommendation: That the Committee approve the minutes as submitted.
- IV. NORWALK TANK REPLENISHMENT ASSESSMENT EXEMPTION**
Staff Recommendation: That the Committee recommend that the Board adopt Resolution No. 04-XXX to exempt from the RA the groundwater production associates with this project.
- V. WHITTIER NARROWS OPERABLE UNIT UPDATE**
Staff Recommendation: For information.
- VI. GROUNDWATER QUALITY – PERCHLORATE UPDATE**
Staff Recommendation: For information.
- VII. SAFE DRINKING WATER PROGRAM UPDATE**
Staff Recommendation: For information.
- VIII. GROUNDWATER CONTAMINATION UPDATE**
Staff Recommendation: For information.
- IX. WRD DESALTER UPDATE**
Staff Recommendation: For information.
- X. ADJOURNMENT**

Agenda posted by Abigail C. Andom, Deputy Secretary, July 7, 2004.

MINUTES OF JUNE 7, 2004
A REGULAR MEETING OF THE GROUNDWATER CLEAN-UP COMMITTEE
OF THE BOARD OF DIRECTORS
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

A regular meeting of the Groundwater Clean-up Committee of the Board of Directors of the Water Replenishment District of Southern California was held on June 7, 2004, at 1:36 p.m., at the District Office, 12621 E. 166th Street, Cerritos, California. Chairperson Norm Ryan called the meeting to order and presided thereover. Deputy Secretary Abigail C. Andom recorded the minutes.

I. DETERMINATION OF A QUORUM

Committee: Directors Norm Ryan and Albert Robles

Staff: Mario Garcia, Ted Johnson, Hoover Ng, Nancy Matsumoto,
Charlene King, Paul Fu

II. PUBLIC COMMENT

None.

III. MINUTES OF THE REGULAR GROUNDWATER CLEAN-UP COMMITTEE MEETING OF MAY 10, 2004

The minutes were approved as submitted.

IV. PROPOSED NAME CHANGE

Senior Engineer Hoover Ng stated that staff has been reviewing committee name changes to more accurately reflect the range of groundwater quality matters and items that come before it. Several proposed names were reviewed and staff presented several alternative committee names.

Discussion followed. The Committee decided to rename the Groundwater Clean-Up Committee to the Groundwater Quality Committee and requested that this item be forwarded to the Board for approval.

The agenda items were taken out of order.

IX. GROUNDWATER QUALITY REGULATIONS UPDATE

Mr. Ng provided the Committee with an update on chromium, arsenic, perchlorate, N-nitrosodimethylamine (NDMA), and 1,2,3- trichloropropane. He stated that staff will continue to monitor developments of these chemicals which are of recent concern in groundwater.

V. WATER WELL TESTING SERVICES – AWARD OF PROPOSAL

Chief Hydrogeologist Ted Johnson stated that staff issued request for proposals (RFP) for water well testing services to 13 qualified firms and published an advertisement for the services in the Los Angeles Bulletin.

Mr. Johnson explained that the work includes testing of two wells: City of Vernon Well #18 and South Montebello Irrigation District Well #5.

Mr. Johnson stated that the Vernon well has not operated in the past 8 months due to the presence of the volatile organic contaminant 1,2-Dichloroethane which was found above the maximum contaminant level. He noted that in order to understand in detail the extent and distribution of the contamination across the perforated intervals of the well, the District is proposing to perform spinner logging and zone sampling of the well.

Mr. Johnson added that the South Montebello Irrigation District well is an active potable well with very good water quality. However, it is near the spreading grounds where recycled water is used as a replenishment source. He explained that during WRD's tracer experiment, the well tested positive as a well that receives spreading grounds water within 6 months, which would be a violation of DHS' draft regulations. The District is proposing to perform temporary modifications to the well in an attempt to seal off the shallow perforations so that the well produces older (greater than 6 months) groundwater from the deeper aquifers, thereby meeting DHS' draft regulations.

The five firms that submitted proposals (with subcontractor names in parentheses) were: Beylik (Geotechnical Consultants); General Pump Company (Pacific Surveys, Richard Slade & Associates); GeoScience (unspecified drilling & testing subcontractors); Komex (General Pump Company, Pacific Surveys); and Layne Christensen (in house work - no subcontractors).

Three staff members and an outside party (City of Vernon) reviewed the proposals and performed an independent ranking based on scope of work, cost, project team, and experience. The reviewing panel met on June 2, 2004 to provide their rankings.

The review panel ranked the proposal by General Pump Company (with Pacific Surveys and Richard Slade & Associates) as the best proposal. General Pump Company demonstrated extensive experience over the other firms (40 similar projects in the past 2 years alone), including the successful performance of a project for WRD at the Goldsworthy Desalter. Proposal costs ranged from \$66,353 to \$103,866, with General Pump having the second lowest price at \$87,727. Staff recommended a 10% contingency be added to the contract price to allow for any unanticipated expenses during the course of the work.

Discussion followed. The Committee recommended that the Board award a contract for water well testing services to General Pump Company.

VI. REVIEW OF SAFE DRINKING WATER PROGRAM POLICY

As the new Chair of the Groundwater Clean-up Committee, Director Ryan thanked staff for the opportunity to review this item again.

Assistant General Manager and Chief Engineer Mario Garcia stated that at the last Committee meeting, the Committee recommended moving forward with the proposed modifications to the Safe Drinking Water Program (SDWP). He noted that the WRD Technical Advisory Committee (TAC) had also reviewed the program and acknowledged its value. The TAC suggested that the District review and potentially eliminate the non-volatile organic compounds (VOC) component of the SDWP due to recent requests for treatment of naturally occurring constituents such as iron, manganese, arsenic, etc. Staff had also previously recommended that priority be given to projects that involve VOC contamination or other anthropogenic (man-made) constituents and finance non-VOC treatment projects with SDWP budgeted funds not encumbered by a VOC project in the first six months of the fiscal year. The amount of \$2 million was budgeted for SDWP projects for the year.

The Committee reviewed the proposed changes to the language and recommended that the Board adopt the changes to the SDWP policy.

VII. SAFE DRINKING WATER PROGRAM UPDATE

Assistant Engineer Charlene King provided an update to the Safe Drinking Water Program. There are four projects in the design and/or construction phase: construction is 95% complete at the Norwalk Well 8 Project and the City of Norwalk is waiting final approval from the California Department of Health Services to place the system on-line; design and specifications for a facility at the Southern California Water Company's (SCWC) Converse Well has been completed by Don Howard Engineers; design and specifications for the City of Commerce's Well 4L has been completed by Don Howard Engineers. The Agreement between the City of Commerce and WRD was executed and the bid process began May 27, 2004. The bid opening is scheduled June 23, 2004 at 2:00 p.m.; and SCWC has finalized the design and specifications for the Imperial Wells 1,2,& 3, has received District approval and has advertised for competitive bids. The bid opening is scheduled for June 8, 1004 at 3:00 p.m.

Ms. King noted that there are currently 11 projects on-line under the SDWP.

VIII. GROUNDWATER CONTAMINATION UPDATE

Senior Hydrogeologist Nancy Matsumoto stated that the final draft Memorandum of Understanding (MOU) between the WRD and the EPA, USGS, RWQCB, DTSC is scheduled to be signed at their September 16, 2004 meeting. This MOU will formalize guidelines for these agencies to

work cooperatively in sharing data and managing site monitoring/cleanup efforts.

Ms. Matsumoto added that WRD applied for AB303 grant funding for this program, but was not selected for this year. Based on the reviewers' comments on WRD's grant application, WRD will likely modify the application and reapply for AB303 grant funding next year.

As reported in previous updates, Ms. Matsumoto added that WRD has initiated a District-wide investigation to identify and prioritize WRD's level of effort in assisting regulatory agencies in overseeing monitoring and remediation of high-priority groundwater contamination sites across the District. WRD staff began conducting weekly visits to the DTSC offices, to review case files on their 12 highest-priority groundwater contamination sites (as identified by DTSC personnel).

Staff presented case files on Chrome Crankshaft Company and J&S Chrome Plating Company, Inc. both located in the City of Bell Gardens.

X. WRD DESALTER UPDATE

Senior Engineer Paul Fu stated that the Goldsworthy Desalter delivered approximately 186 acre-feet of drinking water to the City of Torrance in the month of May 2004. The chloride level in the well water remained within 1,040 to 1,140 mg/L.

Dr. Fu added that the facility was shut-down from April 28 through May 4, 2004 for repair of the well pump's motor. The facility was brought back on-line on May 5, 2004.

XI. ADJOURNMENT

There being no more business to come before the Committee, the meeting was adjourned.

Chairperson

ATTEST:

Director



MEMORANDUM

ITEM NO. IV

Prepared by: Mary Sellers

Reviewed by: Mario Garcia

DATE: JULY 12, 2004

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: NORWALK TANK REPLENISHMENT ASSESSMENT EXEMPTION

SUMMARY

WRD has the authority to provide exemptions to the Replenishment Assessment (RA) for groundwater treatment programs that remedy groundwater contamination and do not put the treated water to beneficial use. This authority is described in the attached Section 60318 of the California Water Code.

The Norwalk Tank Farm was (Defense Fuel Support Point) used as a facility to store and transfer military fuels. WRD has received applications for replenishment assessment exemptions from the Defense Energy Support Center and Kinder Morgan Energy Partners. The firms are conducting cleanup operations consisting of soil vapor extraction by extraction wells and also groundwater production through shallow wells. The extracted groundwater is treated and discharged to the storm sewer.

The requested exemption is 10 years, not to exceed 150 acre feet per year. This production is not included in the District's annual estimate, and the conditions of this project are consistent with the criteria outlined in the attached code section.

FISCAL IMPACT

No net financial impact.

STAFF RECOMMENDATION

That the Committee recommend that the Board adopt Resolution 04-XXX to exempt from the RA the groundwater production associated with this project.

**CALIFORNIA WATER CODE
SECTION 60318**

§ 60318. Groundwater contamination; programs to remedy; exemption from replenishment assessment; resolution by board; rescission or modification.

- (a) If the board determines, by resolution, that there is a problem of groundwater contamination that a proposed program will remedy or ameliorate, an operator may make extractions of groundwater to remedy or ameliorate that problem exempt from any replenishment assessment if the water is not applied to beneficial surface use, its extractions are made in compliance with all the terms and conditions of the board resolution, and the board has determined in the resolution either of the following:
- (1) The groundwater to be extracted is unusable and cannot be economically blended for use with other water.
 - (2) The proposed program involves extraction of usable water in the same quantity as will be returned to the underground without degradation of quality.
- (b) The resolution may provide those terms and conditions the board deems appropriate, including, but not limited to, restrictions on the quantity of extractions to be so exempted, limitations on time, periodic reviews, requirement of submission of test results from a laboratory holding a valid certification or accreditation as required by Section 13176, and any other relevant terms or conditions. Upon written notice to the operator involved, the board may rescind or modify its resolution. The rescission or modification of the resolution shall apply to groundwater extractions occurring more than 10 days after the rescission or modification. Notice of rescission or modification shall be either mailed first-class mail, postage prepaid, at least two weeks prior to the meeting of the board at which the rescission or modification will be made to the address of record of the operator or personally delivered two weeks prior to the meeting. All board determinations shall be final. (Added by Stats.1985, c. 537, § 1. Amended by Stats.2000, c. 727 (A.B.2886), § 7.)



MEMORANDUM

ITEM NO. V

Prepared by: Nancy Matsumoto

Reviewed by: Ted Johnson

DATE: JULY 12, 2004

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: WHITTIER NARROWS OPERABLE UNIT UPDATE

SUMMARY

Central Basin MWD recently completed construction of the Water Quality Protection Project (WQPP), located in the City of Pico Rivera. The WQPP was constructed to intercept the remnants of a plume of volatile organic compounds (PCE and TCE) that had progressed beyond the line of extraction wells constructed as part of the EPA's Whittier Narrows Operable Unit (WNOU), located upgradient in the City of Whittier. Final testing of the WQPP is being completed, and Central Basin MWD is awaiting a permit from the California Department of Health Services to operate the system.

Meanwhile, the WNOU has not been operable since October 2003. The U.S. Environmental Protection Agency (EPA) and Whittier are continuing with discussions regarding arrangements for Whittier to take over operations of the WNOU. EPA and Whittier anticipate completing negotiations by the end of Summer 2004.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. VI

Prepared by: Hoover Ng

Reviewed by: Ted Johnson

DATE: JULY 12, 2004

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GROUNDWATER QUALITY – PERCHLORATE UPDATE

SUMMARY

Perchlorate is a component of solid propellant in rockets, missiles, explosives, and fireworks, and is also used in fertilizers. It has been found in numerous drinking water sources, including imported Colorado River water from the Metropolitan Water District of Southern California. It can inhibit the uptake of iodide by the thyroid gland, which leads to impairment of metabolism, proper development of young children, and creation of tumors in the thyroid.

Two studies related to perchlorate were in the news recently. One study from the University of California, Irvine Urban Water Research Center concluded that perchlorate would not be harmful to healthy adults at 100 ppb, which is 15 times over the action level. It also stated that it could not conclude the chemical's impact on pregnant women or people with thyroid problems at the higher levels. This finding is significant because in March 2004 the California Office of Environmental Health Hazard Assessment (OEHHA) established a Public Health Goal (PHG) for perchlorate at 6 ppb. Concurrently, the State Department of Health Services (DHS) established an action level of 6 ppb. No federal standard exists for perchlorate. The National Academy of Sciences is also evaluating the health effects of perchlorate in a separate study, and is expected to release its findings later this year.

In another study released by Environmental Working Group, a perchlorate concentration average of 1.3 ppb was found in 32 out of 33 samples of well-known brands of milk in Los Angeles and Orange Counties, with a high of 3.6 ppb. The recommended maximum level for children is 1 ppb. It is suspected that other milk products, such as cheese and yogurt, would also contain equivalent levels of perchlorate. They also cited results of prior testing by the California Department of Food and Agriculture which showed an average perchlorate level of 6 ppb in 32 samples throughout the state. It is suspected that the level of perchlorate in water used to irrigate alfalfa, which becomes feed for cows, impacts the level of perchlorate ultimately found in milk.

If a well is found to contain perchlorate above 40 ppb, ten times the action level, the DHS recommends removing that well from service. The DHS will issue a draft Maximum Contaminant Level (MCL) and will factor into the final MCL technical and economic impacts as well as the final PHG.

As of June 30, 2004, the state DHS reported that perchlorate has been found in 350 sources in the state. Many of these sources are near aerospace and defense sites. Of these, 249 are above the current action level of 6 ppb. Los Angeles County has the most with 104 out of the 249 water sources. It has been found at 4 – 13 ppb in a few production wells in Central Basin in Vernon, Commerce, Norwalk and Bellflower.

Since 1997, the Los Angeles Regional Water Quality Control Board has been actively investigating perchlorate contamination sites. In conjunction with the US Environmental Protection Agency and the State Department of Toxic Substances Control, they have identified 6 known sources and 15 suspected sources of perchlorate. It has been found in Simi Valley, San Gabriel Valley, the Raymond Groundwater Basin, and the Santa Clarita and San Fernando Valleys.

Effective treatment for perchlorate uses ion exchange, bioreactors, and granular activated carbon (GAC). Ion exchange can also remove nitrates and sulfate. However, during backwash, a brine solution is produced that requires proper disposal. Research has been focused on reducing perchlorate to chloride ions in fluidized bed bioreactors. In the San Gabriel Valley, the use of Calgon Carbon Corporation's patented process, ISEP, has been effectively used to remove perchlorate.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. VII

Prepared by: Charlene King
Reviewed by: Mario Garcia

DATE: JULY 12, 2004
TO: GROUNDWATER QUALITY COMMITTEE
FROM: ROBB WHITAKER, GENERAL MANAGER
SUBJECT: SAFE DRINKING WATER PROGRAM UPDATE

SUMMARY

The District is currently managing several projects under its Safe Drinking Water Program (SDWP), which provides wellhead treatment facilities to remove contaminants and improve water quality. There are four projects in the design and/or construction phase. The following is a brief update of activities:

- 1) Installation of a granular activated carbon (GAC) system at **Norwalk Well 8** Project began January 26, 2004. The Board authorized awarding the contract for construction to Pacific Hydrotech Corporation. Construction is complete and the City of Norwalk is currently waiting for final approval from the California Department of Health Services to place the system online.
- 2) The public bid opening for the Southern California Water Company's (SCWC) **Converse Well** was held Thursday June 24, 2004. The following four bids were received:

Company	Bid
Pacific Hydrotech	\$315,100.00
Brutoco Engineering	\$355,535.00
Value Engineering	\$399,998.00
Fleming Environmental	\$698,975.00

SCWC is the lead agency procuring and administering all contracts in accordance with WRD's current contract policy. The Converse Project will use the treatment vessels from the Hoffman Project.

- 3) The public bid opening for the City of **Commerce's Well 4L** (operated by Cal Water Service) was held Wednesday June 23, 2004. The following five bids are currently under review:

Company	Bid
Cora Constructors	\$481,000.00
Miller Brooks Environmental	\$499,412.20
Fleming Environmental	\$568,715.00
Lindmark Engineering	\$585,777.00
Pacific Hydrotech	\$640,100.00

- 4) The public bid opening for the **Imperial Wells 1, 2, & 3** Project was held Tuesday June 8, 2004. SCWC received one bid from Pacific Hydrotech at \$905,500.00. SCWC and WRD are currently reviewing the bid for compliance. SCWC is the lead agency procuring all contracts in accordance with WRD's current contract policy.

FISCAL IMPACT

These projects total \$2.8 million and were included in the FY 03-04 Budget under the Safe Drinking Water Program.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. VIII

Prepared by: Nancy Matsumoto

Reviewed by: Ted Johnson

DATE: JULY 12, 2004

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GROUNDWATER CONTAMINATION UPDATE

SUMMARY

As reported in previous updates, several major cleanup investigations are currently in progress at various sites in Santa Fe Springs. A Final Draft Memorandum of Understanding (MOU) was distributed at the group's May 27th meeting for review and signature between the stakeholders (WRD, EPA, USGS, RWQCB, DTSC, City of Santa Fe Springs). This MOU will formalize guidelines for these agencies to work cooperatively in sharing data and managing site monitoring/cleanup efforts. The MOU is anticipated to be finalized at the next group meeting, scheduled for September 16, 2004.

As reported previously, WRD has initiated a District-wide investigation to identify and prioritize WRD's level of effort in assisting regulatory agencies in overseeing monitoring and remediation of high-priority groundwater contamination sites across the District. WRD staff conducted weekly visits to the DTSC offices, to review case files on their 12 highest-priority groundwater contamination sites (as identified by DTSC personnel). Staff generated concise summaries of these case files. Other case files from the RWQCB and EPA are being similarly reviewed and summarized. Staff will continue to provide monthly updates on these case file reviews to the Committee as this effort proceeds.

Summaries of the last two DTSC case files reviewed are attached as reference, and will be discussed at the Committee meeting.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.

Risk To Potable Supply Aquifers/LOE Needed To Properly Track This Project (High, Medium, or Low): _____

Montrose Chemical Corporation
Key Facts At A Glance
Last Update: 6/17/04

Location:	20201 Normandie Avenue Torrance, CA 90502 West Coast Basin Nearest active production well located ~1.23 miles northwest of site
Description:	Montrose Chemical Corporation operated a dichlorodiphenyl-trichloroethane (DDT) manufacturing plant at this location beginning in 1947. During its operation, contamination entered the environment from the plant by a variety of means. Between 1947 and about 1953, wastes and wastewaters from the plant were conveyed by trenches in the ground and pipes to an unlined surface impoundment in the plant's Central Processing Area. Montrose attempted to neutralize the wastes in the impoundment prior to discharging them to a sewer system. This impoundment also received rainwater that mixed with the wastes. The sewer line would occasionally back up, resulting in flows of wastes into surface water drainages. After 1953, Montrose directed many of the wastes through a new set of trenches to underground neutralization tanks, which then discharged to a new sewer connection on the property. Some evidence indicates that Montrose continued to use the surface impoundment for a variety of purposes, including staging of tars and caustic liquors, and drying sludges. In addition, valve packing leaks, steam-out hoses and pipes, leaking filter presses in the rework area, spills, and other occurrences contributed to subsurface contamination at the property. The 13-acre facility was closed and demolished over a three-month period from June through August of 1982. Today, the entire site is paved with asphalt and is empty except for a few temporary structures associated with the ongoing Remedial Investigation/Feasibility Study (RI/FS). The site was added to the U.S. Environmental Protection Agency's (EPA's) National Priority List (NPL) in 1989.
Chemicals Detected:	Primary chemicals of concern are DDT and residual DNAPLs (dense nonaqueous phase liquids – e.g., trichloroethene) in soil, chlorobenzene and DNAPLs in groundwater
Extent:	Soil contamination Groundwater contamination in "Upper Bellflower Aquitard", "Bellflower Sand", Gage Aquifer, Lynwood Aquifer Possible deeper groundwater contamination (not field-investigated): based on historical well logs, Silverado Aquifer likely several hundred feet deeper than abovementioned water-bearing units; Silverado Aquifer monitored only intermittently via nearby production wells and LACDPW monitoring wells screened solely in Silverado Aquifer (contamination not detected to date)
Monitoring:	As of 1998, ~95 monitoring wells in and around site (33 in Upper Bellflower Aquitard, 34 in Bellflower Sand, 21 in Gage Aquifer, 7 in Lynwood Aquifer) No regular monitoring program appears to be established at site; quarterly monitoring is planned as part of post-remediation activity
Remediation:	Since initial site closure in 1982: asphalt cap placed on site (1985); site cover (1988); DDT removal from soil in nearby backyards (1994); DDT removal from soil in nearby streets (1995); removal of DDT from sediments in nearby sewer and from nearby residential community (1999); DDT removal from soil along nearby street (former Kenwood Ditch) (2001); removal of DDT from soil in residential front yards on Kenwood Avenue (2002)
Procedures:	Montrose and adjacent site, Del Amo, are classified as "Joint Study Site" by DTSC and are managed by Montrose/Del Amo's consultant (CH2MHill). Completed Feasibility Study, next step is remedial design. Deadline for implementation of remediation is 2006
Stakeholders:	Montrose Chemical Corporation, EPA, DTSC, adjacent properties undergoing contamination investigations/remediation (e.g., Del Amo, Jones Chemical, McDonnell Douglas)

Risk To Potable Supply Aquifers/LOE Needed To Properly Track This Project (High, Medium, or Low): _____

Stauffer Chemical
Key Facts At A Glance
Last Update: 6/25/04

Location: 2112 East 223rd Street
Carson, CA 90745
West Coast Basin
Nearest production well located ~0.132 miles southwest of site

Description: Stauffer Management Company LLC (SMC) operated a 25-acre polyvinyl chloride (PVC) resin plant from 1959 to 1982. All process facilities and equipment were removed by mid-1985 and structures leveled to grade. Subsurface investigations performed at the site from 1982 to 1997 revealed residual chemical constituents associated with former manufacturing processes (primary chemicals of concern are 1,2-DCA, TCE and vinyl chloride) impacted subsurface soils and groundwater.

Chemicals Detected: 1,1-Dichloroethane (1,1-DCA)
1,2-Dichloroethane (1,2-DCA)
1,1-Dichloroethene (1,1-DCE)
1,1,2-Trichloroethane (1,1,2-TCA)
Acetone
Benzene
cis-1,2-Dichloroethene
Chloroform
Ethylene Chloride
Methylene Chloride
PVC resin
Tetrachloroethene (PCE)
Toluene
trans-1,2- Dichloroethene
Trichloroethene (TCE)
Vinyl Chloride
Xylenes

Extent: Soil contamination is a continual source of contamination to groundwater
Shallow aquifers are contaminated with VOCs, possible hydraulic connection to deeper water-supply aquifers (Lakewood Fm to Lynwood Aquifer)

Monitoring: 39 onsite monitoring wells, ~27 offsite monitoring wells
Since 1994, wells are sampled on a semi-annual basis to evaluate groundwater elevation and water quality

Remediation: Soil Operable Unit: beginning Dec 1998--implemented vapor-liquid extraction (VLE), phase separation, air-stripping and thermal oxidation with caustic. 180,000 pounds of VOCs have been removed since. Groundwater Operable Unit: no remediation yet, studies ongoing to delineate VOC plume.

Procedures: SMC retains Earth Tech, Inc (Long Beach, CA) to manage groundwater monitoring and site characterization programs

Stakeholders: SMC, DTSC, City of Carson, WRD



MEMORANDUM

ITEM NO. IX

Prepared by: Paul Fu

Reviewed by: Mario Garcia

DATE: JULY 12, 2004

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: WRD DESALTER UPDATE

SUMMARY

Plant Operations:

The WRD Desalter delivered approximately 191 acre-feet of potable water to the City of Torrance in June 2004. During the month, the chloride level in the well water remained within 1,050 to 1,120 mg/L.

Staff has negotiated with the supplier of the scale inhibitor to reduce the purchase price by 25 percent. The estimated savings is approximately \$8,000 per year.

Participation in AwwaRF Research Proposal:

Carollo Engineers invites WRD to participate in a research proposal to the American Water Works Association Research Foundation (AwwaRF) for a research project focusing on brine minimization for desalination facilities. The project goal is evaluation and development of technologies for maximization of system recovery (i.e. increased product water) and minimization of concentrate (or brine or waste stream) volume. Specific project goals include:

- Perform a comprehensive literature review of current desalination research and development efforts.
- Perform a state of the science assessment of emerging and promising techniques and technologies that can be used to maximize recovery and minimize concentrate volume.
- Propose and develop an innovative approach to improve water recovery and minimize concentrate volume.
- Develop an experimental plan and test the innovative approach at bench (or pilot) scale to evaluate and “prove” the concept.
- Evaluate costs and scale-up considerations, and describe future research needs.

As a participating utility, we are asked to contribute approximately 50 hours of staff time over the entire duration (estimated at 2 years) of the project as in-kind services. The staff time is needed to prepare operational information of the WRD Desalter required for the research. According to Carollo Engineers, other water utilities such as Metropolitan Water District of

Southern California, Irvine Ranch Water District, and Santa Ana Watershed Project Authority have verbally committed to participate in this proposal.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.