

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

**September 12, 2011**

**Selection of Vendor for Automated Meter Reading System  
for Metro Southwest**

**Synopsis**

The Board of Directors is request to consider selection of a vendor and enter into an agreement for the installation of an automated meter reading system for Metro Southwest service areas.

**Background**

The District purchased three service areas from the Thim Water Company in December 2009. The three service areas purchased are in the south and southwest portions of Tucson. When the District purchased these three systems, funding was included for the various improvements. One of the improvements was the acquisition and installation of a fixed based meter reading system for what is now Metro Southwest.

Since Metro Southwest is a number of miles from the District's main service area, a fixed network would free up staff from manually reading the meters, reduce travel costs, and bring an enhanced level of customer service to the District's Metro Southwest customers. The fixed network provides for the ability to read all the meters with a few key strokes on the computer rather than deploying staff for multiple days. The fixed network provides notification of possible leaks, low usage, high usage, meter failures, and tampering. The data from the meters is reported multiple times per day creating a historical record of the customer's water usage. Having this data available allows for a quicker response to customer inquiries on high water bills. Currently, the District would have to physically install a data logger on the meter and run it for a week to obtain similar information. The fixed network will show the customer usage in graphical form on a monthly, daily, or even hourly basis. A customer web application is also available to allow customers to see their water usage at anytime and not just once a month when the bill arrives. Future applications for the fixed network also include the possibility of a remote shut off valve. Allowing water service to be activated for new customers, terminated for customer's moving out, or shut off for non-payment, which can potentially save the District money and free resources for other duties. Automated meter reading systems continue to expand and develop functionality.

The District advertised a request for Statement of Qualification (SOQ) for a Hybrid Automated Meter Reading System for Metro Southwest from March 8, 2011 through March 11, 2011. As a result of the advertising, 13 entities received SOQ documents. On April 5, 2011, the due date for

submissions, 5 SOQs were received and 1 “thank you” letter. The thank you letter was from Aclara stating they would not be submitting. The 5 SOQ submissions received were from Badger Meter, Dana Kepner (Sensus), Elster, Ferguson (Data Matic), and National Meter & Automation (Itron).

The Southwest AMR Committee comprised of Chris Hill, Mike Land, Sheila Willis, Kevin Westbrooks, Steve Shepard, and Steve Glowacka reviewed the 5 submittals for scoring based on the evaluation criteria contained in the SOQ Documents. Elster did not submit a Hybrid system and was not included in the scoring evaluation. The remaining 4 submissions were rated based on the items in the evaluation with scoring applied in the following manner:

- Highly Advantageous = 10 Points
- Advantageous = 5 Points
- Not Advantageous = 1 Point.
- Unacceptable (or no response) = 0 Points.

Evaluation Results:

National Meter (Itron) Totaling	2205 Points
Badger Meter Totaling	1902 Points
Dana Kepner (Sensus) Totaling	1852 Points
Ferguson (Data Matic) Totaling	1487 Points

Based on the ranking above, the District selected the top three scores to be the shortlist vendors. The selected vendors were asked to make presentations to the District on the systems they had proposed. The presentations allowed staff a better understanding of each proposal and the opportunity to ask additional questions. Following the completion of all the presentations; the AMR Committee met again on July 20, 2011 to review and rate the vendors again on technical merit prior to receiving and price proposals. The rankings were voted on with the following results with “1” being most desirable:

	Steve G.	Kevin W.	Mike Land	Sheila W.	Chris Hill	Steve S.
Sensus	1	2	2	2	2	2
Itron	2	1	1	1	1	1
Badger	3	3	3	3	3	3

Following the technical review and the presentations, the District requested preliminary price proposals from the three vendors. The price proposals were to be part of the vendor evaluation along with the technical review. The first Preliminary Price Proposals were received on July 21, 2011. Vendors were requested to break out there costs for Fixed Network Hardware, Meter Endpoints and Installation, Software, Technical Support, Meter Reading Equipment, Hosting Services, and Customer Web Access. Attached is the spreadsheet of the preliminary price proposals.

The first Preliminary Price Proposals submitted were higher than anticipated and above the District's intended budget amount. In addition to the vendor costs, the District still needed to purchase the meters for the project. The meters were left out of the proposal so that the District could maintain control of the type of meter used as well as not to create conflicts between meter manufacturers.

Upon further review of the specifications, staff realized that the software requirements the District had specified were overly conservative. In an effort to reduce the costs of the project staff requested a Revised Second Preliminary Proposal from the vendors using two software approaches. The first would be software capable of handling up to 5,000 meters that would allow the implementation of Metro Southwest. Larger capacity could be added in future years deferring some of the costs. The second approach was to have the software capacity more realistic to Metro Water District's future build out. The Revised Second Preliminary Price Proposals were received on July 18, 2011. The Revised Preliminary Price Proposal Summary is attached with this report for review.

### Issues

The Revised Price Proposal Summary shows multiple configurations and options from the vendors. The summary identifies the costs for the vendor's hardware, endpoint installation, software, and technical support for two levels of software capacity: 5,000 endpoints (or meters) and 30,000 endpoints (or meters). Note that Metro Southwest installation costs are only for the 1,552 meters in Metro Southwest. The 5,000 endpoint solution allows for the future integration of the Hub service area. The 30,000 endpoint solution represents the integration of Metro Main and future build out of Metro Southwest and Arboles Viejos. The cost difference between the two options is relatively minimal in comparison with the overall cost of the project. For this reason staff is recommending the 30,000 endpoint solution.

The software costs and hardware costs vary between each vendor. One vendor is a great deal higher on the hardware, while another vendor is much higher on the software. Utilizing the 30,000 endpoint software allows the District to grow the network without having to upgrade the software capacity in the future. This leaves future costs of the AMR system as hardware only.

Based on the technical evaluations and the two preliminary price proposals The AMR committee narrowed the field down between Itron and Sensus, both which have good systems that would benefit the District. The Badger system has many good selling points; however, concerns arise with proven ability as their software is not being released until Fall and Badger is not able to provide customer web access at this time.

Based on the evaluations, price proposals, and considering the strengths and weakness of the proposed systems, staff is recommending the Itron system for the Metro Southwest Hybrid Automated Meter Reading System. One of the leading factors is future integration for the other District service areas. As the District is currently using Itron equipment and software to read the District's meters, future integration of service areas can be accomplished easier. Although Itron is the most expensive on the software side, this is an upfront cost that will cover the integration

of the other District service areas. Itron is the least expensive on the hardware costs. The endpoints and network hardware will need to be purchased as each new area is installed. These costs would make the Sensus system more expensive in the long run.

All the endpoints proposed by the vendors have a 20 year life. The positive displacement meters the District currently uses and the ones originally proposed for the AMR system have a 10 to 15 year life. This creates a gap down the road that the District would need to make a decision on whether to replace the endpoint at the end of the meter's useful life or wait a few years and replace the endpoint. In order to resolve this dilemma and increase revenue at the same time, staff is proposing that the meters for this project be the Sensus I-Pearl. The I-Pearl is an ultrasonic meter that has no internal moving parts and a 20 year life that matches the endpoint. Additionally, the meter is accurate to 0.03 gallons per minute. This combination allows the meter and endpoint to be replaced at the same time getting the most longevity out of both. Although the I-Pearl is more expensive than the standard positive displacement meter; it is far more accurate. The additional accuracy will increase revenue and should more than pay for the additional expense.

As previously noted, the loan with the Water Infrastructure Financing Authority (WIFA) to acquire Metro Southwest included funds for the installation of an automated meter reading system. As staff has moved through this process, it has been evident that the actual cost for the AMR is considerably higher than the original forecast. This was reported to the Board at the August 8, 2011 meeting and the Board approved staff to work with WIFA to take the necessary steps to amend the 2009 WIFA loan for the purpose of purchasing and improving Metro Southwest water systems. Staff is currently working with WIFA and intends to bring a full report and proposed amendment at the October 12, 2011 meeting. This will coincide with completing the negotiations with the vendor approved by the Board to determine the exact cost of an agreement with that vendor.

### **Recommendation**

Staff is recommending that the Board authorize staff to pursue an agreement with National Meter & Automation (Itron System) for the Metro Southwest Hybrid Automated Meter Reading System with the use of the Sensus I-Pearl meter. It is further recommended that if a successful agreement cannot be reached with National Meter & Automation then staff is directed to pursue an agreement with Dana Kepner (Sensus System). The final agreement will be brought back to the Board for approval.

### **Suggested Motion**

I move to direct staff to pursue an agreement with National Meter & Automation (Itron System) for the Metro Southwest Hybrid Automated Meter Reading System with the use of the Sensus I-Pearl meter. It is further recommended that if a successful agreement cannot be reached with National Meter & Automation then staff is directed to pursue an agreement with Dana Kepner (Sensus System). The final agreement will be brought back to the Board for approval.

Board of Directors  
September 12, 2011  
Automated Meter Reading Metro Southwest  
Page 5

Respectfully submitted,

Christopher W. Hill  
Deputy Manager

I concur with the above-noted recommendation.

Respectfully submitted,

Mark R. Stratton, P.E.  
General Manager