



City of Morgan Hill

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9/7/2016	1	City Council	adopted	Pass

CITY COUNCIL STAFF REPORT MEETING DATE: SEPTEMBER 7, 2016

PREPARED BY: Dan Repp, Deputy Director Utility Services
APPROVED BY: City Manager

ADVANCED METERING INFRASTRUCTURE SYSTEM SOLE SOURCE DESIGNATION

RECOMMENDATION(S)

1. Adopt resolution designating Sensus USA, Inc to be the City's sole source provider for water AMI equipment and supporting services through the term of the existing AMI agreement between the City and Sensus USA, Inc. (January 21, 2034); and
2. Direct the City Manager to submit to the City Council, on a biennial basis coincident with budget adoption, a summary of AMI system related purchases.

COUNCIL PRIORITIES, GOALS & STRATEGIES:

Ongoing Priorities

Maintaining fiscal responsibility
Preserving and cultivating public trust

2016 Focus Areas

Enhancing Our Services
Improving Our Communication

REPORT NARRATIVE:

Background

Customer water use is metered by the City to recover the cost of providing water service. There are approximately 13,500 active water meter service connections City-wide, all of which have the ability

to collect and transmit flow data for billing purposes.

In 1987, the City initiated the conversion of the manual water meter reading system to touch read technology. In 1989, the City selected Sensus Technologies as its standard water meter and touch read system. By 1995 all City water meters had been converted to touch read capability including data processing to send readings directly to the billing software. This greatly enhanced the efficiency of the water meter reading and billing system. The City was able to reduce meter reading staff levels while the number of water meters increased.

Water meter technology continued to advance and in 2001 the City began to convert all touch read water meters to a drive-by radio read system. The drive-by system required installation of small radio transmitters on each meter so a passing receiver (located in a vehicle) could pick reading data. The data was stored for later download to the billing system.

The City's next evolution in meter reading technology began in 2013 when staff started deploying the Sensus advanced metering infrastructure (AMI). AMI allows for real time meter reading and data processing capability including customer access to their water usage. Each water meter is equipped with a radio transceiver for two way communication. Communication with the meters is done using data collection base stations. The City has three base stations that provide complete radio coverage of the water system. The system is programmed to take flow measurements every hour from each meter. The flow measurements are collected by the base stations and then sent to a data processing server managed by Sensus. The data processing server then formats the flow data so it can be loaded into the City's billing system. Utility billing and water system operators can access any meter in the AMI network and perform diagnostics or confirm proper function. The AMI technology also provides customers with online, real-time access to their water meter data thereby providing them tools to better manage their water consumption.

Slightly more than half of the City water meters (7200) are running on the AMI system with staff adding more every week. Staff anticipates having all of the City meters running on the AMI system in about 18 months. The City's AMI system was developed by Sensus and uses Sensus products as well as relies on Sensus professional services for support. On January 21, 2014, the City executed a twenty year agreement with Sensus for AMI software, data collection system, and data hosting services (see attachment 1). The agreement also includes the AMI system equipment provider: Golden State Flow Measurement.

In the past, staff has regularly provided the City Council with justifications to support the continued use of Sensus meters. The last action was July 8, 2015. Since then, staff completed a pilot study to explore the potential of eliminating the sole source restriction. The study incorporated other equipment into the Sensus AMI. The study looked at the ability of other meters to work within a Sensus system, the ability of the Sensus AMI to collect and process data from another meter manufacture, and operations and maintenance requirements of having two types of metering equipment. The Mueller Company was selected for the pilot for the following reasons:

1. Mueller is one of the largest water equipment suppliers in the country
2. Mueller has its own AMI technology
3. The Mueller AMI has remote turn on/off capability

The Mueller system was deployed at the San Pedro Apartment complex. The deployment included 64 water meters, telemetry units, data collector, and data processing system and utility billing interface software. The deployment operated from August 14, 2014 to October 12, 2015. Staff found that the Mueller system and Sensus system are not compatible with each other. The data telemetry of both systems use different formats and were not capable of reading and processing data from the other.

The meters have similar issues namely that meter parts are not interchangeable which would require maintaining two sets of spare parts. The data processing and hosting functions were also not compatible between the two systems therefore requiring separate systems to accomplish the same tasks. In addition, replacing the Mueller telemetry units required complex disassembly and reassembly of the meter including cutting and reconnecting wires. Staff concluded that given the labor needed to repair a faulty Mueller telemetry unit, that it would be less expensive to replace the entire meter. Replacing a Sensus telemetry unit requires a simple push type connector that is external to the meter.

Staff discovered an additional difficulty with the Mueller turn on/off function. The turn on/off function is controlled through the telemetry network and does not use a manual valve. This makes it difficult to restore service particularly for after hour or emergency turn-on/off because utility technicians typically are not authorized to operate the telemetry network.

Staff has concluded that incorporating other metering equipment into the Sensus AMI would require running two separate systems thus adding complexity and cost to the water utility.

The City has been using Sensus water meters for approximately twenty six (26) years. The meters have proven to be accurate, reliable, and easy to service. The Sensus AMI system has been operational for approximately two years. The AMI system has been accurate, reliable, and performed well with the City's billing system. Furthermore, the Sensus data hosting, data processing, and support services have also met or exceeded staff expectations. As a result, staff is recommending the adoption of a resolution designating Sensus USA, Inc to be the City's sole source provider for water AMI equipment and supporting services through the term of the existing AMI agreement between the City and Sensus USA, Inc. (January 21, 2034). In addition, staff recommends the Council direct the City Manager to submit to the City Council, on a biennial basis concurrent with budget adoption, a summary of AMI system related purchases. This City Council's acceptance of this summary will afford the City Council an opportunity to revisit the sole source designation if it so desires.

Section 3.04.150 of the Municipal Code provides that the City Council may approve a purchase "upon the determination that there is only one source for the required supplies based on the review of available sources by the Purchasing Officer and written recommendations therefore."

COMMUNITY ENGAGEMENT: **Not Applicable**

ALTERNATIVE ACTIONS:

An alternative to this request for sole sourcing this technology would be for the City Council to terminate the existing contract with Sensus, USA and direct staff to solicit proposals from all providers of AMI technology. However, given the City's long history and satisfaction with Sensus equipment and services, staff does not recommend this option.

PRIOR CITY COUNCIL AND COMMISSION ACTIONS:

On July 2, 2014, the City Council authorized the City Manager to approve the purchase of water meters in Fiscal Year 2014-15 from Sensus Technologies. Similar sole source requests for the purchase of water meters have been approved by Council in previous years.

On July 8, 2015, the City Council authorized the City Manager to approve the purchase of water meters in Fiscal Year 2015-16 from Sensus Technologies.

FISCAL AND RESOURCE IMPACT:

Funding for this project is included in the FY 2016/17 Water Operations Budget. No budget adjustments are required at this time.

CEQA (California Environmental Quality Act):

Not a Project

LINKS/ATTACHMENTS:

1. Advanced Metering Infrastructure Agreement
2. Resolution