

**MEETING OF THE GROUNDWATER QUALITY COMMITTEE
OF THE BOARD OF DIRECTORS
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
4040 PARAMOUNT BOULEVARD, LAKEWOOD, CA 90712
12:00 P.M., THURSDAY, JANUARY 24, 2008**

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 ANY "ACTION" TAKEN BY THE BOARD OR A COMMITTEE AT THE SAME MEETING.

- 1. DETERMINATION OF A QUORUM**
- 2. PUBLIC COMMENT**
- 3. MINUTES OF THE MEETING OF NOVEMBER 15, 2007**
Staff Recommendation: Approve the minutes as submitted.
- 4. GROUNDWATER QUALITY REGULATORY UPDATE – PERCHLORATE TREATMENT**
Staff Recommendation: For information.
- 5. GOLDSWORTHY DESALTER UPDATE**
Staff Recommendation: For information.
- 6. DIRECTORS' REPORTS, INQUIRIES, AND REVIEW OF DIRECTIONS TO STAFF**
- 7. ADJOURNMENT**

Posted by Abigail C. Andom, Deputy Secretary, January 18, 2008

UNAPPROVED
MINUTES

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**MINUTES OF NOVEMBER 15, 2007
MEETING OF THE GROUNDWATER QUALITY COMMITTEE
OF THE BOARD OF DIRECTORS OF THE
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA**

A meeting of the Groundwater Quality Committee of the Board of Directors of the Water Replenishment District of Southern California was held on November 15, 2007 at 12:20 p.m., at the District Office, 4040 Paramount Boulevard, California. Chairperson Sergio Calderon called the meeting to order and presided thereover. Administrative Specialist Sheryll A. Petty recorded the minutes.

1. DETERMINATION OF A QUORUM

Committee: Directors Sergio Calderon, Willard H. Murray, Jr.

Staff: Robb Whitaker, Ted Johnson, Hoover Ng, Paul Fu

2. PUBLIC COMMENT

None.

3. MINUTES OF THE MEETING OF SEPTEMBER 27, 2007 AND THE MINUTES OF THE JOINT GROUNDWATER QUALITY/WATER RESOURCES COMMITTEES OF OCTOBER 12, 2007

The minutes were approved as submitted.

4. GROUNDWATER QUALITY REGULATORY UPDATE- NEW PERCHLORATE MAXIMUM CONTAMINANT LEVEL (MCL)

Senior Engineer Hoover Ng said that a new drinking water standard was issued by the State Department of Public Health and became effective on October 18, 2007 regarding perchlorate which is a contaminant that has been on everyone's radar screen for some time. Mr. Ng outlined the process of how the State sets a standard. He said they have been monitoring the level of perchlorate for some years and have now set the standard at 6 parts per billion. Perchlorate is an industrial contaminant that is basically from rocket fuels, missiles and fireworks. It is prevalent on aerospace and defense contract companies or wherever there are military bases. He said that it has been known to cause malfunctioning of the thyroid gland and therefore it affects the metabolism of young children and fetuses. He said the best available treatment is ion exchange and biological fluidized bed reactors. He said the difference between the two is that in ion exchange one perchlorate ion is exchanged for another ion, basically a chloride. He said that perchlorate has to be captured in the waste stream and disposed of properly as a hazardous waste. He said that the biological fluidized bed reactors converts perchlorate through biological means with bacteria which will metabolize the perchlorate into chloride ions and oxygen which are more benign by-products with no hazardous waste to be disposed of. Director Murray asked that staff check to see how California Water Services cleaned up its production well. Chief Hydrogeologist Ted Johnson said that San Gabriel Valley just to the north has a very bad perchlorate problem and

noted that they are using the ion exchange system to treat their perchlorate contamination. Mr. Ng concluded saying that because perchlorate is a new MCL the State Department of Public Health requires monitoring for it so for the 19 participants of the District's groundwater monitoring program, staff has been working with them to see what are the best times to do their monitoring for them.

Director Murray asked staff to remind him to speak with the CBMWD President regarding the operation of the Central Basin Protection Project.

5. CHANGE ORDER – STETSON ENGINEERS, INC.

Mr. Johnson said that the District has retained Stetson Engineers to be assisting staff with the top 36 contaminated site investigations. He said that in order for staff to keep abreast of all of these sites, the regulators' offices must be visited and Xerox copy their reports which Stetson does. He said the task has been completed but their report shows 25,000 copies made compared to the 1,200 they had estimated. He said that the change order will be in the amount of \$6,418.38. The committee approved the staff recommendation to approve a \$6,418.38 Change Order to Stetson Engineering, Inc. for the additional costs to their contract for Regulatory Agency Data Collection and Compilation services.

6. AB 303 AUTHORIZING RESOLUTION

Mr. Johnson said that AB303 is a State program – a local groundwater assistance fund which must come before the legislature every year as to whether it will be funded or not. He said it was recently funded with the maximum grant for a single project limited to \$250,000. Staff would like to pursue these funds for a study in Santa Fe Springs that has groundwater contamination from a large superfund site that has contaminated the aquifers. He said that staff is concerned about the shallow contamination getting down deeper to the drinking water aquifers. The committee concurred with the staff recommendation to adopt Resolution No. 07-807 approving submittal of application for a Local Groundwater Assistance Grant pursuant to the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 (Water Code Section 79650 et seq.) and to be submitted as a subsequent needs item to the Board at its meeting of November 16, 2007.

7. DTSC MONITORING WELLS

Mr. Johnson said that one of the District's top 36 contamination sites is the AAD Distribution and Dry Cleaning Facility in Vernon. He said that the soil contains both PCE and TCE and the DTSC is remediating that soil contamination. He said that there is also a lot of groundwater contamination in the wells nearby. He said that the DTSC has determined that it is not the fault of AAD. The cause of the contamination is unknown so the DTSC has gotten the EPA to help fund a site discovery project which means they will be looking for who caused the contamination. He said that in the meantime there is no funding to continue sampling the

wells so staff is proposing authorizing up to \$25,000 to help support the continued sampling of those wells by the DTSC. He said that there is a MOU which District Counsel has approved which he passed out. The committee concurred with the staff recommendation to approve the agreement with the DTSC and fund one round of monitoring and sampling of the six wells outside the AAD site for a cost not to exceed \$25,000.

8. AWARD OF CONTRACT FOR SALINE PLUME GEOPHYSICAL SURVEY

Mr. Johnson said that this is a technique called geophysics to try to look for salt underground without drilling any wells or holes – special equipment is used instead. He said that the District tried this technique last year and it worked very well. He explained that this equipment is like using a metal detector to find coins on the beach but can find salt down deeper in the aquifers if open areas such as parks or school yards are available. He said that geophysics is the principle of looking for contrasts and the contrast here is fresh water versus salt water. He said that it could cost millions of dollars to drill new monitoring wells, so this is an attempt to get data without drilling so many wells. He said that staff learned about the process at the international Saltwater Intrusion Conference last year in Sardinia. Director Murray asked why the cost submitted by the companies was so different. Mr. Johnson said that there were variations in the hourly rate and some of the companies did not understand the proposal and provided tasks that were not needed. He said that staff is recommending entering into a contract with Aquifer Science & Technology for professional geophysical services for mapping seawater intrusion for an amount not to exceed \$40,000 plus a \$10,000 contingency for use by staff if needed or a overall project budget of \$50,000.

The committee concurs with staff's recommendation.

9. GOLDSWORTHY DESALTER UPDATE

Senior Engineer Paul Fu said that the Desalter was shut down in October due to a failure of the airblower for the decarbonator at the plant. He said that the decarbonator is like an air stripper that removes carbon dioxide in the water to bring the pH back more neutral before supplying the water to the City of Torrance. He said that the other purpose is to add some chlorine and strip off the hydrogen sulfide in the water. It is an essential process for the water supply. He said that the replacement parts have been ordered and that the material is stainless steel and required special fabrication. He said that the parts were arriving and would be installed during the week of November 19th. Staff will continue to apprise the committee of the status of the ongoing repairs.

10. DIRECTORS' REPORTS, INQUIRIES, AND REVIEW OF DIRECTIONS TO STAFF

Director Murray asked Mr. Ng if there was anything else going on that the committee would be interested in. Mr. Ng said that staff has been working with the Water Reuse Association on the state water recycling policy which is associated with ground water monitoring for water recycling in general and staff is trying to make the case to the State Board that it is appropriate for groundwater recharge projects but not as a blanket requirement for all water recycling projects. He said that basically the LA Board is telling the City of Los Angeles that they have to put in groundwater monitoring for irrigating with recycled water on golf courses. The LA Board is saying that they think that it is appropriate so this discussion has been elevated to the State Board in Sacramento. They have included provisions in their draft water recycling policy. The water recycling community believe that there is a need to have a more consistency.

Mr. Johnson said that there will be another Groundwater Contamination Forum at the end of this month. He said that staff has recently identified an increasing trend of some contamination in the Los Angeles Forebay. Staff has been talking to the DTSC about this site – it is very deep TCE contamination down to 600 feet. He also added staff will be coming to the Board next month with a request for four new monitoring wells. Director Calderon asked if there was any kind of workshop that some his constituents from Montebello, Maywood and Bell Gardens could participate in. Mr. Johnson said that he will have Senior External Affairs Representative Elsa Lopez contact him in regard to setting up a tour for those people.

11. ADJOURNMENT

There being no further business to come before the Committee, the meeting was adjourned at 1:12 p.m.

Chairperson

Attest:

Director



MEMORANDUM

ITEM NO. 4

Prepared by: Hoover Ng

Reviewed by: Ted Johnson

Approved by: Robb Whitaker

DATE: JANUARY 24, 2008

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GROUNDWATER QUALITY REGULATORY UPDATE – PERCHLORATE TREATMENT

SUMMARY

The California Department of Public Health (CDPH) regulates drinking water supplies and has enforceable standards that water purveyors must meet to protect public health. On October 18, 2007, they set a new Maximum Contaminant Level (MCL) for perchlorate at 6 micrograms per liter ($\mu\text{g/L}$).

Perchlorate is a contaminant of industrial origin. It is a component of rocket fuel, missiles, and fireworks, and 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. Especially sensitive populations include pregnant women, fetuses, infants and small children, and individuals that have thyroid problems.

The State Office of Environmental Health Hazard Assessment (OEHHA) finalized the Public Health Goal (PHG) in March 2004 at 6 $\mu\text{g/L}$, and CDPH revised their notification level to be 6 $\mu\text{g/L}$ at the same time. A PHG is based solely on health effects studies and does not consider the technical or economic feasibility of reaching the number. CDPH issued a draft MCL of 6 $\mu\text{g/L}$ on August 22, 2006, and announced on September 19, 2007 the final MCL of 6 $\mu\text{g/L}$. Best Available Treatment (BAT) is ion exchange and biological fluidized bed reactors.

Two production wells in the WRD service area were found with perchlorate as high as 19 $\mu\text{g/L}$. One has been removed from service and the other has been retrofitted with a treatment system to reduce perchlorate below the new MCL of 6 $\mu\text{g/L}$ and has continued to operate. Perchlorate has been found in other areas in Southern California with much higher concentrations.

At the request of the Committee on November 15, 2007, treatment for perchlorate was investigated further. In the Central Basin, an ion exchange (IX) system has been operating since 2005 to remove perchlorate to below detection levels ($< 4 \mu\text{g/L}$). It was chosen over other methods because it was the most cost effective at \$200 -250 per af. A contractor operates and maintains the system and the resin used in the IX system is recharged offsite, so that no hazardous wastes are generated onsite.

The San Gabriel Valley has more extensive perchlorate contamination in it than the Central or West Coast Basins. Levels have been as high as 40 to 50 $\mu\text{g/L}$. Several IX systems have been operating to treat for perchlorate; the oldest system began operating in 2001. Some systems backwash their resin onsite. The brine waste is returned to the sewage collection system and treated further at the Joint Water Pollution Control Plant of the County Sanitation Districts of Los Angeles County in Carson. Other systems have single pass systems, whereby the resin, once it has been exhausted in capacity, is replaced and the resin is regenerated offsite. Perchlorate levels are below detection levels after treatment.

The District has included perchlorate in its Title 22 Groundwater Monitoring Program. Staff has been coordinating initial and routine sample collection schedules with the nineteen participants in this program to ensure compliance with this new requirement.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. 5

*Prepared by: Paul Fu
Reviewed by: Ted Johnson
Approved by: Robb Whitaker*

DATE: JANUARY 24, 2008

TO: GROUNDWATER QUALITY COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GOLDSWORTHY DESALTER UPDATE

SUMMARY – GOLDSWORTHY DESALTER

The Goldsworthy Desalter has been operating since 2002 to remove salty (brackish) groundwater beneath the City of Torrance in the West Coast Basin. Historic over-pumping of the basin caused seawater to intrude into the aquifers resulting in the brackish water contamination. Seawater barrier injection wells have since been installed to prevent further intrusion, but a significant amount of brackish groundwater remains in the basin which the Goldsworthy Desalter is helping to remove.

The Desalter required a shut down during the last quarter of 2007 due to failure of the air blower for the decarbonator. As a result, the Desalter did not produce any potable water for the City of Torrance during this period. A new air blower was installed in December, and the Desalter was ready to resume its production when an unexpected chemical pipe leak occurred. The leak repair was completed in early January. The RO membranes were sanitized to ensure they are bacteria-free prior to startup. The Desalter started to supply water to Torrance on January 17th.

FISCAL IMPACT

The repair of the air blower costs approximately \$14,000. The cost is covered by the FY 2007-08 budget for equipment repairs for the Desalter.

STAFF RECOMMENDATION

For information.