REGULAR WATER RESOURCES & OPERATIONS COMMITTEE MEETING
WEDNESDAY, FEBRUARY 13, 2019, AT 10:30 AM
61750 CHOLLITA ROAD, JOSHUA TREE, CA 92252

AGENDA

1. CALL TO ORDER
2. PLEDGE OF ALLEGIANCE
3. DETERMINATION OF QUORUM
4. APPROVAL OF AGENDA
5. PUBLIC COMMENT
6. APPROVE MINUTES OF THE PRIOR COMMITTEE MEETING

Page 2
- Draft Minutes – January 9, 2019

Pages 3-6
7. DISCUSS METER REPLACEMENT – Receive for information and refer to the Board of Directors for approval.

Page 7
8. EMPLOYEE RECOGNITION AND AWARDS PROGRAM – Receive for information and refer to the Board of Directors for approval.

Pages 8-9
9. CAPITAL IMPROVEMENT AND REPLACEMENT PROGRAM (CIRP) – Receive for information and refer to the Board of Directors for approval
10. STAFF REPORT – GM Sauer/AGM Ban
11. ADJOURNMENT

INFORMATION

During "Public Comment," please use the podium microphone. State your name, have your information prepared, and be ready to provide your comments. The District is interested and appreciates your comments. A 3-minute time limit will be imposed. Any person with a disability who requires accommodation to participate in this meeting should telephone Joshua Basin Water District at (760) 366-8438, at least 48 hours before the meeting to request a disability-related modification or accommodation. Materials related to an item on this Agenda submitted to the Committee after distribution of the agenda packet are available for public inspection in the District's office located at 61750 Chollita Road, Joshua Tree, California 92252 during regular business hours.

JOSHUA BASIN WATER DISTRICT
Minutes of the
REGULAR MEETING OF THE WATER RESOURCES AND OPERATIONS COMMITTEE
Wednesday, January 9, 2019

1. CALL TO ORDER – 10:38 a.m.

2. PLEDGE OF ALLEGIANCE

3. DETERMINATION OF A QUORUM – A quorum is present

4. APPROVAL OF AGENDA –

   MSC/Hund/Luckman 2/0 to approve the Agenda for January 9, 2019, Regular Meeting of the Water Resources and Operations Committee.

5. PUBLIC COMMENT - None

6. APPROVE MINUTES OF THE PRIOR COMMITTEE MEETING

   - Draft Minutes – December 12, 2019

   MSC/Hund/Luckman 2/0 to approve the minutes of December 12, 2019, Regular Meeting of the Water Resources and Operations Committee.

7. DISCUSS FEE SCHEDULE- AGM Greer gave a review of the current fee schedule, followed by a brief Q&A period.

8. UPDATES ON SHOP REMODEL – A brief update was given on the shop remodel.

9. STAFF REPORT – GM Sauer mentioned scheduling an Administrative Code Workshop and also gave an overview of the RFP for meter replacement.

10. ADJOURNMENT –

    MSC/Hund/Luckman 2/0 to adjourn the Regular Meeting of the Water Resources and Operations Committee at 11:03 a.m.

Respectfully Submitted

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Curt Sauer, General Manager

JOSHUA BASIN WATER DISTRICT
MEETING AGENDA REPORT

Meeting of the Operations Committee February 13, 2019

Report to: Committee

Prepared by: Susan Greer

TOPIC:
DISCUSS METER REPLACEMENT AND RECOMMEND TO BOARD FOR APPROVAL

RECOMMENDATION:
ACCEPT BID FROM SENSUS/AQUA METRIC FOR MULTI-YEAR METER REPLACEMENT PROJECT

ANALYSIS:
The majority of water meters in the District were installed in 2000 and it is time for replacement. More than 75% of the meters that have been tested are failing, all under-reporting, mostly in the 2% range, but some flows under-reporting by nearly 15%. The current budget includes $500,000 for meter replacement as we intend to replace the meters over a five-year period. Requests for proposals were sent to four different meter vendors; **National** Meter/Badger, Core & Main/**Master** Meter, Inland Water/Itron/**Zenner**, and Aqua-Metric/**Sensus**, which is our current meter supplier.

The District solicited bids for both AMR (Automatic Meter Reading) and AMI (Advanced Metering Infrastructure) technologies. The District currently utilizes AMR, the drive-by meter reading system. AMI is more sophisticated technology, requiring towers to collect meter read data without the need to drive by, and provides more alerts and reporting, which customers can access through a customer portal. AMI installation and ongoing costs are approximately 40% greater than AMR. Some of the advantages of AMI meter reading over AMR are indicated below:

Reduce meter reading labor and vehicle costs.
Improve employee safety.
Remote verification of meter reads and re-reads, as well as some other CS questions.
Early detection of leaks, reduction of revenue given for assistance.
Faster identification of dead meters, reduces lost revenue.
Over time, customers are expected to do more self-service through the customer portal, reducing call volume and roll-outs.
Reduction of need to estimate bills that takes extra staff effort.
Water conservation – timely notification of leaks, helps meet state conservation requirements.

Note that AMI also has the potential to reduce customer bills as they can more easily monitor ongoing water use throughout the month and promptly be informed of leaks.

While AMI will reduce meter reading labor and vehicle costs, we have no idea what additional labor might be required from our customer service staff if customers are receiving much more information about their water use. We don't know what expectations customers will have and what level of "self-service" can be expected of them.

Staff doesn't have a recommendation one way or the other for AMR or AMI; either is within the $2.5M budget that has been established and funded via the recent rate study. We know AMR works and we know what staff resources are required to operate it as we've been using it for almost 19 years. We don't know exactly what AMI will entail, staffing-wise, and there is approximately one week of labor savings per month if we eliminate meter reading, which we assume would be then devoted to customer service responding to customer inquiries.

Bids were received from all four vendors, summarized below:

	AMR		AMI	
	Install	No Install	Install	No Install
National	1,343,236	906,341	2,180,494	1,743,599
Master	1,879,955	1,196,382	2,793,715	2,045,109
Sensus	2,017,878	1,343,719	2,911,245	1,868,002
Zenner	1,822,726	1,187,005	2,790,743	1,769,283

Install includes contractor/vendor installation
No Install includes installation by District CIP crew

Note that AMI costs from all bidders include some assumptions about required infrastructure that may differ when installation occurs

Staff recommends that we move forward with Aqua Metric/Sensus (Sensus) for the following reasons:

Technology: Sensus is the only proposer that has ¾" magnetic meters already in production. The District has been using the Sensus magnetic meters since 2012 although Sensus has sold the non-moving part technology magnetic meters since approximately 2007. The meters have proven to work well with our water, which can be an issue because of the high mineral content. The magnetic meters also record lower flows than the non-magnetic meters (more about that later.) The other vendors don't have magnetic meters yet although some say they are in the works. Staff doesn't recommend that the District be the test site for any first generation magnetic meters from other vendors.

Currently In-Use: The District has already installed 650 of the latest Sensus magnetic meters, which won't have to be replaced yet. We also have the applicable meter reading equipment already. Using equipment and technology that Staff is already familiar with reduces costs and time associated with training, technology purchase and implementation and current operational procedures and understandings from Finance to Field Operations.

Excellent Service and Staff Support: The District has a nearly 19-year relationship with Sensus already. We have an account manager assigned to JBWD that is very knowledgeable about the District and responsive to our needs and concerns, whether meter technology questions or responding to inquiries from our own customers. Our Sensus account manager has come in person to JBWD whenever requested to help us out in the field, such as if there was a meter reading problem.

Low Flow Collection: One of the advantages of the Sensus magnetic meters is that they are capable of measuring lower flows of water than the non-magnetic meters, as indicated in the table on the following page:

	1" Meter Low Flow	¾" Meter Low Flow
National	.75 gpm	.25 gpm
Master	.75 gpm	.50 gpm
Sensus	.11 gpm	.11 gpm
Zenner	.75 gpm	.50 gpm

Measurement of low flows is an important issue as related small leaks, lower flows for irrigation systems or partially-open faucets and swamp coolers. With an average 10 gallons of water per hour swamp cooler use, that's equivalent to approximately .16 gallons per minute, with the Sensus meters being the only meter that can pick up those low flows. That water would pass through the other meters undetected. That creates both unaccounted for water loss and lost revenue.

Considering an average swamp cooler water use of 10 gallons per hour, with most use occurring in a 10-hour period, that would be 100 gallons per day. Using the quarter June 1 to August 31 (92 days,) and assuming that 75% of our active water use customers utilize swamp coolers as their primary means of cooling, that's over 27 million gallons or 84 acre feet of water that would be undetected by the non-magnetic meters in just one quarter. Using the lowest tier rate for each of the next four years with rates already established, then increasing that water rate by *only* 2% per year after, we could be picking up $160,700 additional revenue from low flows at the beginning and then over $202,000 per year by 23/24, for a *total of $4.13M over 20 years*. If we add additional hotter months to the equation, additional revenues could be even greater. So, while the Sensus bid is higher than most, this ability to detect and bill for lower water flows significantly changes the analysis, resulting in gained revenues over the 20-year life of the meters that aren't possible with the other non-magnetic meters.

Note that I did not consider the normal increase to revenues that will occur with meter replacement, because that is the same for ALL of the proposals. We can expect an increase in revenue due to improved meter accuracy, which will add another one million dollars or more over 20 years depending on the overall accuracy of meters being replaced. The $4.13M discussed above only relates to the additional revenue that the Sensus meters will provide because of their ability to measure low flows that other meters currently cannot.

Transition from AMR to AMI: If the District elects AMR now and wants to transition to AMI in the future before meters need to be replaced again, it's a fairly simple process. We would have to install the tower infrastructure, update software and then integrate billing with the customer portal. Some of the other vendors require purchase of additional metering infrastructure, which Sensus does not.

Return on Investment (ROI): Assuming water rates already in place through 12/31/22 and then an annual increase of 2%, ROI is 308% for AMR, over 15% per year. ROI is 210% for AMI, over 10% per year. Breakeven for AMR is fiscal year 27/28 and fiscal year 30/31 for AMI. Meters have a 20-year warranty, with full replacement for first 10 years and prorated thereafter.

FISCAL IMPACT:

Assuming JBWD installs meters and infrastructure, costs for Sensus meter replacement are indicated in the table below. Note that after we consider the $4,133,110 revenue gained from low flows by the Sensus meters, the cost is negative, meaning that we more than cover the actual cost. We will gain over $2M in revenue as a result of the meter replacement.

OPTION	UP-FRONT COST	MINUS $4.13M LOW FLOW REVENUE GAINED OVER 20 YEARS	TOTAL COST (REVENUE GAINED - COVERS ALL COSTS PLUS THIS AMOUNT)
AMR	$1,343,719	$4,133,110	$2,789,391
AMI	$1,868,002	$4,133,110	$2,265,108

JOSHUA BASIN WATER DISTRICT
MEETING AGENDA REPORT

Meeting of the Water Resources & Operations Committee February 13, 2019

Report to: Committee Members

Prepared by: Sarah Johnson

TOPIC: EMPLOYEE RECOGNITION AND AWARDS PROGRAM

RECOMMENDATION:

Recommend that the Water Resources & Operations Committee receive information and refer to the Board of Directors for approval of the Employee Recognition and Awards Program

ANALYSIS:

In accordance with Water Code Section 30580 (d), the General Manager shall fix and alter the compensation of employees and assistants subject to approval by the board. By the board adopting this program, the General Manager will have the authority to administer the Employee Recognition and Awards program within guidelines set in the policy.

A thoughtfully administered Employee Recognition and Awards Program benefits both the organization and the employee. Employees feel valued, morale increases, which aids in overall reduced employee stress. In turn the District benefits by increased productivity; improved performance and safety; better-quality customer service; reduced absenteeism, and the increased ability to attract and retain talented employees.

Staff recommends that the Board adopts the Employee Recognition and Awards program authorizing the General Manager to administer this program.

JOSHUA BASIN WATER DISTRICT
MEETING AGENDA REPORT

Meeting of the Water Operations Committee February 13, 2019

REPORT TO: Committee Members

PREPARED BY: Mark Ban

TOPIC: CAPITAL IMPROVEMENT AND REPLACEMENT PROGRAM (CIRP)

RECOMMENDATION:
Committee to consider approving an alternative work schedule for the District's CIRP crew be presented to the Board of Directors for further review/action.

ANALYSIS:
The District's Capital Improvement and Replacement (CIRP) Program's main objective is to improve the efficiency, lifespan and service capabilities of the District's facilities and equipment. Most of these improvements will be realized through the replacement of water mains that have either exceeded their expected service life or are undersized and do not provide proper water conveyance requirements for peak and fire flow rates.

The installation of water mains, like all types of underground construction, consistently requires a substantial effort to setup and teardown daily activities. Traffic control, utility potholing, trench delineation, stringing out pipe, equipment maintenance, material preparation and cleanup are all examples of tasks that must be completed either at the beginning and/or end of the work shift in order to allow for an efficient and productive day. On average, these tasks can take up to 2 - 4 hours per day to complete during the pipelaying process and directly correlate to the amount of pipe that can be installed within any single day.

If the CIRP crew worked the current 9/80 schedule utilized by the District, and setup, teardown and cleanup took employees a cumulative three (3) hours per day, this would leave approximately 5 hours (considering a 30-minute lunch and two (2) 15-minute breaks) for excavation, material installation and backfill to take place. Assuming an excavation and backfill rate of approximately 150 linear feet (l.f.) per hour, this would allow for an average of 750 l.f. of pipe installation, per day. With a goal of achieving closer to 1,000 l.f. per day of pipe installation in order to maintain a project average closer to 150 - 300 l.f. per day at the time the project is completed, the amount of time available for excavation and backfill can be increased by moving the CIRP crew to a 4/10 schedule. As the amount of pipe that can be installed directly correlates to the amount of trench that can be excavated and backfilled, a 4/10 schedule would allow for 6.5 hours of full excavation and backfill to take place thereby increasing the pipe installation average closer to the goal of 1,000 l.f. per day during the pipe installation phase.

A 9/80 schedule also requires employees to work a minimum day every other Friday. While Monday through Thursday work shifts require employees to work nine (9) hour per day, the Friday that is worked (every other Friday employees are off) contains only an eight (8) hour day. Assuming the same three (3)

hour setup and teardown requirements discussed previously, due to lunch and break times, the available time for excavation and backfill to take place is reduced to only four (4) hours per day. It is important to note that these four (4) hours are reduced further as the amount of clean up required would take almost as long to address as a full nine (9) hour day. Due to the weekend, a more comprehensive clean up should be performed which requires the crew to shut down excavation earlier than normal to ensure the jobsite is left safe and orderly for residents and vehicle travel. Due to these considerations, Friday's worked are not as productive as the other nine (9) hour days of the 9/80 schedule. It is due to these constraints that it is typical for underground construction companies to work alternate schedules that contain 10-12 hours per day rather than the 9/80 or more typical 5/40 schedules.

While the above provides key considerations for the recommendation of a 4/10 schedule for the CIRP program, there are other efficiency and productivity gains that are associated with the change from the current schedule that range from reducing the potential for overtime to impacts the program will have on other District departments. These additional considerations will be provided and discussed in more detail during the meeting.