

(Prepared by/Return to: Amy Kahler, Des Moines Water Works, 2201 George Flagg Parkway, Des Moines, IA 50321, 515-283-8760)

Meeting
CENTRAL IOWA REGIONAL DRINKING WATER COMMISSION
Technical Advisory Committee
Des Moines Water Works Board Room
December 10, 2015
10:00 a.m.

Present

The following attendees introduced themselves:

Tim Hoskins (Norwalk), Karen Oppelt (Altoona), Vern Willey (Altoona), Ken Plager (Ankeny), Tim Royer (Waukee), Dan Klopfer (DMWW), Ted Corrigan (DMWW), Amy Kahler (DMWW), Dale Acheson (Urbandale Water Utility), John McCune (Urbandale Water Utility), Randy Beavers (Warren Water District), Diana Wilson (WDMWW), Jeff May (Clive).

Members of the public in attendance: Don Peterson.

Disinfection By-Product Rule Compliance Project Report

Ted Corrigan provided an overview of DMWW's Disinfection By-Product (DBP) or TTHM issues. Ted reported that for many years, there have been no issues related to DBPs; however, in 2014, DMWW experienced issues of elevated DBPs and has since been working through those issues, retaining a consultant to provide recommendations. In November, DMWW submitted a compliance plan to DNR.

Ted provided background and overview of DBPs. Specifically, chlorine combines with Total Organic Carbon (TOCs) to form DBPs. DBPs have been linked to health issues, including liver, kidney central nervous system, and increased risk of cancer.

Safe drinking water standards for disinfection by-products are as follows:

- TTHM @ 0.080 ppm or 80 ppb. This is where issues have been.
- HAA @ 0.060 or 60 ppb. DMWW doesn't have issues with HAA.

Iowa is a very ammonia rich environment, and the cause for elevated TTHM begins with elevated levels of ammonia in the source water, from fertilizers, confined animal lots, etc. Spikes are typical in the spring; however, DMWW experienced a higher-than-normal spike in Q1 of 2014. In these situations, chlorine is aggressively fed to burn through ammonia and leave enough chlorine available for disinfection. At the same time ammonia was high and chlorine was aggressively fed, there was a higher level of organics in the water, creating a "perfect storm" for the creation of TTHMs.

In sampling for TTHMs, suppliers are required to average four quarterly samples. At one point in DMWW's system, the level was high enough to impact the 4-quarterly average and result in TTHM levels above the drinking water standard.

DMWW hired a consultant to evaluate options for removing TTHMs, focused on treating TTHMs after they form, or decreasing water age in the system. Ted reviewed the recommendations DMWW intends to implement as their DBP Compliance Plan:

Operational Changes

- Enhanced treatment processes
 - Powder Activated Carbon (PAC) addition and purchase most effective PAC.
 - Enhanced softening
- Targeted distribution system flushing
- Maximize use of SWTP
- Use ion exchange facility

Capital Projects

- Mixing improvements
- Aeration of finished water, allows TTHMs to volatilize to gas, have seen reduction in excess of 50%
 - LP Moon
 - Nollen
 - Polk County
 - Tenny Hazen
 - Wilchinski
 - Fleur Drive clear well

The estimated cost of the capital projects is as follows:

2017 - \$3,266,000

2018 - \$2,906,000

2019 - \$4,678,000

Total \$10,850,000 over 3 year period

Review Final Demand Projections

Dan Klopfer reported that the projections were essentially completed at the last meeting, but clean up or follow up work has been performed to ensure solid data. Final numbers will be developed by end of 2015.

Next Steps

DMWW's 2016 Budget includes completing a long range plan of DMWW's entire system, and demand data compiled by the Technical Advisory Committee will be used in the study. It is likely to be completed with a combination of DMWW resources and consultants. Dan will provide more details as the Scope of Services and an RFP is completed, which is anticipated to be Q1 2016.

Des Moines Water Works Board Activities for December

Dan Klopfer reviewed the Des Moines Water Works Board of Trustees agenda for the upcoming December meeting:

- Approve appointments for board committees.
- Set public hearing for easement for Shared East Elevated water storage tank.
- Issuance of purchase order for replacing R/O membranes at SWTP. Membranes have met their expected life.
- Contract with plumbing contractor to make stopbox repairs at customers' expense. Contract is around \$200k annually.
- Labor agreement for AFSCME being approved, which is a 3-year contract.

Next Meeting Date

The next meeting will be January 14, 2016 at Des Moines Water Works.

Assignments

No assignments were given.

Meeting adjourned at 11:30 a.m.