

Board of Municipal Utilities  
**Work Session Minutes**  
**May 4, 2021**  
201 Miller Road  
Avon Lake, Ohio

***Call to Order – Roll Call***

The meeting was called to order at 6:00 PM. As allowed by the Ohio Legislature during the Governor's declared emergency, the meeting was held using web-based video conferencing technology and streamed live over Facebook.

Present: Mr. Dzwonczyk, Mr. Abram, Mr. Phillips, Mr. Rush, and Mrs. Schnabel.

Also present: Acting CUE Munro and Technical Support Specialist Collins.

***Water Meter Replacements***

Mr. Munro informed the Board that during the February 19, 2019 work session, the Board and staff began a discussion on Advanced Metering Infrastructure (AMI). He said that during the discussion, staff informed the Board that 11 AMI meters were being installed on residential and commercial services across the City to evaluate their effectiveness and efficiency. He said that Avon Lake Regional Water currently uses Advanced Meter Reading (AMR) for all meter reads. He said that in 2019 staff began exploring the use of AMI to replace the current radio encoders with cellular encoders. The Chairman asked if the encoder was digital. The Acting CUE stated that yes it was digital and that it uses a different cellular network.

Mr. Munro said that the way the plan was presented in 2019, it was to be a 5-year replacement plan of all the AMR encoders. He added that the original plan was projected to be more than \$2 million to replace all the meters with 20% of the encoders replaced every year. The original cost of the AMI encoders was \$20 more than the AMR encoders. However, the cost has dropped significantly to \$126 per encoder with a cellular monthly fee of \$0.89 per encoder. He said that there is also a portal for the customer to use to track their usage. An added benefit of the AMI encoders is that it would not require staff to drive around town over the course of a few days to do meter readings.

He said that due to the cost at the time of integrating the AMI encoders, staff decided to not pursue a replacement plan at the time. He said the 11 AMI meters are still in place, and since 2019 staff has received a number of requests from industrial and residential users for AMI meters. He said that moving forward staff will offer this as an option to users, but there will not be a mandate to switch. He added that any costs associated with the program would be passed onto the customer. All of the billing software has been updated and will work with both AMI and AMR encoders.

Mr. Rush asked if there was a fee for the AMR encoders. Mr. Munro said there is a \$0.04/meter per month for AMR encoders. The AMI meters is \$0.89/meter per month. He added that once the amount of customers with AMI is over 2400 meters that cellular monthly fee decreases to \$0.70/meter per month. Mr. Rush asked that if Avon Lake Regional Water ever transitioned to monthly billing and all encoders used AMI, could the billing could be done more efficiently with AMI versus crews driving around reading meters. Mr. Munro said the meter reading takes 2.5 days driving around town. During that process, a number of meters may have been missed due

to the signal or due to the batteries dying on the encoder. He said that approximately 60-90 encoders are no longer useable every quarter because of their batteries dying. He said that finally, if a meter can't be read, the crews will go back out and to physically read those meters again. With AMI encoders the meters could be read much more efficiently.

Mr. Munro said that the price has decreased to \$126 for an AMI encoder, which is about \$1.55 less than is paid for the AMR encoders. He said staff is not planning on doing a wholesale change, but Avon Lake Regional Water wants to provide the best service to those customers who ask for an AMI encoder. Mr. Abram asked why a customer would ask for an AMI encoder. Mr. Munro provided the example that an industrial user in Avon Lake would like to log into their account to see what their hourly usage would be. He said other customers have had leaks that they weren't aware of and did not realize how much higher their bill would be with that leak. With AMI customers would be able to set up notifications to alert them to leaks or high usage.

Mr. Phillips asked if this would require an entirely new meter for both industrial and residential. Mr. Munro answered that it would just be the replacement of the encoder for both customers. He said 4 of the 11 AMI meters in Avon Lake are on industrial or commercial properties that have very large meters. The Chairman asked what the remaining lifespan of the existing encoders is. He said with 90 encoders failing every quarter, what is the point at which it will be economically worthwhile to convert the entire system to AMI. He asked for an analysis from the Technical Support Specialist, and the Acting CUE should bring this information before the Board at a later date. Mr. Munro said that 5000 of the 9100 meters are ten years or older so there's not a necessity to replace those encoders if they are still functioning. He said the battery is a fraction of the cost of the encoder. Mr. Munro said that the battery is built into the unit and cannot be removed.

The Chairman said that staff should be able to do an analysis which will help guide customers whether they want to preemptively purchase the meters before their current meters fail. Mr. Munro informed the Board that in 2020 staff replaced 267 encoders due to failed batteries. He said that so far in 2021, staff has replaced 37. The plan proposed in 2019 would have cost almost \$2 million over a 5 year period, and the replacement in 2021 would be a similar cost. The Chairman said that there is an intermediate option of replacing meters as they fail. It would be an easier endeavor to versus replacing the entire system with AMI.

Mr. Munro said that staff just placed an order for larger commercial and industrial meters to replace several older meters. He said that while those meters are expensive to replace, in some cases \$4000.00 to \$5000.00 per meter, it's a return on the utility's investment because it provides more accurate metering in the future. He said that as staff sees these units failing they can replace the encoders with AMI. The Chairman suggested that staff bring an analysis to the Board with a few different scenarios. Mr. Munro added that the software that customer service uses for AMR encoders is the same as the AMI encoders. He also said that the data for the encoders is sent only once in a 24-hour period. The customer, if they are interested, would be able to access their data on the app or the portal. The Chairman asked if the app or portal was from the manufacturer. Mr. Munro said that app and the portal are both through the manufacturer. The Chairman said that would pose less of a security risk for Avon Lake Regional Water.

Mr. Phillips asked how much the AMI encoders would cost to replace compared to the AMR encoders. Mr. Munro said AMI encoders are \$126.00 while the AMR encoders are \$127.55. Mr. Munro said that the manufacturer, Badger Meters, also allows front-loading the costs so Avon Lake Regional Water would be able to prepay for 10 years on the new encoders. He added that

the warranty is better for AMI as well; a 20-year warranty with the first 10 years under full warranty and then prorated for the remaining 10 years. The Chairman asked if these encoders were an asset on the asset list. Mr. Munro said they were and they fell under the GIS umbrella. Mr. Phillips asked if the new encoders indicate if the battery is dying. Mr. Munro said yes the AMI sends an alert to the customer and the utility when the battery on the encoder is dying. Mr. Phillips asked if the AMR encoders alert the utility when their batteries are dying. Mr. Munro said they do not, and that adds to the cost of the AMR because staff needs to drive by certain meters a few times, or manually read the meters, to see if they are no longer working. There is also an indicator of environmental changes and a tamper alarm allowing Avon Lake Regional Water to be more proactive as opposed to reactive. Mr. Phillips said he thinks Avon Lake Regional Water should replace the AMR encoders with AMI now. He also said that staff should consider adding something into the regulations to replace the encoders with AMI.

The Chairman said he thinks there should be a future work session with the manufacturer to provide the Board with a sales pitch and technical analysis of the encoders. Mr. Phillips said he thinks this should be publicized and the public should be able to come and give feedback. The Chairman said that with COVID still around, the Board should be wary about having more individuals from the public in the room. Mr. Phillips said that the Board could use the Avon Lake High School auditorium for a meeting so the public could come. Mr. Munro said that there is enough information available for what not to do because other utilities have made mistakes. He said that provides a good path for Avon Lake Regional Water going forward with AMI.

Mr. Rush asked if AMI was just strictly a reading of the meter and no other information and you couldn't shut it off. Mr. Munro said that while the technology is available, staff would not be shutting off any meters. Mr. Phillips said that is still an option that staff should explore the ability to do this depending on the situation. Mr. Munro said that right now if staff can't access the meter pit they will turn off the water at the curb stop. Mr. Munro said that a commercial property that had continuous flow and had a leak notification. There was continuous flow because it was a restaurant with an ice machine, but there was no leak. He said staff was able to inform the commercial property to adjust the threshold of the continuous flow to increase the point where notifications are sent to the customer. The Chairman said that Mr. Collins and Mrs. Arnold can provide an analysis of AMI to the Board. He said with people being able to watch online it can be very educational and gauge how much interest there is in the new encoders. He added that when the original proposal was brought before the Board in 2019 it was going to be very costly. With the Board not increasing the rates over the past two years it makes the prospect of improved technology as routine maintenance a much better customer service.

### ***Adjourn***

As there was no further business, Mr. Abram moved to adjourn, and the Chairman seconded. The meeting adjourned at 6:34 PM.

Ayes (per roll-call vote): Abram, Dzwonczyk, Phillips, Rush, and Schnabel.

Nays: None

Motion carried.

Approved \_\_\_\_\_ 2021.

John Dzwonczyk, Chairman

Robert Munro, Clerk