

WATER COMMITTEE
JANUARY 26, 2011
MINUTES

MEMBERS PRESENT:

Pete Frisina, Chairman
James K “Chip” Conner, Vice Chairman
Brian Cardoza
Jack Krakeel
Tony Parrott

NON-VOTING MEMBERS:

David Jaeger

STAFF PRESENT:

Russell Ray

GUEST:

Stephen Hogan, PTCWASA

The meeting was called to order by Chairman Pete Frisina at 8:00 A.M.

I. ELECTION OF CHAIR.

Tony Parrott nominated Pete Frisina as Chair of the Water Committee. Chip Conner seconded and there was no opposition.

II. ELECTION OF VICE CHAIR.

Brian Cardoza nominated Chip Conner as Vice Chair of the Water Committee. Tony Parrott seconded and there was no opposition.

III. APPROVAL OF 2011 MEETING SCHEDULE.

Vice Chairman Chip Conner made the motion to recommend to the Board of Commissioners to accept the 2011 meeting schedule as presented. Chairman Pete Frisina seconded and there was no opposition.

IV. APPROVAL OF MINUTES FROM THE MEETING ON DECEMBER 8, 2010.

Vice Chairman Chip Conner made the motion and Chairman Pete Frisina seconded, to approve the minutes from the meeting on December 8, 2010. There was no opposition.

V. LAKE MCINTOSH UPDATE.

David Jaeger showed a short presentation about work that took place in December at the Lake McIntosh project. He said the progress has been fairly slow due to the weather and the time of the year, which is not unexpected. He commented that the aerial photograph of the job site is fairly recent. He described Line Creek leaving the site heading south, the original diversion channel has since been rerouted to the head (or inlet) of the sixty inch low level drain pipe that has been installed. He pointed out the location of the pipe. He showed the existing pump station, the area where they are constructing the surcharge pad; which is an earthen pad, constructed up to the top of dam height to pre-load the sub-grade area to pre-settle it. The contractor will continue to under cut the sub-grade area. He

showed a photograph of the new diversion channel that is headed toward the pump station. He pointed out the inlet to the pipe. He showed additional pictures showing the new inlet pipe. He said there had been some flooding previous to when the photographs were taken. At that time the flood waters were up above the top of the new head wall area at the inlet pipe. He then showed the outlet of the pipe and the new outlet channel, with the rip rap armoring around it.

He went on to describe some shots taken of the remedial work that was done after the flooding. The flood washed out the haul road, which put water back in the old diversion channel. They have since re-constructed the haul road back up above the flood level, reinstalled the stone across it and they have mulched the banks on the inlet channel since the flood, after the water levels were reduced. He showed a photo of fill that is being stockpiled for construction of the dam. The flooding cut off access to some of the borrow areas up in the reservoir, so the contractor was actively stockpiling fill so that if that occurs again, they will have materials closer to the dam to continue working until the flood waters subside.

Mr. Jaeger explained the erosion control measure required by EPD. He pointed out the double row silt fence around the top; above the water level there is hay, straw and in some areas there is mulch matting which is actually attached to the slope. Mr. Parrott stated that any area that we have disturbed that we are not actively working, we are required to mulch it. Mr. Jaeger said that if an area is idle for more than two weeks it is suppose to receive mulching. Beyond six weeks temporary grassing is required, up to six months, then permanent grass.

Mr. Jaeger explained that work is about to begin at the Helmer Road mitigation site. He has been in contact with Eco-South providing them the topographic information. Mr. Parrott commented they planned to move on the 17th if weather permitted, but the weather has been pretty sloppy.

Mr. Jaeger reported that substantial planting has been done at the Danielly-Wagner site and the Johnson site. They are moving along on both of those sites. Mr. Parrott commented that they bought 84,000 tree stems. He said that it is all on schedule and looking good.

Mr. Parrott stated that we have started putting up the posts on the property pins starting at Planterra in Peachtree City to denote our property lines. He said he has not received any phone calls.

Mr. Jaeger commented on the anticipated clearing and burning. The contractor has told him that they have contacted Coweta County and the Forestry Service and are set up to begin burning. It will require contact on a daily basis; with the Forest Service to have permission to burn. He thinks they are waiting for the weather to be dry enough that they can begin that operation. He said he will update the Water Committee on this item as the work proceeds. Mr. Parrott clarified that this is pit burning with an air curtain.

VI. SUMMARY OF PRESENTATION OF TOTAL ORGANIC CARBON TREATMENT.

Mr. Parrott explained that the Board of Commissioners Retreat is the 11th and 12th of February. He commented that he and Mr. Jaeger will be presenting the TOC recommendation to them at that time. He said they are showing it to the Water Committee ahead of time so the committee can see what has been done with the amount of information that had to be summarized. He stated that he is also talking with the Finance Department about what we may or may not have to do about a rate increase to cover the 9.3 million dollars.

Mr. Jaeger explained that he modified the presentation that he gave the Water Committee about the pilot study for his presentation to the Board of Commissioners. He stated that in the presentation he wanted to give an explanation of what we are trying to achieve. The first slide identifies the first of the primary objectives which was improve removal of total organic carbon as well as providing a definition of TOC as suspended and or dissolved organic within the source water. Treatment is measured as percent removal comparing the treated water versus raw water with a minimum acceptable removal of 35%.

Mr. Jaeger stated that the second objective is the reduction in disinfection byproducts (DBP) in order to meet the stricter 2012 federal regulations. DBP's are compounds created by binding of organic carbons with chlorine and are identified as potential carcinogenic precursors. The two DBP's that are measured are trihalomethanes and haloacetic acids. Mr. Jaeger stated the maximum allowable concentrations are 80 parts per billion and 60 parts per billion respectively. They are measured at select locations within the distribution system. They will need to stand alone with the new regulations

Mr. Parrott commented that the current regulation is quarterly and is an average of the samples. Mr. Jaeger went on to say that treatment options for TOC removal that were looked at were enhanced coagulation, which will improve the settling process, ballasted coagulation, which also improves the settling process, absorption through activated carbon with either granular activated carbon or powder activated carbon, or magnetic ion exchange, which is the MIEX system; which is an ionic bonding of the ionic resin with the carbon within the source water.

Mr. Jaeger stated that after reviewing each of these, they found the enhanced coagulation was not very effective, mainly due to the fact that our source water contains mainly dissolved organic carbons. Since it is dissolved, there is not much there to settle out, no matter how well you are able to coagulate it. The ballasted coagulation was less effective than our chosen method; it also had a higher long term cost. Activated carbon absorption also had a very high operation and maintenance cost, so long term; it was the highest cost option. The one that we chose is the magnetic ion exchange which was very effective in lowering TOC concentrations. It also has the lowest long term cost. Additional benefits of MIEX

are during construction, there will be very minimal disturbance of the plant operation. We can expand it for the plants for future growth, it helps reduce usage and cost of other treatment chemicals and, while it is a proprietary process, it utilizes traditional equipment. The pumps, mixer and so forth are not anything out of the ordinary in the things that can be stockpiled and if necessary for maintenance.

Mr. Jaeger went on to say that we moved forward with the pilot study that took place at the South Fayette Water Treatment Plant. It took place in July of last year, with the MIEX process manufactured by ORICA.

Mr. Jaeger gave a brief description of how MIEX works. It has an ionically charged resin which is mixed with the raw water to bond with the organic carbons in the source water. This helps improve settling and removal of those carbons. It also bonds very well to the dissolved organics. It attacks our main problem which is the dissolved organics in the source water. The resin is re-circulated, there is some resin lost, but you are able to re-use the resin in a closed system. The MIEX effluent is then routed through the existing water treatment plant process. You are not disturbing what you are currently doing, you are adding to it on the front end of the plant. He showed a diagram of this basic description.

Mr. Jaeger showed the results of the pilot study from MIEX in a table with three parameters; the first being total organic carbon removal – 35% being the minimum allowable; the existing plant process at the time we were running the pilot was just above the minimum, just over 35%. The MIEX process, treating 100% of the raw water flow achieved 66% removal of TOC. When we dropped back to a blend running half the plant; 50% of the plant through the MIEX process and then blending it back together we have just over 50% removal. We are in very good shape utilizing just half of the MIEX treatment process. With the disinfection byproducts, and trihalomethanes, 80 ppb being the maximum allowable concentration, the plant at that time was about 58; 100% MIEX treatment was down in the mid to low 20's, and the 50% MIEX is just over 40 ppb. The 50% solution shows that we are well below our maximum allowable. We have the same situation with haloacetic acids; the plant concentration was about 36%, 100% MIEX was around 11, and the 50% was in the neighborhood of 24. Well below the 60 ppb. Looking at total cost for both water treatment plants, the permitted capacity of the Crosstown plant is 13.5 MGD; South Fayette water plant is currently at 6 MGD, but it is anticipated that it will be upgraded to 9 MGD in the near future. That would provide a total peak rate of 22.5 MGD for both plants. He said, looking at the total capital cost to install this system, if we were to treat 100% of the flow, it would cost 13.5 million dollars. The 50% solution achieves what we are trying to do so we think that is the best answer. That would reduce the capital cost down to 9.3 million dollars for both plants. The annual operating cost is based on an average rate. The South Fayette plant averages about 4 MGD over the course of the year and the Crosstown plant about 5 MGD. With a total of 9 MGD, operating cost would be \$350,000.00, then half of that for the 50% solution for the

MIEX. He said what we are selecting as our process is treating half of the flow with the MIEX process.

Discussion followed about questions that might arise during the presentation to the Board of Commissioners. Mr. Krakeel mentioned if we are currently removing the compounds to achieve acceptable maximum parts per billion with our existing treatment; if we are at 57/58% parts per billion with current treatment and we are down to 35%, why are we doing this?

Mr. Jaeger responded there are two answers to that question. The first being, there is a two part objective, one is our TOC removal; in order to comply we have to get 35%, we have struggled with that. By reducing TOC we effectively also reduce the disinfection byproducts, as a result of TOC removal. The numbers in his presentation are part of the pilot process which took plant effluent right from the plant and aged it over seven days, and we measured the disinfection byproducts. These numbers are probably not representative of the worst case scenario in the distribution system. It would have to be long term for 2012 regulations. While these show that we are at levels acceptable for our maximum, it is very likely that what we would be measuring against would be areas that have worse concentration.

Mr. Jaeger stated he would add one more slide to the presentation to make this issue more clear. He commented the new regulations are trying to target what is happening in the worst locations. By reducing the potential formation of disinfection byproducts at the plant, then it further reduces any in the system. You are reducing the chlorine dosages and your carbon concentration. You have reduced both components by reducing the byproducts at the plant.

Mr. Parrott explained that violations require public notification. We did that with the TOC's.

Vice Chairman Conner asked about the concentration of TOC's in our raw water. Mr. Jaeger replied that they are not very high, but we are required to remove 35% of what is there. What is high is the percentage of dissolved organics versus total organics. If our total organic number is 4, our dissolved organics may be 3.7 of that, and suspended being the rest. You have to have a way to attack the dissolved organics and the MIEX process is very good at that.

Mr. Krakeel suggested a single summary sheet as a hand out for the Board to let them know what the financials are and the other treatment options. He said fundamentally the issue is that more than likely this is going to require a rate increase, and it is half the cost of what the reservoir is costing us. Mr. Parrott commented about regulation changes, we will have a way to meet the changes without having to back up and start fresh.

INFORMATION FOR THE COMMITTEE:

Mr. Parrott explained that the CDC recommended lowering the fluoride dosage. The range for fluoride is .7 to 1.2. We are running pretty close to the .7 that the CDC is recommending. We have already adjusted to take care of that.

He referenced an article about water reservoirs; they mentioned Lake McIntosh being under construction. They were talking about fast tracking reservoirs.

Mr. Parrott commented there had been interest about painting Starr's Mill. The contractor Trammel-Horton was low bid for painting the mill and they will be starting soon.

Mr. Parrott said the three year Sanitary Survey was done at the two water plants. We were satisfactory at both of them; our scores were in the mid 80's. We lost points on not having two Class I Operators on each shift. We have a Class I Operator on each shift, we just don't have two.

Mrs. Quick reported on the North Georgia Metropolitan Water Planning District Toilet Rebate program. She said the rebates for 1.6 gpf (gallons per flush) toilets will stop at the end of December this year, because of changes in the regulations. They will still do the 1.28 gpf toilet rebates. The \$50.00 rebate will not continue, only the \$100.00 rebate. They talked about changing the \$100.00 rebate amount, but they will keep it at \$100.00. She went on to say that the program started in 2008. They will keep the paper applications for three years, but all the electronic files will be available as far back as they need to go, if they need to look anything up. For the whole District there have been over 18,000 toilet rebates. There have been 11,733 applications from people; and for the whole District 321,654 gallons per day is the estimated savings from this program.

Mr. Parrott commented that we are participating in the program and when they renew the contract with the program, if the Board decides to go forward we will make the changes to go with the 1.28 gpf toilets.

There being no further business, Chairman Pete Frisina adjourned the meeting at 8:35 A.M.

Peter A. Frisina

The foregoing minutes were approved at the regular Water Committee meeting on the 9th day of February, 2011.

Lisa Quick