

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

**July 11, 2011**

**Approval of Analytical Laboratory Services Contract  
for Radiochemical Analyses**

**Synopsis**

The Board of Directors is requested to approve the Analytical Laboratory Services Contract for Radiochemical Analyses with Turner Laboratories, Inc. This is 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 currently monitor for Radiochemicals once every four years. Regulated radiochemicals include Gross Alpha, Radium-226 and Radium-228, and Uranium. The District monitors for the Regulated Radiochemicals at the 21 active Metro-Main Service Area EPDS'; the five active Metro-Hub Service Area EPDSs, and the five active Metro-SW Service Area EPDS'. An Entry Point into the Distribution System (EPDS) is the point at which water is discharged from a well, storage tank, reservoir or pressure tank into the distribution system, prior to any service connection. The District occasionally collects samples for Radon in anticipation of the new Radon rule. Please note that the compliance samples for Radiochemicals within the Metro-Hub and Metro-SW Service Areas are collected by ADEQ under the Monitoring Assistance Program (MAP) unless there is a detection.

In December 2000, EPA finalized a new Rule for Radionuclides that requires monitoring for Gross Alpha (MCL of 15 pCi/L), Combined Radium 226/228 (5 pCi/l), and Uranium (MCL of 30 ppb). The rule requires that four quarters of monitoring for each of the noted contaminants must occur in 2006. However, grandfathered data was accepted by ADEQ for the District's Metro-Main service area. Due to the acceptance of the grandfathered data, and four quarters with no detects of data were collected at the District's newest wells, Mona Lisa, Tucson National West No. 2 and Metro-Hub No. 5A, the new rule allows for monitoring once every three, six or nine years at the District's EPDSs.

**Issues**

The District published a request for proposals from laboratories for Radiochemical Analyses in the Daily Territorial on April 11, 12 and 13, 2011. Eight laboratories were sent the proposal package (attached), but the District only received three proposals. District staff received a proposal from Turner Laboratories, Inc. (A Tucson based office and Laboratory.); XENCO Laboratories (A small office/limited laboratory in Tucson and a Phoenix Laboratory.); and TestAmerica Laboratories, Inc. (A small office/limited Laboratory in Tucson and a large office and laboratory in Phoenix.). The

selection of a laboratory is made by rating each laboratory according to quality assurance/quality control, method detection levels, costs for analyses, turnaround time, references, certification, insurance coverage and other pertinent factors such as laboratory methods used, and laboratory reports.

Issues arose mainly with costs and method detection limits (MDLs). The District samples at each of its active Entry Points into the Distribution System (EPDS) sample locations and at distribution point locations throughout the District. The number of samples is subject to change should a detection occur, a distribution system sample is collected or the District decides to increase the number of samples taken.

District staff reviewed the analytical contract proposals and had Turner Labs with the highest Total Score and highest Professional Expertise Score as noted on Table 1 above. Turner Labs also ranked second for the QA/QC score on Table 1, first on Table 2 for Cost Ranking and tied for first on Table 3 for Method Detection Limits Ranking. XENCO Labs ranked second on the Total Score and first on the Costs from Table 1 above. But, XENCO ranked second on the Costs Ranking on Table 2 and had the lowest QA/QC and Lab Team scores from Table 1 above. XENCO also had the lowest ranking for Method Detection Limits as noted on Table 3 above. TestAmerica Labs had the lowest Total Score, but the best QA/QC score as noted on Table 1 above. However, they ranked third for Costs on Table 1, and third for Cost Ranking on Table 2. But they tied for first on Table 3 for the Method Detection Limit Ranking.

The most pertinent issues for Radiochemicals would be the method detection levels (MDLs) should EPA decide to lower them due to health risks, or a low MDL or reporting level is given to Radon on the upcoming Radon rule; and costs are also important. Turner Labs tied for first for the MDLs as noted on Table 3 and had the best Cost Ranking on Table 2. They also had the best overall Total Score, and were second for Costs on Table 1 above. The District has also used Turner Laboratories in the past for Radiochemicals and has been pleased with their results.

In the event that a QA/QC laboratory problem error occurs that requires a resample, the District would like the contracted laboratory to pay for both the original sample and resample analyses if more than three re-samples 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 services contract for Radiochemicals to Turner Laboratories, Inc. based on their best ranking for Total Score on the Proposal Review Criteria, best ranking for Regular Costs and best ranking for Method Detection Limits. The contract awarded would not to exceed amount of \$8,000.00, to expire on June 30, 2012, but with the option to extend the contract an additional two years with Board approval. This cost includes compliance sampling for Metro-Main, Metro-Hub and Metro-SW Service areas and some contingency sampling. In the event that Turner Laboratories, Inc. cannot perform the Radiochemical Analyses due to equipment failure, necessary detection levels, etc., it is recommended that XENCO Laboratories shall be the back-up laboratory for Radiochemical Analyses.

Board of Directors  
July 11, 2011  
Radiochemical Analysis Analytical Services Contract  
Page 3

**Suggested Motion**

I move that the Board of Directors award the analytical services contract for Radiochemical Analyses to Turner Laboratories, Inc. for a not-to-exceed amount of \$8,000.00. The contract will expire on June 30, 2012. The contract may be extended for two additional years annually with the Board of Directors approval. In the event that Turner Laboratories, Inc. cannot perform these necessary analyses, XENCO Laboratories shall be the back-up Laboratory.

Respectfully submitted,

Christopher W. Hill  
Deputy Manager

I concur with the above-noted recommendation

Respectfully submitted,

Mark R. Stratton, P.E.  
General Manager

**Table 1 – Total Proposal Review Criteria**

<b>Criteria</b>	<b>Turner Labs</b>	<b>XENCO Labs</b>	<b>TestAmerica Laboratories</b>
<b>QA/QC Score</b> (QA/QC Plan, Back-up Plan, Method Detection Limits)	22	18	24
<b>Costs</b> (Total Cost, Unit Cost, RUSH Cost)	18	24	16
<b>Professional Expertise</b> (References/Expertise, Lab and Equipment Certifications, Turn-Around Time (TAT), Lab/Office Locations)	19	18	14
<b>Lab Team</b> (Resumes/Organization Chart and Subcontractors)	4	2	4
RFP, ADEQ Forms and License Included Score	15	15	15
Insurance Requirements Score	9	9	10
<b>Total Score</b>	<b>87</b>	<b>86</b>	<b>83</b>

**Table 2 – Regular Costs**

Parameter	Turner Labs	XENCO Labs	Test America Labs
Gross Alpha Cost	\$43.99 1 <sup>st</sup> Yr./\$46.58 2 <sup>nd</sup> Yr./\$51.75 3 <sup>rd</sup> Yr.	\$50.00	\$51.00 1 <sup>st</sup> Yr./\$53.00 2 <sup>nd</sup> Yr./\$55.00 3 <sup>rd</sup> Yr.
Combined Radium Cost	\$156.40 1 <sup>st</sup> Yr./\$165.60 2 <sup>nd</sup> Yr./\$184.00 3 <sup>rd</sup> Yr.	\$180.00	\$182.00 1 <sup>st</sup> Yr./\$187.00 2 <sup>nd</sup> Yr./\$192.00 3 <sup>rd</sup> Yr.
Radium 226 Cost	\$71.88 1 <sup>st</sup> Yr./\$76.07 2 <sup>nd</sup> Yr./\$84.53 3 <sup>rd</sup> Yr.	\$90.00	\$80.00 1 <sup>st</sup> Yr./\$82.00 2 <sup>nd</sup> Yr./\$84.00 3 <sup>rd</sup> Yr.
Radium 228 Cost	\$93.50 1 <sup>st</sup> Yr./\$99.00 2 <sup>nd</sup> Yr./\$110.00 3 <sup>rd</sup> Yr.	\$90.00	\$120.00 1 <sup>st</sup> Yr./\$124.00 2 <sup>nd</sup> Yr./\$128.00 3 <sup>rd</sup> Yr.
Gross Beta Cost	\$43.99 1 <sup>st</sup> Yr./\$46.58 2 <sup>nd</sup> Yr./\$51.75 3 <sup>rd</sup> Yr.	\$30.00	\$51.00 1 <sup>st</sup> Yr./\$53.00 2 <sup>nd</sup> Yr./\$55.00 3 <sup>rd</sup> Yr.
Isotopic Uranium Costs	\$116.25 1 <sup>st</sup> Yr./\$123.75 2 <sup>nd</sup> Yr./\$137.50 3 <sup>rd</sup> Yr.	\$120.00	\$105.00 1 <sup>st</sup> Yr./\$108.00 2 <sup>nd</sup> Yr./\$111.00 3 <sup>rd</sup> Yr.
Radon Costs	\$53.90 1 <sup>st</sup> Yr./\$57.20 2 <sup>nd</sup> Yr./\$63.53 3 <sup>rd</sup> Yr.	\$90.00	\$63.00 1 <sup>st</sup> Yr./\$65.00 2 <sup>nd</sup> Yr./\$67.00 3 <sup>rd</sup> Yr.
Unit Costs	<b>\$579.91 for all the 1<sup>st</sup> Year/\$614.78 for the 2<sup>nd</sup> Year/\$683.06 for the 3<sup>rd</sup> Year (Average of \$625.92/Year)</b>	<b>\$650 for all three years</b>	<b>\$652 for the 1<sup>st</sup> Year/\$672 for the 2<sup>nd</sup> Year/\$692 for the 3<sup>rd</sup> Year (Average of \$672/Year)</b>
Cost Ranking	<b>1</b>	<b>2</b>	<b>3</b>

**Table 3 – Method Detection Limits Ranking**

Criteria	Turner Labs	TestAmerica Labs	XENCO Labs
Method Detection Limits Ranking	<b>1</b>	<b>1</b>	<b>2</b>