Volume 16
Issue 2
Fall-Winter
2013

The Mainstream

A semiannual newsletter dedicated to enhancing water and wastewater services brought to you by
The Ypsilanti Community Utilities Authority

From The Director

YCUA is among 85 suburban wholesale customers that purchase their water from the Detroit Water and Sewerage Department (DWSD), which is the largest water system in Michigan and serves four million people. The water rates set by DWSD are based on an annual forecast determined by each community's historical usage or demand and its distance from and elevation relative to the DWSD treatment plants.

The revenue-generating capacity of DWSD is dependent upon the weather as well as economic factors. Hot, dry weather generally results in more water sales whereas cool, damp weather can have the opposite effect. Water sales in the DWSD system have declined 26% since 2003, mainly due to the Great Recession. When water sales go down, DWSD is required to raise its rates in order to cover the costs of operating and maintaining existing system facilities and capital improvement programs necessary to meet existing and future customer demands.

In addition to the cost to purchase water from DWSD, YCUA has costs to operate, maintain, and replace the many miles of local water distribution system piping as well as fixed costs such as staffing and meter replacements. YCUA's annual revenue requirements must be sufficient to cover the water rate increases from DWSD and as well as these operational costs.

By law, YCUA can only recover the cost of service – it cannot make a profit. If more water is sold than expected, the extra funds must be used for the system and offset the need to increase rates in the future. Likewise, if the annual revenue is insufficient to meet requirements, rates may have to be increased to make up the difference.

Even though YCUA received a 6.3% water rate increase from DWSD this year, we were able to limit the increase to our customers to 5% due to our ongoing successful efforts in containing and controlling our operational costs.

- YCUA Director

YCUA Receives Favorable Report in State Compliance Inspection

On August 8, 2013 representatives from the Michigan Department of Environmental Quality (MDEQ) Water Resources Bureau conducted an inspection of the YCUA laboratory and wastewater treatment plant (WWTP) starting at the headworks (where the raw sewage first enters the WWTP) and each subsequent process including the wastewater treatment passes, the new odor control system for the solids (sludge) processing area, the tertiary filter building, and the ultraviolet disinfection facility. At the exit interview, the MDEQ inspectors stated that the YCUA wastewater treatment plant infrastructure is being operated and maintained very well. The effluent (finish water) leaving the WWTP looked very good and there were no substantial odors detected outside the facility.

The inspection included a discussion of YCUA's compliance history wherein there have been no violations since year 2010, as well as WWTP flows, National Pollutant Discharge Elimination System (NPDES) Permit requirements, and current construction projects.

YCUA Compliance Department Implements a Mercury Minimization Program

Advancements in analytical technology have enabled laboratories to accurately measure the concentration of mercury in water to 0.5 nanograms per liter (ng/l). A nanogram per liter (ng/l) is also referred to as one part per trillion. Examples of one part per trillion are:

- one square foot of tile on a kitchen floor the size of Indiana
- one drop of detergent in enough dishwater to fill a string of railroad tank cars ten miles long
- one square inch in 250 square miles
- one mile on a two-month journey at the speed of light
- three seconds out of every one hundred thousand years

Wastewater treatment plants (WWTP) are required to test their treated water and, if the concentration is found to be greater than 1.3 (ng/l), the Michigan Department of Environmental Quality (MDEQ) requires the implementation of a Mercury Minimization Program (MMP). The YCUA WWTP submitted four test results for their treated water. The highest concentration was 1.5 ng/l and, therefore, an MMP is now required.

YCUA developed an MMP that consists of identifying sources of mercury being discharged into the sewer system by its users. YCUA plans to send questionnaires to some industrial users inquiring about their past and present uses of mercury-containing substances.

Also, dentists in the YCUA wastewater service area will receive a questionnaire inquiring about their compliance with State of Michigan Public Act 503 of 2008, which requires that, on or before December 31, 2013, a dental mercury amalgam separator shall be installed and operated on each wastewater drain that is used to discharge dental amalgam.

It's Time To Winterize!

The time to prepare your home for winter is before the freezing temperatures and snow arrive. Follow these tips to help prevent frozen pipes in your home:

1. Disconnect outdoor hoses and make sure hose bibs are not dripping.
2. Insulate pipes in unheated areas or seal off unheated areas.
3. Find your water meter shutoff so if a break does occur, you can turn off your water service quickly.
4. If you have an in-ground sprinkler system, contact your dealer about scheduling an appointment to have your system thoroughly winterized.
5. If your home's water will be turned off for winter, there should be heat to protect the meter as well as the plumbing.
6. YCUA recommends that customers winterize their homes just in case there is a complete power outage.

Annual Hydrant Inspections

This time each year, YCUA winterizes the more than 3,000 hydrants in its system and checks their operation for fire protection. The procedure involves an employee completing an inspection of the internal workings of each fire hydrant, making repairs, and getting water out of the hydrant barrels to prevent freezing. YCUA will also flush or run each fire hydrant to insure that it will operate properly during an emergency. As part of this process, each hydrant is tagged with ribbon to indicate that the winterization has been completed and, to make sure there is no confusion as to whether they were done, the color of the ribbon changes each year. This year, the color lime green was chosen.

Area residents should be advised that, as crews flush hydrants, there may be some discoloration of the water. If you experience rust-colored water, simply run the cold water tap for a few minutes to let the water clear. Please keep in mind not to wash any light colored clothing until the water is running clear. The rust coloring is caused by a natural build up of minerals in the water system. Some natural mineral deposits are stirred up in the water pipes when fire hydrants are first turned on.

The fire hydrant inspection program helps insure that all our fire hydrants are ready in the event of an emergency. If you have any questions, please contact YCUA Director of Service Operations Bob Fry at 484-4600 ext. 307.

Did You Know?

... You can find us on Facebook at:

facebook.com/ypsilanticommunityutilitiesauthority

As always, we invite you to visit our website at www.ycua.org for more information on these and other topics.

YCUA Constructs Phase II Odor Control System at the Wastewater Treatment Plant

In 2001, Ypsilanti Community Utilities Authority (YCUA) constructed the Phase I Odor Control System for the wastewater treatment plant (WWTP) at a cost of $2.2 million. Phase I consisted of odor control for the headworks processes where the raw sewage first enters the WWTP.

In March of 2013, YCUA completed construction of the Phase II Odor Control System. Phase II consists of odor control for the solids (sludge) processing areas using a form of biolfiltration by live microorganisms contained in the WWTP's ten aeration basins. The microorganisms in the aeration basins decompose organic material in wastewater (sewage) and, in doing so, also destroy the odorous compounds in the foul air.

The Phase II Odor Control System treats foul air from the following sources:

- Primary Sludge Storage Tanks (PSST)
- Waste-Activated Sludge Storage Tanks
- Blended Sludge Tanks
- Dewatering Belt Presses
- Sludge Silos - 10 feet
- Sludge Silos - 24 feet

The foul air from these sources is connected via fiberglass ductwork to the suction side of an air blower. The discharge from the blower is then conveyed via galvanized steel piping to a zone within each of the aeration basins. The success of this technology is determined by the absence of any foul air leaving the aeration basins.

The total foul airflow rate is controlled by the blower speed setting and can range to a maximum of 10,000 cubic feet per minute. The foul airflow rate from each source is controlled by dampeners in the ductwork and the withdraw rate from each source was balanced to meets the design specifications.

YCUA is pleased with the performance of the new odor control by aeration technology.