

**Metropolitan Domestic Water Improvement District
Board of Directors Meeting**

July 11, 2011

**Award of Analytical Laboratory Services Contract
for VOCs, TTHMs and HAA5**

Synopsis

The Board of Directors is requested to approve the Analytical Laboratory Services Contract for Volatile Organic Chemical, Total Trihalomethane and Haloacetic Acid Analyses with TestAmerica Laboratories. This contract is necessary to ensure that the District complies with the Arizona Department of Environmental Quality's Drinking Water Rules.

Background

According to the Arizona Department of Environmental Quality (ADEQ) Drinking Water Rules, the District must annually monitor for Volatile Organic Chemicals. Volatile Organic Chemicals (VOCs) are chemicals consisting of industrial solvents such as Benzene and Toluene. If a VOC is detected at greater than or equal to 0.0005 mg/L, the District must monitor until a minimum of two consecutive quarters result in detections below the Maximum Contaminant Level (MCL) value (as noted in the proposal). The MCL is the maximum allowable level for a contaminant in drinking water that is delivered to any person who is served by a public water system. After a minimum of two quarters of monitoring with no detection, monitoring can be reduced to annual monitoring for each sampling point. After at least three years of annual monitoring with no detection, annual monitoring can be reduced to once every three years at ADEQ's discretion.

ADEQ also requires that the District monitor quarterly for Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5) at representative points within the distribution system. Trihalomethanes are disinfection treatment by-products that are a result of the addition of chlorine into the District's distribution system. Total Trihalomethanes can consist of Bromodichloromethane, Bromoform, Chlorodibromomethane and Chloroform. Currently the District collects TTHMs on a quarterly basis at two distribution system sample station locations that represent all of the Metro-Main Service Area; on an annual basis at six distribution sample station locations in the Metro-SW Service area; and on a once every three years basis at five distribution sample station locations for the Metro-Hub Service Area. The current MCL for TTHMs is 0.080 mg/L and 0.060 mg/L for HAA5 and the laboratory detection limit for both is 0.0005 mg/L. After four quarters of results \leq half of the MCL, ADEQ can grant reduced monitoring from quarterly to annual for both TTHMs and HAA5. Results on detections are reported in the District's Consumer Confidence Reports.

Issues

The District published a request for proposals from laboratories for the VOC, TTHM, and HAA5 analyses in the Daily Territorial on April 11, 12 and 13, 2011. Eight laboratories were sent the proposal package (see attached), and the District received five proposals. Proposals were received from MWH Laboratories, Inc. (with an office and laboratory in Scottsdale, AZ), TestAmerica Laboratories, Inc. (with a Tucson office, and a laboratory in Phoenix, AZ), Turner Laboratories, Inc. (with a Tucson, AZ based office and laboratory), XENCO Laboratories (with an office in Tucson and a laboratory in Phoenix, AZ), and Columbia Analytical Services, Inc. (with an office in Tucson and its laboratory in Kelso, WA). The selection of a laboratory is made by scoring each laboratory according to details such as price per analyses, RUSH costs, turnaround time for analytical reports, method detection limits, insurance coverage, quality assurance/quality control (QA/QC) plan, references, licensure and laboratories professional expertise.

In reviewing the proposals, Issues arose mainly with the costs, turn-around time (TAT) and method detection limits (MDLs). Regarding VOCs, samples are taken at a given Entry Point into the Distribution System (EPDS). An EPDS is the point at which water is discharged into the distribution system from a well, storage tank, reservoir or pressure tank. The number of samples is subject to monitoring waivers, detections or if the District decides to increase the number of samples taken. It should be noted that one well and one reservoir undergo monthly monitoring, and seven wells undergo quarterly monitoring in the Southwest portion of the District due to the past detection of TCE and PCE in the South Shannon well in this area. There are also two weekly treatment system performance samples taken for VOCs at the South Shannon Treatment System per ADEQ requirements.

District Staff had MWH Labs with the highest total score as noted on Table 1 below, and the second best cost ranking. MWH Labs also had the best score for QA/QC and Lab Team categories of Table 1, and ranked high in the Professional Expertise; RFP, ADEQ Forms and License; and Insurance Requirements categories. TestAmerica Labs had the best Cost score from Table 1, and was second for the best Professional Expertise Score, but was a close third in the Total Score for Table 1. Test America Labs scored high in the Lab Team; RFP, ADEQ Forms and License; and Insurance categories. They also ranked second best for costs in Table 2 and the best for RUSH costs in Table 3. The MWH Labs had the best cost score in Table 1, but the lab ranked second in the RUSH costs on Table 3. Turner Labs tied for first in the Professional Expertise category of Table 1 and had the second best Total Score for Table 1. Turner also ranked well in the QA/QC; Lab Team; RFP, ADEQ and License; and Insurance requirements categories. But Turner ranked third in the Cost Score on Tables 1, Last in the Cost Ranking of Table 2 and third for the VOC Five Day TAT Cost Ranking on Table 3. XENCO Labs ranked well on the RFP, ADEQ Forms and License and Professional Expertise categories of Table 1, but ranked the lowest for the Cost score category on Table 1 and second lowest on Tables 2 and 3. Columbia Analytical Services was good on their Lab Team Score and Insurance Requirements categories of Table 1, but they ranked low in the Cost Scores of all three tables since the District would be required to package and ship the samples to the Lab at the District's cost. Columbia also ranked the lowest on the QA/QC and Professional Expertise Categories of Table 1.

As noted on Table 3, TestAmerica Labs ranked the best for a VOC Five-Day TAT and has an office here in Tucson, which would ship samples quickly for the District. A five-day TAT is utilized at the South Shannon Treatment System to quickly determine if there are any detects in regulated VOCs. This allows the District to maintain compliance with the treated drinking water and, and so that the Treatment System can have the media changed out in a timely fashion to prevent any further VOC detections. The MWH Labs ranked first on Table 1 for Total Score and second for a VOC Five-Day TAT Cost as noted on Table 3, but with its office and Laboratory both in Scottsdale, it is uncertain if there could be a problem with getting the results within 24-48 hours, as this type of TAT is also used for the South Shannon Treatment System. In addition, the District would have to take additional time to package up the samples for shipping to the Lab, and contact the shipper to get the samples to MWH Labs. This would cost more in time and money to the District for the approximately \$20 total cost saving of using MWH Labs, as MWH Labs would only be paying for the shipping to the Lab itself.

In the event that a QA/QC laboratory problem error occurs that requires a resample, the District's contract requires the laboratory to pay for both the original sample and resample analyses if more than three resamples are necessary, and if they are due to a laboratory QA/QC error.

Staff Recommendation

Staff recommends that the Board of Directors award the Analytical Laboratory Services Contract for Volatile Organic Chemicals, Total Trihalomethanes and Haloacetic Acids Analyses to TestAmerica Laboratories. The contract awarded to TestAmerica Laboratories would not exceed \$53,000, and would expire on June 30, 2012, with the option to extend the contract for an additional two years with the Board of Directors annual approval. These costs account for compliance sampling; contingency sampling; and elective monitoring for VOC, TTHM and HAA5 within all five of the District's Service areas. The District has also used TestAmerica for the past three years for the occasional VOC as well as for arsenic analyses and has been pleased with their performance. In the event that TestAmerica Laboratories cannot perform the VOC, TTHM or HAA5 analyses due to equipment failure, turn-around time, necessary detection levels or other, it is recommended that MWH Laboratories, Inc. be the back-up laboratory for the VOC, TTHM and HAA5 Analyses due to their scores and costs noted above.

Suggested Motion

I move that the Board of Directors award the Analytical Laboratory Services Contract for Volatile Organic Chemicals, Total Trihalomethanes and Haloacetic Acids Analyses to TestAmerica Laboratories for a not to exceed amount of \$53,000. The contract may be extended for two additional years, pending Board's annual approval. In the event that TestAmerica Laboratories cannot perform these necessary analyses, MWH Laboratories, Inc. shall be the back-up Laboratory.

Respectfully submitted,

I concur with the above-noted recommendation

Christopher W. Hill
 Deputy Manager

Mark R. Stratton, P.E.
 General Manager

Table 1 – Total Proposal Review Criteria

Criteria	MWH Labs	Turner Labs	TestAmerica Labs	XENCO Labs	Columbia Analytical Services
QA/QC Score (QA/QC Plan, Back-up Plan, Method Detection Limits)	24	20	17	18	13
Cost Score (VOC,TTHM/HAA5 and RUSH Costs)	21	20	22	17	18
Professional Expertise Score (References/Expertise, Lab and Equipment Certifications, Turn-Around Times (TAT), Lab/Office Locations)	18	20	19	18	14
Lab Team Score (Resumes/Organization Chart and Subcontractors)	5	4	4	3	4
RFP, ADEQ Forms and License Score	15	15	15	15	12
Insurance Requirements Score	10	9	10	9	10
Total Score	93	88	87	80	71

Table 2 – Regular Costs

Parameter	MWH Labs	TestAmerica Labs	Columbia Analytical Services	XENCO Labs	Turner Labs
VOC Costs	\$90	\$85	\$85	\$125	\$118
TTHM Costs	\$45	\$60	\$65	\$50	\$90
HAA5 Costs	\$80	\$85	\$90	\$135	\$135
Total Costs	\$215 for all three years	\$235 for all three years	\$240 for all three years plus shipping/handling	\$310 for all three years	\$343 for all three years
Cost Ranking	1	2	3	4	5

Table 3 – Five Day Turn-Around Time (TAT) Costs

Criteria	TestAmerica Labs	MWH Labs	Turner Labs	Columbia Analytical Services	XENCO Labs
VOC Five Day TAT Cost	\$106.25	\$112.50	\$118.00	\$127.50 plus shipping/handling	\$156.25
VOC Five Day TAT Cost Ranking	1	2	3	4	5