

Engineering and Operations Committee Meeting

Minutes

November 1, 2012

The meeting was convened at 1:30 P.M., Thursday, November 1, 2012, at the Lakeway Municipal Utility District's office located at 1097 Lohmans Crossing, Lakeway, Texas 78734-4459.

The following Engineering and Operations (E&O) Committee members were in attendance:

Don Walden, *Chairman*,
Carl English, *Committee Member*,
Earl Foster, *General Manager (GM), Lakeway M.U.D.*,
Harvey Harrison, *Committee Member (Vice Chairman)*,
Bob Rives, *Committee Member (Secretary)*,
Pat Rossmiller, *Committee Member*.

Jerry Hietpas, *Board Member and Board Liaison to Committee*.

The meeting's agenda had been distributed to all Committee and Board members by e-mail on October 23, 2012. The designated Agenda for the meeting was issued by Mr. Foster in the following manner:

1. Water-Model Update
2. Report on Water Hardness from John Hastings
3. Report on Elevated-Tank Painting from John Hastings

The meeting began with an update from C. Castlebury on the water model saying that the model is very close to being finished. However, she needs some extra time to finalize the calibrations of the system and bring it to an accuracy that will be more definite for the future scope and scheduling that is needed for the master planning. The accuracy of Time vs. Flow is complex in the relationship between the model and actual events and, therefore, is conditioned on three tanks which are located at different locations (as well as capacities, elevations, and having varying water inputs and outputs) along with water-flows that go to different places and are subject to usage that constantly varies across the LMUD system. Additionally, there are two modulation valves in the distribution system that regulate flow to two tanks requiring special modeling rationale. All of these criteria have logic conditions which are difficult to emulate with a modeling system. As such the critical dip that was seen in the E-1 Tank during the occurrence on September 29, 2011, has not been adequately matched to date as shown by the model's most recent output.

Water Plant Supervisor John Hastings was introduced by Earl Foster to report on water hardness of the Lakeway water. He said that our drinking water has 10.8 grains/gallon of hardness or in water treatment units: 185 ppm (i.e., hardness of water is generally expressed as parts per million as CaCO₃). He presented a table showing the degrees of softness-hardness as follows:

17 – 60 ppm = soft
60 – 120 ppm = moderately hard
120 – 180 ppm = hard
Over 180 ppm = very hard.

Lakeway's water is about 185 ppm which is at the lowest end of "very hard." In other words our water is not in the super-hard category. However, our water is high in calcium carbonate. This, he said, is expected since the water comes from Lake Travis that is located in limestone country (limestone is chiefly calcium carbonate). Because of this we have little magnesium carbonate in our water and very little iron (which gives water a bad taste). He noted that well water can be high in magnesium and/or iron. Soft water will lather-up whereas hard water doesn't give you that lathered-up quality; also, hard water can give you residue build-up on your sink. It's the sodium that helps form the lather, and it is the calcium or magnesium that reduces the lathering quality. He noted that water softeners produce sodium and as such water-softeners that tend toward the 17 ppm range can be a problem in swimming pools (cost). He was asked what would be required to add a softener system to the LMUD system. He estimated that the engineering fees would be about \$200,000 and the physical system would cost roughly 1 to 2.5 million dollars (at least) and that would not include the yearly operational/maintenance costs nor the removal costs of by-products. Considering that our water's taste is the best in Texas (and third in the nation) and there are no health issues with the water, than the high costs associated with a softener system is just not a viable issue. A water-softener system, he said, is a luxury and not a necessity for the community. He did say that if families so desire they can add a water softener to their household. He noted that, other than Austin, all the water treatment systems on Lake Travis and in central Texas do not use softeners. Additionally, there are synthetic soaps and detergents that will aid in lathering and should not leave residue on the sinks. It was suggested that Foster prepare an item for LMUD's website explaining the soft-hard water issue to the public. Mr. Hietpas asked that the item be sent to the E&O Committee for review prior to release.

The next Agenda item was also presented by John Hastings concerning the elevated tank painting and inspections. He said that we have a contract with Phoenix Tank Company and that this contract is coming to its final term. The E-3 tank at the World of Tennis needs to be interior brush-blasted and painted with a polyurethane coat along with a power wash and coat of paint on the outside. This work is scheduled for January during the lowest demand month.

The E-4 tank (the golf ball) needs an interior cleaning in February, but no exterior painting is required.

The E-2 tank, near the Lakeway School, needs its exterior sand-blasted to bare metal then an all new paint job with logo. Mr. Hastings mentioned that the work will be inspected during each step of restoration and painting. The life expectancy of the outside paint is 10-15 years and could last up to 20 years. It was noted that there is no lead problem with the paints at any LMUD tank sites.

Questions arose in regards to the tank maintenance contract. Mr. Foster noted that the contract would not be extended. In the future the maintenance would be by capital expenditure on a yearly basis involving escrowed funds. Mr. Foster additionally noted that because of the lower lake level, the Lake Travis water-management plan for the current emergency was under review; as such, he is in favor of the LCRA renewing the present Emergency Order.

It was agreed that the next meeting would be on November 29, 2012, at 1:30 PM. The Chairman adjourned the meeting at 3:20 PM.

The Minutes have been read and approved by email:

November 5, 2012