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Water Needs

**MINUTES OF THE BOARD OF DIRECTORS
MESA WATER DISTRICT
Tuesday, October 27, 2020
1965 Placentia Avenue, Costa Mesa, CA 92627
3:30 p.m. Adjourned Regular Board Meeting**

BOARD OF DIRECTORS COMMITTEE MEETING

CALL TO ORDER The meeting of the Board of Directors was called to order at 3:32 p.m. by President Dewane.

PLEDGE OF ALLEGIANCE Director Bockmiller led the Pledge of Allegiance.

Directors Present Shawn Dewane, President *(teleconference)*
Marice H. DePasquale, Vice President *(teleconference)*
Jim Atkinson, Director *(teleconference)* *(joined the meeting at 3:34 p.m.)*
Fred R. Bockmiller, P.E., Director *(teleconference)*
James R. Fisler, Director *(teleconference)*

Directors Absent None

Staff Present Paul E. Shoenberger, P.E., General Manager *(teleconference)*
Phil Lauri, P.E., Assistant General Manager *(teleconference)*
Denise Garcia, Administrative Services Manager/
District Secretary
Wendy Duncan, Records Management Specialist/
Assistant District Secretary *(teleconference)*
Marwan Khalifa, CPA, MBA, Chief Financial Officer/
District Treasurer *(teleconference)*
Stacie Sheek, Customer Services Manager *(teleconference)*
Tracy Manning, Water Operations Manager *(teleconference)*
Stacy Taylor, Water Policy Manager *(teleconference)*
Celeste Carrillo, Public Affairs Coordinator *(teleconference)*

Others Present Jonathan Aparicio, IT Support Engineer, T2 Technology Group
John Lewis, President, Lewis Consulting Group, LLC
(teleconference)
Robert Konishi, Managing Partner, T2 Technology Group
(teleconference)
Kevin Torf, Managing Partner, T2 Technology Group
(teleconference)

President Dewane stated that the Board of Directors was attending the meeting via teleconference per Governor Newsom's Executive Order N-29-20 which suspended certain provisions of the Ralph M. Brown Act.

President Dewane stated that for each action, a roll call vote was taken in accordance with California Government Code Section 54953(b)(2) which states, "all votes taken during a teleconferenced meeting shall be by roll call."

President Dewane proceeded with the meeting.

PUBLIC COMMENTS

President Dewane asked for comments on items not on the agenda.

Director Bockmiller offered that the candidate running for Mesa Water District's Board of Directors has not attended any Mesa Water Board or Committee meetings.

President Dewane thanked Director Bockmiller for his comment and proceeded with the meeting.

ITEMS TO BE ADDED, REMOVED, OR REORDERED ON THE AGENDA

Director Fisler pulled Items 8, 9, and 10. There were no objections.

CONSENT CALENDAR ITEMS:

Approve all matters under the Consent Calendar by one motion unless a Board member, staff, or a member of the public requests a separate action.

1. Receive and file the Developer Project Status Report.
2. Receive and file the Mesa Water and Other Agency Projects Status Report.
3. Receive and file the Water Quality Call Report.
4. Receive and file the Water Operations Status Report.
5. Receive and file the Accounts Paid Listing.
6. Receive and file the Monthly Financial Reports.
7. Receive and file the Major Staff Projects.
8. Receive and file the State Advocacy Update.
9. Receive and file the Orange County Update.
10. Receive and file the Outreach Update.

President Dewane asked for comments from the Board. There were no comments.

President Dewane asked for comments from the public. There were no comments.

MOTION

Motion by Director Bockmiller, second by Vice President DePasquale, to approve Items 1 - 7 of the Consent Calendar. Motion passed 5-0, by the following roll call vote:

AYES:	DIRECTORS	Atkinson, Bockmiller, Fisler, DePasquale, Dewane
NOES:	DIRECTORS	None
ABSENT:	DIRECTORS	None
ABSTAIN:	DIRECTORS	None

ITEM 9 – Receive and file the Orange County Update.

General Manager Shoenberger introduced Lewis Consulting Group President John Lewis who provided an Orange County Update. Mr. Lewis responded to questions from the Board and they thanked him for the update.

ITEM 8 – Receive and file the State Advocacy Update.

Water Policy Manager Taylor provided a State Advocacy update. There were no questions from the Board.

ITEM 10 – Receive and file the Outreach Update.

GM Shoenberger provided the Outreach Update. There were no questions from the Board.

President Dewane asked for comments from the Board. There were no comments.

President Dewane asked for comments from the public. There were no comments.

MOTION

Motion by Vice President DePasquale, second by Director Fisler, to approve Items 8, 9, and 10 of the Consent Calendar. Motion passed 5-0, by the following roll call vote:

AYES:	DIRECTORS	Atkinson, Bockmiller, Fisler, DePasquale, Dewane
NOES:	DIRECTORS	None
ABSENT:	DIRECTORS	None
ABSTAIN:	DIRECTORS	None

ACTION ITEMS:

11. METER TECHNOLOGY PILOT PROJECT:

President Dewane asked for comments from the Board. There were no comments.

President Dewane asked for comments from the public. There were no comments.

MOTION

Motion by President Dewane, second by Vice President DePasquale, to approve an amendment to W. A. Rasic Construction Company, Inc.'s on-call contract for an additional \$674,550 and a 10% contingency of \$67,455 for a total contract amount not to exceed \$892,005 for the Meter Technology Pilot Project. Motion passed 5-0, by the following roll call vote:

AYES:	DIRECTORS	Atkinson, Bockmiller, Fisler, DePasquale, Dewane
NOES:	DIRECTORS	None
ABSENT:	DIRECTORS	None
ABSTAIN:	DIRECTORS	None

PRESENTATION AND DISCUSSION ITEMS:

12. INFORMATION TECHNOLOGY DATA CENTER:

GM Shoenberger introduced Administrative Services Manager Garcia who provided an overview of the topic. Ms. Garcia introduced T2 Technology Group Managing Partner Kevin Torf who proceeded with a presentation which highlighted the following:

- 5-Year IT Master Plan
- Cloud Data Center Platform
- Assessment: Cloud vs. On-site
- Industry Best Practices
- Amazon Market Leadership
- Financials
- IT Security Initiative Alignment.
- Recommendation

President Dewane asked for comments from the Board.

President Dewane recognized Director Bockmiller. Director Bockmiller stated his first question which was related to the Supervisory Control and Data Acquisition System (SCADA), "How will this proposed transition affect or interact with SCADA? We have invested and dedicated a lot of time, money, and effort on SCADA physical security and reliability by creating a sophisticated frequency-hopping redundant radio communication system.

The second question is that we currently have a data center located physically within the building. Staff's computers are connected directly to a server inside the data center that is about 100 feet away. The system is then connected to the Internet. By moving the system to a cloud-based platform (someone else's computers), you reduce the entire reliability of the system to the reliability of your connection to the Internet. The proposal to move to a cloud-based system would make us only as reliable as the electronic communications between the physical location of Mesa Water and the cloud-based platform and then back to Mesa Water."

Mr. Torf responded, "None of the current proposals includes the SCADA system. The SCADA system will still be located offsite and is structured and designed in such a way that it doesn't tie into the existing network within Mesa Water for the reasons you just mentioned and for maintaining the levels of security that are needed.

A comment you made was that you had seen some organizations move to the cloud but not move everything. Our intention is not to move everything. Some key critical capabilities like a directory of security controls and some other critical applications will still reside at Mesa Water. You might have noticed an expenditure of \$100,000 to purchase some infrastructure equipment that will still reside within the Mesa Water facility. That is still the intention that some applications will need to be kept where they belong.

With respect to security, I would say that moving to AWS is probably more secure than what Mesa Water currently can afford and spends today on security. If you look at statistics and you look at some of the challenges the industry as a whole has seen, most of them have come through internal nexus (within the way things are done with in-house security and are run and operated within an organization)."

Director Bockmiller stated that (though his concerns included software) his comments related to reliability were concerned with the physical connection. "Mesa Water's connection to the Internet will become absolutely essential - do we have standby capacity? What are we going to do to ensure the reliability of communication between our system and the cloud-based system?"

Mr. Torf responded, "There is a cost of \$20,000 per year, which will allow the award of two diverse circuits coming into the facility. They will be point-to-point connections into the AWS environment into two separate facilities going over two separate parts of connectivity. You are right, there is some risk, but that risk has been mitigated as much as possible. We have taken into account potential earthquakes that could sever both circuits and to try and maintain connectivity into another facility within AWS. Due to the fact that people work remotely, and I hope it isn't forever, we also have the ability for people to remotely connect to AWS without having to bypass Mesa Water in order to get that connectivity into the data center due to some security initiatives which are already implemented. That will provide another level of redundancy in the event it is needed. I guess it is never going to be as reliable as a piece of wire that is six-foot-long, but I think we have tried to mitigate whatever that risk might be to the extent possible."

Director Bockmiller requested Mr. Torf's responses be placed in the meeting minutes and the Board agreed. He reiterated, "The SCADA system has no part in this. There will be some physical hardware on our site in the traditional data closet on the second floor to have certain critical applications that will still be residing on-site, so there will probably be some residual capital, and you are providing two circuit pathways to our District headquarters through AWS to the tune of \$20,000 a year to ensure a good and hardened communications pathway in the event of various forms of disasters. Is that a correct summation?"

Mr. Torf responded, "That is correct. All three of those statements are correct."

Director Atkinson stated, "On the concept of the cloud, I would like to echo Director Bockmiller's concerns about the connection to the cloud. I truly suspect that we are going to see a much more restricted environment for electricity in the coming years because of the trend or the State's plans to go to an all-electric system. Maybe it's not in the next five years when this plan is expected to be operational, but if we were to encounter those kinds of power shortages, the sources of these fiber optic systems are we, in fact, going to be subjected to the same problems as other users without fiber-optic connectivity? I would be very concerned about the long-term security of the cloud-based system when we are experiencing these kinds of power shortages. Am I incorrect in assuming there is a problem when there is an electrical shortage?"

Mr. Torf responded, "There are things that could happen, and it is hard to anticipate the potential outcome. Let's talk about power and current use in Mesa Water today. Mesa Water's data center draws about 20 kilowatts. When we move to the cloud, that will reduce to about 3 kilowatts, which will reduce the load on the standby generator system and allow longer run time on the existing fuel supply."

AWS has its own power facilities. These data centers have their own powers, they sit on top of dams, they sit on hydrogen plots. These are some of the most sophisticated power pods in the world. It has been reported how innovative they have been and what they have done to reduce the amount of power these data centers use right now, even by placing them in areas on the east coast where they are using the outside air temperature to cool the actual units. These data centers employ some of the most innovative technology in the world, which is one of the reasons that the trend is to move to these data centers.

By contrast, like many smaller systems, Mesa Water's data center was an office space

converted into a data center. We look at these in tiered levels. Mesa Water's data center is probably at one of the highest tiers. The lower the tier, the better. In the case of AWS and some of these others, you are talking about some of the best data facilities in the world. I would say they have less chance of losing power than Mesa Water would have with running the current technology and equipment. I understand we need redundancies, but the Emergency Operations Center (EOC) will be available with equipment in it in the event there is a total outage of any form. The current EOC, with the way it is being designed, will have satellite uplinks and other technologies to allow you to operate in the event you were shut off from the rest of the world. An additional part of this effort would be to upgrade the EOC, as needed."

Director Atkinson stated, "I still have concerns about the transmission of the fiber optic signals and the reliability of the systems that carry the fiber optic signals from point to point. It's just a concern whether it's an outage, a planned maintenance operation, an earthquake to sever some connections. I don't know. I just get concerned that when we are talking about moving a lot of this stuff offsite, that we have continued access to our information and systems. I am hearing that you are assuring us that we are not going to have that kind of a problem, and I appreciate that. I am in support of the reliability and the reduced costs, but I am also concerned about what happens when we do have a catastrophic outage."

Mr. Torf responded, "Let me add one comment, and maybe it will make you a little more comfortable. The two largest medical record suppliers in the world are Server and Airbig. They manage 70% of all hospital systems in the U.S. These are systems that, if they weren't available, patients' lives could be impacted. It doesn't mean these things can't happen, I want to be clear. It's not guaranteed. But with the EOC and the way services are being designed at Mesa Water, you will still be able to operate even in the event these services did fail you, which is very unlikely but possible, and there are a couple of redundancies designed into the plan."

Director Atkinson stated, "I appreciate your comments and appreciate your assurances. I tend to think over the next five years we aren't going to see that kind of an issue, but my concern, like Director Bockmiller's, is that in the long run we have a truly reliable system for all things."

Director Bockmiller asked, "You mentioned there were two physical circuits. I wasn't aware that Amazon was in the fiber optic cable business. Who does the physical circuits connecting to what system?"

Mr. Torf responded, "Yes, these would be provided by the current carriers that are servicing Mesa Water today - AT&T, Verizon, and Cox. Google would be one of the two best providers."

Mr. Torf responded to questions from the Board and they thanked him for the presentation.

MOTION

Motion by Director Atkinson, second by Vice President DePasquale, to:

- a. Award a five-year contract to Amazon Web Services in the amount of \$132,000 per year for a total contract not to exceed \$660,000 for a cloud-based center services platform;
- b. Award a contract to T2 Technology Group, LLC for an amount not to exceed \$835,452 for the transition of the onsite information technology data center to a cloud-based data center; and
- c. Approve an additional amount not to exceed \$175,000 for infrastructure, license subscription, and circuit connection to Amazon Web Services.

Motion passed 5-0, by the following roll call vote:

AYES:	DIRECTORS	Atkinson, Bockmiller, Fidler, DePasquale, Dewane
NOES:	DIRECTORS	None
ABSENT:	DIRECTORS	None
ABSTAIN:	DIRECTORS	None

REPORTS:

- 13. REPORT OF THE GENERAL MANAGER
- 14. DIRECTORS' REPORTS AND COMMENTS

INFORMATION ITEMS:

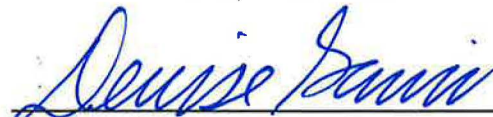
- 15. STATEMENT OF INVESTMENT POLICY
- 16. OTHER (NO ENCLOSURE)

President Dewane adjourned the meeting at 4:56 p.m. to an Adjourned Regular Board Meeting scheduled for Tuesday, November 10, 2020 at 8:00 a.m.

Approved:



Shawn Dewane, President



Denise Garcia, District Secretary