

WEST BASIN MUNICIPAL WATER DISTRICT

JANUARY 11, 2007 - Water Resources
 Little, Smith
JANUARY 22, 2007 - Board Meeting
 Prepared by: Wyatt Won
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 Approved by: Richard Nagel

ACTION CALENDAR

**FERRIC CHLORIDE AND SODIUM HYDROXIDE
 CHEMICAL SUPPLY AND DELIVERY CONTRACTS**

SUMMARY:

Ferric chloride and sodium hydroxide are two chemicals that are used in the recycled water treatment processes. Ferric chloride is used in the new high-rate clarifier to help settle the suspended solids that are in Hyperion’s secondary effluent prior to filtration to meet Title 22 standards. Sodium hydroxide is used to adjust the pH of the recycled water after the nitrification process at the satellite plants.

Staff issued a “Request for Bids” (RFB) for the supply and delivery of ferric chloride and sodium hydroxide last spring. Two bids were received for ferric chloride and five bids were received for sodium hydroxide. Awards of the contracts to supply the chemicals were based on a unit price per ton or pound of chemical multiplied by an estimated amount of chemical use. For ferric chloride the estimate was based on pilot testing. For sodium hydroxide the estimate was based on historical usage. The amount of chemicals actually needed is dependent upon the quality of the water being treated.

The current chemical suppliers, unit prices, and contract amounts are shown in the following table.

Chemical	Firm	Unit Price	Units	Contract Amt
ferric chloride	Kemiron	\$410 per ton	1,980 tons	\$811,800
sodium hydroxide	Pioneer Americas	\$0.2128 per lb*	465,225 lbs	\$99,000

* Actual bid is \$0.203 per lb to Chevron and ExxonMobil, and \$0.278 per lb to Carson facility

Based on actual chemical use for the first six months of the fiscal year, staff estimates that more ferric chloride and sodium hydroxide will be used than was estimated for this fiscal year. The reason ferric chloride use is higher than estimated is that the new Phase IV pre-treatment high-rate clarifier required much higher dosages of ferric chloride to settle the suspended solids than was indicated in the pilot study. This was due to the constantly varying nature of the influent; much of it caused by backwash and microfilter cleaning reclamation side streams that are routed to the pre-treatment high-rate clarifier. Staff believes that operational changes and a different polymer have largely solved the problem, although more changes are being evaluated. The most recent data on ferric chloride use shows it is closer to the anticipated use.

The higher sodium hydroxide use was related to the high ferric chloride use. Ferric chloride consumes alkalinity to form the settleable floc. Higher ferric chloride dosages used more of the natural alkalinity in the recycled water. The nitrification process also consumes alkalinity. In order to maintain a more neutral pH, more sodium hydroxide had to be added to the water to partially replace what was used by both processes.

Staff estimates that the ferric chloride contract with Kemiron will need to be increased by \$150,000 to cover costs to the end of the fiscal year and the sodium hydroxide contract with Pioneer Americas will need to be increased by \$100,000 to cover costs to the end of the fiscal year.

FISCAL IMPACTS:

Funds are included in the Operations and Maintenance Budget for Fiscal Year 2006-07.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

The item was reviewed by the Water Resources Committee on January 11, 2007 and was recommended for approval at the January 22, 2007 Board meeting.

RECOMMENDED MOTION:

That the Board authorizes the General Manager to amend the chemical contracts with:

1. Kemiron to supply and deliver ferric chloride from July 1, 2006 through June 30, 2007 for an additional \$150,000 for a total not-to-exceed amount of \$961,800; and
2. Pioneer Americas to supply and deliver sodium hydroxide from July 1, 2006 through June 30, 2007 an additional \$100,000 for a total not-to-exceed amount of \$199,000.

EXHIBITS:

None.