

**MINUTES OF THE REGULAR MEETING
OF THE BOARD OF TRUSTEES
OF FOX METRO WATER RECLAMATION DISTRICT
HELD WEDNESDAY, DECEMBER 18, 2013**

The Board of Trustees met in a regular monthly meeting at 9:30 A.M. in the offices of the District at the Water Pollution Control Plant on Wednesday, December 18, 2013. President James Detzler presided and present with him were, Trustee Albert E. Heriaud, Trustee Christopher F. Childress & Trustee Michael C. Funkey. Also present were Attorney Dallas Ingemunson, Manager Thomas F. Muth, Jimmie Delgado, Matt Woodin, Joel Ilseman, Christopher Morphey, Patrick Divine and Norma Rodriguez. Also in attendance were John Frerich and Amy Underwood from Walter E. Deuchler Engineering.

The bills were presented and read. It was moved by Trustee Funkey, that the bills be allowed as read, and that checks be drawn in payment account during the month of November, 2013 in the amount of \$2,284,866.99 be ratified and approved. Motion was seconded by Trustee Heriaud, put to vote and unanimously carried that the bills be paid as presented.

It was moved by Trustee Funkey seconded by Trustee Heriaud, put to vote and unanimously carried that the Treasurer's Report for November, 2013 be approved as submitted.

It was moved by Trustee Funkey, seconded by Trustee Heriaud, put to vote and unanimously carried that the minutes of the November 20, 2013 Regular Board Meeting be approved as written, each of the Trustees having received and read copies of said minutes before the meeting.

With no New Business or Public Comments, It was moved by Trustee Detzler, seconded by Trustee Funkey, put to vote and unanimously carried that the Regular Board Meeting be temporarily adjourned for the Committee of Local Improvements.

The Regular Board Meeting adjourned at 9:35 A.M.

Manager Muth began with the Committee of Local Improvements by saying that Amy Underwood from Deuchlers did a great job on the TPAD (Temperature Phased Anaerobic Digestion) project with all the challenges that were faced with Williams Brothers. Amy gave a presentation to the Board on the benefits of TPAD. Amy said that in the 2005 Master Plan prepared with Fox Metro it comprised a twenty year plan and it identified the need to expand. It identified that we were going to expand from 42 MGD to 53 MGD in twenty years. The first project that was completed in the first phase of the twenty year plan was converting the current Digesters to TPAD. This increased digestion capacity without building more digesters, it improved bio solids quality for land application, it addressed the aging infrastructure in digestion facilities, the covers of

Digesters 1 and 2 were replaced and it added digestion facility to SCADA. TPAD has been in operation since October 2012. The goal is to make bio solids safe in order to apply them to farm fields and in order to do that, we have to meet USEPA's requirements. The USEPA has heavy metal limits as to what is allowed to go into farm fields. The USEPA also has Pathogen requirements and Vector attraction requirements and one of the goals is to make the sludge more stable so is less attractive for things like mosquitos and flies that would land on the bio solids and carry pathogens and other things away from the solids and then come into human contact. Amy explained the function of an Anaerobic Digester. She said that inside the Anaerobic Digesters there are microorganisms that are breaking down organic matter in the absence of oxygen. It can be operated at Mesophilic Temperatures (86F – 100F), which is what had been done historically. This will create a Class B sludge. At Thermophilic Temperatures (122F – 135F) there is a potential to create Class A Sludge. Regardless of what temperature, we process the same things going into the digester, the microorganisms are breaking down organic matter into acids and other things and then into Methane and Carbon dioxide. So essentially you are taking the volatile acids and converting them into a gas.

Amy explained the benefit of TPAD (Temperature Phased Anaerobic Digestion). She said the benefit of TPAD is that increases pathogen destruction and volatile solids reduction and the Mesophilic digesters reduce odors, provide operational stability and cooler sludge to dewatering.

Amy said that in order to meet USEPA's requirements it was decided to operate a batch process. So basically you have to isolate the solids for a certain amount of time at certain temperature in order to demonstrate that we have a Class A product. This is a pretty complicated process to operate but SCADA does the work. Odor control was added to the digested sludge storage tank.

Amy said that this process has been in place for a year and they did a comparison of what we have now to what we had before TPAD. Data from 2005 was used to compare because this was before construction of TPAD and compared it to data from 2013 and overall performance has increased. There has also been a decrease in bio solids volume for disposal because there has been a 33% decrease in sludge production due to the TPAD project and new centrifuges.

Amy went over the bio solids expenses and explained that in 2012/2013 the average cost for bio solids conditioning was \$108 per dry ton. Land application average cost from 2007-2011 was \$8.19 per cubic yard this does not include maintenance materials and District labor expenses. This year we saved \$169,000.00 in Bio solids conditioning and \$122,000.00 in land application for a total annual savings of \$291,000.00. If you would put that in a 20 year present worth it would accumulate to \$4,646,000.00. This amount may change because the annual savings could change

Trustee Childress asked if operating cost goes up with the new process in terms of electricity, not including labor. Amy said that we do have more pumps so more electricity is being used but as far as feeding the digesters methane gas is used which is a

byproduct. In 2005 we produced 342,000 cubic feet of gas per day and in 2013 468,000 cubic feet of gas was produced. Ninety five% of the time we are running on digester gas that we are producing. We are flaring an average of 150,000 to 250,000 cubic feet of digester gas per day. Trustee Childress asked if we could reuse that. Amy said it is possible. She said if we take the minimum of 150,000 cubic feet it would be enough to run a 380 KW engine which is about 500 horse power. Trustee Childress asked if it had to be cleaned. Amy said that this gas would have to be cleaned.

Manager Muth said that part of what we are analyzing is to see how much history we are going to have with the gas whether it is going to be better to lessen our electrical cost or use that gas to perhaps construct a building to take care of the filter cake and dry it further and then pelletize it, that's the future. Amy said that maybe pipes can be installed throughout the plant and use that digester gas for heat. There could be a number of different ways this gas can be used for energy.

Amy also wanted to point out that in September/October of 2013 Salmonella testing was done for the first time to see if we met USEPA's requirements and the tests came back that we did meet the requirements for a Class A Biosolids.

Trustee Funkey asked if the gas that we are flaring is being wasted. Manager Muth explained to him that it was being wasted, that's why there is a study being completed to see how much is being wasted and look for ways that this gas can be reused in our facility.

At 10:00 A.M. Manager Muth opened and read aloud bids received for North Aurora Pump Station MCC Replacement as follows: Fitzgerald Electric Contracting, Inc – Total Bid \$187,700.00; West Elsdon Electric – Total Bid \$179,253.00; L.J. Morse Construction – Total Bid \$144,000.00; The Morse Group – Total Bid \$149,444.00; Frank Marshall Electric – Total Bid \$135,600.00; The Engineer's estimate for this project was \$155,000.00. It was moved by Trustee Funkey, seconded by Trustee Childress, put to vote and unanimously carried that the low bid of Frank Marshall Electric be accepted for \$135,600.00 and the bid of L J Morse for \$144,000.00 be held pending specification review by Fox Metro Water Reclamation District and Walter E. Deuchler Engineering Staff.

Manager Muth opened and read aloud bids received for Building J – FRP Tank Procurement as follows: Augusta Fiberglass – Total Bid \$59,120.00; Creco Tanks- Total Bid \$47,815.00; The Engineer's estimate for this project was 60,000.00. It was moved by Trustee Funkey, seconded by Trustee Childress, put to vote and unanimously carried that the low bid of Creco Tanks be accepted for 47,815.00.

With no other matters to come before the Committee of Local Improvements, it was moved by Trustee Detzler, seconded by Trustee Funkey, put to vote and unanimously carried that the Committee of Local Improvements be adjourned and the Regular Board Meeting reconvene.

The Regular Board Meeting reconvened at 10:15 A.M.

Attorney Boyd Ingemunson advised the board that he had nothing to report this month for the Attorney Report.

John Frerich addressed the Board with the Engineer's Report. Mr. Frerich requested approval of Final Payment No. 8 to Allan Mach & Sons., in the amount of \$44,633.00 for Ferric Chloride Addition Project. It was moved by Trustee Childress seconded by Trustee Heriaud, put to vote and unanimously carried that payment be made in the amount of \$44,633.00 to Allan Mach & Sons, for work completed on Ferric Chloride Addition Project.

John Frerich requested approval of Partial Payment No. 2 to Frank Marshall Electric., in the amount of \$37,881.00 for 480 V Feeders to Building B and O & M Replacement. It was moved by Trustee Childress, seconded by Trustee Heriaud, put to vote and unanimously carried that payment be made in the amount of \$37,881.00 to Frank Marshall Electric, for work completed on 480 V Feeders to Buildings B and O & M Replacement Project.

John Frerich requested approval of Final Payment No. 41 to Williams Brothers., in the amount of \$338,848.51 for TPAD Project. It was moved by Trustee Childress, seconded by Trustee Heriaud, put to vote and unanimously carried that payment be made in the amount of \$338,848.51 to Williams Brothers, for work completed TPAD Project.

John Frerich requested approval of Final Payment No. 2 to American Demolition., in the amount of \$22,732.64 Building K & L Modifications - Demolitions. It was moved by Trustee Childress, seconded by Trustee Heriaud, put to vote and unanimously carried that payment be made in the amount of \$22,732.64 to American Demolition, for work completed on Building K & L Modifications - Demolitions Project.

John Frerich requested approval of Partial Payment No. 1 to Whittaker Construction., in the amount of \$7,965.00 for Building K & L Modifications – Interior Improvements. It was moved by Trustee Childress, seconded by Trustee Heriaud, put to vote and unanimously carried that payment be made in the amount of \$7,965.00 to Whittaker Construction, for work completed on Building K & L Modifications – Interior Improvements Project.

John Frerich requested approval of Partial Payment No. 5 to Steve Spiess Construction, Inc., in the amount of \$43,898.31 for Montgomery/Sugar Grove Interceptor Phase 2. It was moved by Trustee Childress, seconded by Trustee Heriaud, put to vote and unanimously carried that payment be made in the amount of \$43,898.31 to Steve Spiess Construction, for work completed on Montgomery/Sugar Grove Interceptor Phase 2 Project.

At this time, Manager Muth addressed the Board with the Manager's Report. Manager Muth presented the Board with the Plant goals for 2014. He said we need to meet or

exceed all NPDES Permit Requirements because that's the reason that we are here. Complete K & L interior electrical improvements. We are under way with that project. The goal is to have that completed by mid Spring and get the 2 meg generator off the plant.

Replace Service B – Manager Muth said that Service B is the second source that ComEd provides to us. The total renovation of Service A was completed last year. But next fiscal year we want to complete that total upgrade.

Expand Technological Capabilities – This is ongoing

Complete the Low Pressure Air Main Project – This is a project that we have been talking and discussing for years and thought that maybe we could repair each joint and then have a tight system again. We analyzed it and discovered that it was going to cost the same to repair each joint as it was to replace it with new piping.

Install Biological Nutrient Removal system as a pilot study – As we do the renovations in the aeration tanks, this pilot study is going to help us understand what we will be required to do with the South plant.

Maximize Air Quality Efforts – We conducted studies this Summer and we have to maximize our efforts.

Injury Free Work Force

Manager Muth said that the following are the Administrative Goals:

Update the Policy Manual and Safety Manual – Dedicate some employees to be in charge of that update.

Complete Phase I remodeling at Building “P” – We are at a slow start but we are going to get it completed this fiscal year

Update Sewer User Ordinance & Pretreatment Ordinance – We are going to have a couple of employees spearhead updating these ordinances.

Implement the Septic Hauler Program – We are going to upgrade this program

Benchmark job classifications – This hasn't been updated for a number of years. We would like to bring the Board some justification for the ranges that we are at in the first quarter of next year.

Continue to cross-train and promote team development

The following are the Strategic Planning Goals:

Complete the design of the South Plant – Approximately one year from now we would like to be in a position where that is complete or very close to completion. We want to be in a position that we are able to submit to the IEPA a year from now.

Continue to collaborate with agencies and groups to improve the environment – Whether it's the other municipalities that we serve or The Sierra Club, we would like to collaborate with them the best we can

Finalize our website – We have been working on that and want to roll that out soon.

Regional NPDES Test lab outreach program - There has been some discussion with Randy about potentially being a regional NPDES testing lab and have an outreach program. He has been in discussion with other municipalities about us conducting some of their required tests for them.

Manager Muth said that it's a very aggressive list. Trustee Funkey said that he assumed that this list was on everyone's desk throughout the year and that everyone is working towards accomplishing these goals. He said that he would like to see it expanded to take a proactive stance to educate all of our customers on why we have been forced to increase our rates that are involved in these expansions and our ongoing struggle with the USEPA.

Manager Muth said that he is up for any suggestions on how to get together with the USEPA. He said it's a tough arena.

Trustee Funkey is not suggesting that we get in touch with them but thinks that we should be prepared to respond to them. If the USEPA comes to us and imposes a change that costs \$54,000,000.00 more to the plant we need to be able to respond.

Manager Muth said that we are ready to discuss that with them at any time. Trustee Funkey just wants to make sure that our customers are aware of that and that they don't come to the assumption that we are the ones that come up with these requirements that have to be met.

Trustee Childress believes that it is a good idea about educating the public and maybe a way that can be achieved would be by finalizing the website. He believes that by having links to the presentations and information regarding why all the changes and increases have to be done to further educate them. Trustee Childress also suggested that the Board member's email addresses be posted on the website. Manager Muth said that is something that will be discussed and that an employee has stepped forward and showed interest in being a part of that.

Manager Muth requested authorization to seek bids for the Air Main Header Replacement to be opened at 10:00 A.M., January 22, 2014 at the Board of Trustees Meeting.

Trustee Childress asked what we are expecting to spend. Manager Muth said approximately \$1,500,000.00. Trustee Childress asked if anyone has done any cost

justification. Manager Muth said that it has been speculated that there is a 25% leakage right now and the cost to run it is about 40% of electrical load. Manager Muth said that the reason we have to go out and bid now is because we have to review shop drawings on the low bidder and the General Contractor will have to get pipe ordered and fabricated. There is a small window of opportunity for us to take tanks down and that is in the Summer time. All the piping has to be completed before a tank can be taken down because we can't lose the air in the tanks. In the Summer the plant can operate on a minimum of four tanks. There is one tank that can be taken down and installed and then another tank has to be taken down strategically and put the other tank on line. If this is not planned and done accordingly we are not going to be able to have all five tanks in the Winter time when we need them.

Right now these tanks are being operated without any technological aid. There is no way to put the right amount of air under these tanks. They are trying to operate the most critical part of the plant without the use of technology. Thermo mass flow meters are going to be installed so that the accurate amount of air for each tank can be obtained. This is something that we should have had updated ten years ago.

Trustee Childress asked what was our annual electric expense. Manager Muth said approximately 1,700,000.00. 40% of our electric load goes to operate this Air Main Header and is leaking 25% so we are going to save 25% of 40% of our electric load.

Trustee Funkey asked what an air heard was. Manager Muth said it's a piping system that carries air from the blowers to the fine bubble diffusers which are located at the bottom of the aeration tanks. The existing system is underground. The proposed system will be located above ground.

Trustee Childress asked if this was in this fiscal year's budget. Manager Muth said its been in the financial forecast and in the rate study. The accountant has already projected the money spent in next fiscal year's budget and it is part of our rate increase.

Trustee Childress said that when we have capital projects like this, it would be helpful to be able to have some type of financial paybacks, sometimes they can be calculated. There are always assumptions. You have to ask, is it a financial need, operational need, is it a public safety need or employee safety need. Manager Muth said that there was an analysis done on that and he can provide Trustee Childress with that information.

It was moved by Trustee Childress, seconded by Trustee Heriaud, put to vote and unanimously carried to seek bids for the Air Main Header Replacement.

Manager Muth requested approval to sole source purchase an air core reactor for Service "B" replacement projects. One of the major reasons is that Hammond Power Solutions is the only company that constructs this piece of equipment with copper windings. When Service A was replaced, this piece of equipment was placed there and the reason we need an air core reactor is that our equipment is protected to 10,000 amps but ComEd may send 11,500 amps and we have to protect our equipment. This piece of equipment

protects it. Other reasons are that staff is familiar working on this piece of equipment and we can have spare parts if needed and we would intend to have this same piece of equipment when we do the South plant services and then Service C and this would allow us to have identical equipment throughout the plant.

Trustee Childress asked what the cost of this would be and Manager Muth said that it is greater than \$40,000.00. Trustee Childress asked what it is the anticipated cost and John Frerich said that it would be close to \$60,000.00 to \$70,000.00. Trustee Childress asked what the next alternative was and what the cost would be. Manager Muth said that it would be aluminum windings and then a different contractor would be needed and the cost could be very similar. Trustee Funkey said that we won't know that the cost would be similar until we invite to bid on it and if the companies that produce the equipment with the aluminum windings bid is the same as Hammond Power Solutions and find that Hammond Power Solutions equipment is better for the reasons that were just stated. Shouldn't we follow the bid process? John Frerich said that they have tried aluminum windings before and they didn't work before.

It was moved by Trustee Childress, seconded by Trustee Heriaud, put to vote and unanimously carried the approval of sole source purchase of an air core reactor for Service "B" replacement projects.

Board tentatively approved the Board Meeting Dates for 2014.

Maintenance Supervisor Chris Morphey reported that there have been a few difficulties at the plant with the cold weather that we have experienced but its being dealt with. Mr. Morphey and his staff plan on meeting and come up with a strategy to improve functions at the plant. Mr. Morphey advised the board of an issue that was encountered. He reported that with the construction that is ongoing on Route 31 and 30 with the natural gas air main, there was debris that was created when the gas pipes were moved and we experienced a couple of venting gas leaks at the gas meter at the plant. He said they worked together with Nicor to get that problem solved and they now know how to respond to that situation correctly.

Controller Jimmie Delgado reported that financials look good, billings are steady. Our calls regarding the rate increase have subsided.

With no other business to come before the Board, it was moved by Trustee Detzler, seconded by Trustee Funkey, put to vote and unanimously carried that this meeting be adjourned for Executive Session.

Meeting adjourned at 11:00 A.M.

The Regular Board Meeting reconvened at 11:45 A.M.

It was moved by Trustee Funkey, seconded by Trustee Heriaud, put to vote and unanimously carried that the Executive Meeting Minutes of June 19, 2013 to November 20, 2013 be approved as recommended by Manager Muth.

It was moved by Trustee Heriaud, seconded by Trustee Funkey, put to vote and unanimously carried that the Administrative and office employees receive a 1/6% salary adjustment beginning in 2014.

There were no further decisions made in Executive Session.

With no other business to come before the Board, it was moved by Trustee Detzler, seconded by Trustee Funk, put to vote and unanimously carried that this meeting be adjourned.

Meeting adjourned at 11:50 A.M.