PROCEEDINGS OF THE CENTRAL BROWN COUNTY WATER AUTHORITY TECHNICAL COMMITTEE

Pursuant to §19.84 Wis. Stats, a regular meeting of the **Central Brown County Water Authority – Technical Committee** was held on Tuesday, March 10, 2020 at the Town of Lawrence Town Hall Conference Room – 2400 Shady Ct, De Pere, Wisconsin

Members Present:	Allouez – Sean Gehin, Mike Mahloch Bellevue – Shawn Geiger De Pere – Scott Thoresen, Eric Zygarlicke Howard – Geoff Farr Lawrence – Kurt Minten, Tyler Mueller Ledgeview – Andy Tenor
Also Present:	Jason Jones, Hach Rob Michaelson – Manitowoc Public Utilities Don Voogt – McMahon, Inc. Gary Rosenbeck – McMahon, Inc. (via telephone) Nic Sparacio, CBCWA General Manager

The March 10, 2020 Central Brown County Water Authority – Technical Committee Meeting was called to order at 1:35 p.m. by Chairman Kurt Minten of Lawrence.

Roll Call:

1. Attendance was recorded as shown above.

Approval of Agenda:

2. Approve Agenda
   Motion made by De Pere, seconded by Howard to approve the agenda.
   MOTION UNANIMOUSLY APPROVED

Approval of Minutes:

3. There were no questions or comments on the February 11, 2020 minutes.
   Motion made by Howard, seconded by Bellevue to approve the February 11, 2020 minutes as presented.
   MOTION APPROVED UNANIMOUSLY

Appearances:

4. Jason Jones of Hach
   Jason Jones presented options for replacement of chlorine analyzers at the connection stations. Hach offers amperometric/electrode (CL10) and colorometric (CL17) options. The CL10 does not require reagents but does require membrane and electrolyte replacement every three to six months. It also requires periodic calibration. The updated CL17 works similarly to the model currently in use but has an improved tubing design, stirring

mechanism, digital controller, and remote access. Jones stated that he recommends the CL10 for a plant environment and the CL17 for distribution settings like the Water Authority connection stations. He also displayed total cost of ownership data that compared the CL17 and CL10. The CL17 cost of ownership is expected to be less over the long term despite the occasional purchase of reagents.

The Committee discussed operation of the two analyzer styles. Minten asked what the life expectancy is for these units. Jones responded that they are expected to last about 10 years. Jones asked whether the intent is to replace all the existing analyzers. Eric Zygarlicke responded that the analyzer at the Erie Street connection Station is still experiencing dropped readings, even though the colorimeter was replaced. Manager Sparacio also responded that the Committee is still trying to determine the scope of analyzer replacement based on several factors. The Committee thanked Jones for the information.

Jones left the meeting at this time.

Communications:

5. None

Agenda Items:

6. Water System Improvement (Contract A) change order and final payment request from Reeke-Marold, Inc.
Don Voogt reported that this final pay request is still being processed. There was a misunderstanding by the contractor on how the programming task was intended to work. The use of the programming allowance amount is being reviewed by McMahon.

7. Bayshore Drive excavation and draft easement.
Sparacio provided an overview of this issue. When excavation occurred for relocation of a sanitary sewer line beneath the Water Authority transmission main, a very wide trench was opened up on February 14th leaving an unsupported span of 25 to 30 feet. The concern is potential damage to the steel pipe and/or the mortar liner if the pipe deflected at all due to the unsupported load. When Manitowoc Public Utilities (MPU) inspected the site that day, Rob Michaelson required temporary supports to be installed. MPU had also required as part of the plan review process the use of a flowable backfill that does not require compaction to reach full structural strength.

Gary Rosenbeck stated that he has two outstanding concerns. First, we have no information on the type of fill that was used in the remainder of the trench outside of the flowable fill. And second, might the activities around the pipe have done any damage to the pipe wrap or tape leaving the steel exposed. He believes that the City is responsible for this project and should offer an extended warranty to the Water Authority.

Sean Gehin asked whether the Authority knew about this project. Michaelson responded that he first learned of this project last October, but this was after the project was already bid. He then attended the utility coordination meeting in November and the pre-

construction meeting in December. However, in reviewing his communications, he discovered that he had never forwarded the project details to the Water Authority. Gehin then asked whether the pipe support was included in the plan review process. Michaelson responded that this was not included in the plan review. He had pictured this being a narrow trench excavation, but the size of the trench went well beyond what was anticipated. Once he became aware of the trench width, he required the support to be added.

Don Voogt asked whether the flowable fill extended 120 degrees around the pipe. Michaelson responded that the flowable fill went a full 360 degrees totally encapsulating the pipe. The support chains were removed after the flowable fill was stable. The flowable fill consists of sand, gravel, and water. There is no concrete, so it can be excavated or vacuumed if needed in the future.

Rosenbeck added that a lesson learned here is that excavations below the large transmission main should be bored in the future. There should also be a stronger level of review when someone is excavating so closely to the transmission main, whether it is a perpendicular or parallel excavation. Discussion ensued on upcoming utility projects in the City of De Pere.

Gehin asked whether the Water Authority should have a policy in place to require greater oversight for projects like this. Sparacio responded that the Water Authority should have a policy or a set of standard specifications that can be required for projects like this. Rosenbeck reviewed the timeline of what took place. The excavation was discovered on a Friday, the contractor completed the work on the sanitary sewer on Monday, and the site was backfilled on Tuesday. There was very little time to get additional eyes on the situation.

Rosenbeck continued that McMahon will provide some specifications and other guidance on how MPU should review these plans and what to look for during construction. The Committee discussed the construction review process and concluded that, in addition to MPU review, McMahon will also review all construction plans for the near future. Once the necessary policy guidance is developed, McMahon will not need to review every plan, but just those where a potential conflict is anticipated.

Sparacio then provided an update on the easement related to the Johnston Drive street vacation. The easement is not ready for Committee review, but he is working with the developer on the details. It will be very similar to the easement just to the north through the former mall property.

8. Shoreline erosion in Manitowoc.
Sparacio provided an overview of this issue. The increased water level of Lake Michigan is causing severe erosion in Manitowoc, and portions of the transmission main extend along the shoreline. He reviewed the maps and photos and noted where the greatest potential threat to the transmission main is occurring.

Thoresen asked whether the City of Manitowoc has a plan for addressing the shoreline erosion. Sparacio responded that the City has just started this conversation with the Water Authority, and they do not have a plan. The City has identified about 3,500 feet of shoreline that are of concern. Sparacio's initial observation is that closer to 700 feet of shoreline are of direct concern to the Water Authority. The next steps are for MPU to mark the actual location of the transmission main and for the Water Authority to complete a full assessment of the risk to the transmission main. Once we have that information, a solution can be designed.

Rosenbeck reported that he has contacted McMullen and Pitz, a marine contractor in Manitowoc. They are recommending that armoring of the entire shoreline be addressed at one time to prevent passing the problem along to other areas. The estimated cost of one-ton revetment stone placed along the shoreline at an appropriate rate is about $250 per linear foot. Demand for quarry products will be an added challenge, as this problem is happening all around Lake Michigan. Contractors and quarries are booked up.

The Committee discussed the degree of the threat to the transmission main, and there was a consensus that portions of the shoreline need to be addressed quickly before damage is done to the pipe. Discussion continued on whether the entire length of shoreline needs to be addressed at one time. Sparacio stated that while it would be beneficial to have a unified approach to the entire shoreline, there are some logical divisions to how it can be broken down (i.e., inside the harbor versus outside the harbor, north of the Little Manitowoc River versus south, locations with existing intentional riprap versus locations without, etc.).

Gehin asked whether McMahon has the expertise to take on the engineering for this issue. Voogt responded that McMahon did design work for the wastewater plant along the shoreline in Port Washington. Rosenbeck also noted that McMahon assisted with permitting for shoreline armoring in the City of Two Rivers, which is having the same problems. He anticipates being able to handle this under our current General Engineering Services agreement.

Thoresen asked Sparacio whether he is directing McMahon to proceed with engineering design. Sparacio responded, yes, he is asking McMahon to assess the threat to the pipeline in engineering terms and to then provide guidance toward a solution. He sees this as a significant threat that must be addressed quickly in the highest risk areas. Based on the information we have so far, this erosion seems to have happened very quickly. Discussion continued regarding next steps, possible funding sources, and communication to the Board.

9. Village of Howard (Evergreen Ave) tower painting and AMI receiver.
The Village of Howard is planning for repainting of its Evergreen Avenue water tower. That project will occur in July, but they are currently trying to determine whether the AMI system receiver can be shut down during the painting project (an approximately 2-month period) without disrupting anyone's AMI communications. In order to make that determination, a week-long test period will be coordinated. If the test is successful, then they will not have

to relocate the antenna during the painting project at a significant cost savings. Sparacio noted that the key parties have been in communication on this, so this is only on the agenda in case there are any questions or outstanding issues. The testing period for disconnecting the Evergreen water tower AMI antenna has been set for March 24th through 30th. There were no questions or concerns.

10. Project status updates

a. **Chlorine system solenoids and analyzers**

Voogt provided an update on the status of the Water Authority's WDNR Sanitary Survey. The directive to install additional analyzers has been removed from the Survey deficiencies. This was based on a clarification of the applicable codes as interpreted by WDNR and USEPA. We can still proceed with identifying an improved approach to managing chlorine in the distribution system, but these changes are not required by code.

The Committee discussed the need for secondary downstream chlorine monitoring. Zygarlicke and Mahloch stated that downstream monitoring would be helpful for properly dosing chlorine and for adding fail-safe measures to prevent potential issues. Minten asked whether the connection stations could just have one analyzer downstream of chlorination. Voogt responded, no, there is insufficient detention time within the connection stations. Discussion ensued regarding possible methods for increasing detention time and mixing for a downstream analyzer. Michaelson noted that the Master Meter Station (MMS) uses mixing chambers to increase detention time for downstream analysis within the building. This process is then used to pace the chlorination at the MMS. For the connection stations, a compound loop must be created in order to create adequate detention time. There was a consensus that each connection station may need a slightly different approach, but we can still be consistent on the equipment being used.

Farr asked whether we have an estimated cost of this project. Voogt responded that there is no cost estimate yet. Discussion continued on the major project elements being replacement of the existing analyzers, installation of the solenoids, possible addition of downstream analyzers, and possible addition of feedback loops. The Committee would like to hear from another instrument vendor next month. Energenecs will be invited as the local representatives for Wallace and Tiernan (Depolox) analyzers. Michaelson reported that MPU has been satisfied with the performance of their Depolox analyzers.

Rosenbeck stated that the next step is to meet with De Pere, Allouez, Lawrence, and Howard to determine their local needs. The goal will be to continue using the same equipment, but each station may be configured differently to meet the local needs. We have yet to determine what analyzer we will use, so that will be determined later.

Zygarlicke asked how this project will be paid for. Sparacio responded that the use of Water Authority funds depends on the total cost of the project, whether or not all members are involved, and getting the Board's approval. He thinks that it will make

sense to have a consistent approach and to use Water Authority funds, but he does not yet have a sense of whether local cost-sharing will also be needed. Once we know the project scope and cost, he will be looking for a recommendation from the Technical Committee and a decision by the Board on how to fund the project.

Gehin asked whether the type of analyzer needs to be determined first. Voogt responded that the analyzer information will be needed to finalize the design, but he will start right away on documenting the local conditions and desired configurations.

b. **Water System Improvement projects**
Sparacio reported that the Focus on Energy Grant for the Howard Booster Station By-pass project has been received. Voogt reported that August Winter is still waiting to receive some materials to complete the 48-inch Repair Materials project. Michaelson reported on progress with the pressure and flow adjustments. Village of Howard has confirmed that adequate fire flows are still available. The opportunity to engage all three pumps is still available when needed.

c. **Manitowoc pump station optimization**
Sparacio reported that McMahon and MPU are working with Preferred Controls on the programming logic. Specifically, Voogt and Michaelson are cooperatively developing the description of operations. It is essential to have Michaelson's involvement in this step as he has vast knowledge of pump station operations. The next step with the VFD purchase is to obtain pricing, but this is a lower priority at this time.

d. **CTH R bridge replacement project**
Sparacio provided an update on pile driving and demolition. To date, there have been no exceedances of the maximum limits of vibration. Michaelson added that vibration during demolition is being monitored but is of less concern, because it is not a repetitive scenario like pile driving.

e. **SPLASH Study implementation**
Sparacio asked how the members would like to proceed on demonstration of software options for cross connection control program compliance tracking. There was a consensus that it would be beneficial to set up demonstrations of GIS-based and Cityworks approaches, and that the right technical people should be involved. Sparacio will continue reaching out to Hydrocorp to inquire into the readiness of its software package.

Thoresen asked whether the intent of the SPLASH study (increasing efficiency and reducing costs) is being upheld with this approach to cross connection control programs. Sparacio responded that the SPLASH implementation committee is exploring that question. They anticipate that the main challenge to this approach will be the required follow-up and tracking falling to local staff resources. They have particularly discussed how the first year or two of privatized commercial and industrial inspections are the toughest, as all the businesses get used to this change. Farr confirmed that this was his

experience in Howard. Now it works very seamlessly, but a key to their success was to have a paperless system for use in the field.

Discussion continued regarding software options for program tracking. The Committee would like to invite Hydrocorp to come to a Technical Committee meeting or even hold a separate meeting to discuss software options.

Rosenbeck left the meeting at this time.

f. **Satellite leak detection services**
Sparacio reported that the Green Bay Water Utility is working with Utilis again this year to image the area, and they are again inviting other interested parties to join. This next flight will include the entire transmission main, so the Water Authority has received a proposal from Utilis and is discussing the opportunity with MPU. Manitowoc and Howard will also be involved this year.

g. **Fiber network mapping project**
Discussion on this item will be reserved for a future agenda.

11. Water sales report through February 29, 2020
Sparacio noted that water consumption is down about 4.5% from this time last year. There were no questions on the water sales report.

Old Business:

12. None.

Next Meeting:

13. Agenda Items for the Tuesday, April 14, 2020 Meeting
Possible agenda items for the next meeting include the following.

1. Presentation from vendor on chlorine analyzer options
2. Emergency Response/Risk and Resiliency Planning – note that an EPA training is being offered on this topic on April 24 in Fitchburg
3. Fiber network mapping project

Adjourn:

Motion made by Allouez, seconded by De Pere to adjourn at 3:50 p.m.
MOTION UNANIMOUSLY APPROVED

Respectfully submitted,
Nic Sparacio, General Manager