



NEWS AND INFORMATION

FOR PUBLIC WATER SUPPLIERS IN MINNESOTA

Fairmont Water Plant Replacement Underway



A new water treatment plant is being constructed in Fairmont to replace the existing plant, built in 1926. See page 4 for the story.

Liquid Assets Documentary Nearing Completion

The BluePrint Minnesota partner team and Twin Cities Public Television (TPT) are in the final stages of a documentary about Minnesota's critical water infrastructure. *Liquid Assets: MN* will be a Minnesota-specific follow-up to the national *Liquid Assets* documentary produced by Penn State University.



Telly Mamayek of the Minnehaha Creek Watershed District (formerly of WCCO Radio) is interviewed for *Liquid Assets: MN*.

According to BluePrint Minnesota team member Andrew Sullivan, "*Liquid Assets: MN* will give Minnesotans a behind-the-scenes look at the critical water infrastructure that supports our way of life in the Land of 10,000 Lakes."

to be about real people, real problems, and real solutions." The first airing of *Liquid Assets: MN* will be in December 2011.

More information is available at <http://blueprintmn.com>.

So far the team has raised \$46,500 for the program, which funded filming in 10 different Minnesota cities, as well as a DVD production for outreach programs. "We don't want to be all doom and gloom here because there are some great things happening in Minnesota" said Sullivan during the shooting tour, "but it needs

Water Operator Exam Dates

March 2, Rochester

March 8, St. Cloud

April 5, Minneapolis

April 12, Redwood Falls

May 18, Grand Rapids

See calendar on back page for more information

Leadership is the state to which management should aspire.

—Earl Bakken,
Founder of Medtronic, Inc.

95th Annual Minnesota AWWA Conference



The shores of Lake Superior were the site of the 95th annual Minnesota American Water Works Association (AWWA) conference in Duluth in September. In the above-right photo, outgoing chair Bert Tracy receives a plaque of appreciation from incoming chair Carol Blommel Johnson.



In the photos above, AWWA representative Wayne Stiver (on the right in the photo to the left) presents Scott Anderson with the George Warren Fuller Award; in the photo to the right, Stiver presents the Leonard N. Thompson Award to Dan Boyce.

Below, Nancy Zeigler presents Allen Young with the Meritorious Service Award; on the right, Todd Bredesen presents the Community Recognition Award, for outstanding public-information efforts during Safe Drinking Water Week, to the city of Bloomington, with Carol Kaszynski accepting the award for the city.



Annual Monitoring Schedule

Community water systems receive a monitoring schedule each year sometime in late December—showing dates contaminants are to be sampled for in the next year. The schedule also notes when specific reports and the Consumer Confidence Report are to be submitted to the Minnesota Department of Health (MDH). Any questions regarding information contained on the schedule may be directed to Cindy Swanson at 651-201-4656.

Systems needing additional bottles or lab forms may call the Drinking Water Message Center at 651-201-4650 in the Twin Cities Metro Area, or toll-free at 800-818-9318, or email health.drinkingwateradvisory@state.mn.us.

Questions? Contact MDH staff at the following numbers:

Arsenic	Cindy Swanson	651-201-4656	-or-	Joe Cummings	651-201-4672
Bacteriological	Jenevera Cook	651-201-4668	-or-	Cindy Swanson	651-201-4656
Consumer Confidence Reports	Jenevera Cook	651-201-4668	-or-	Cindy Swanson	651-201-4656
Fluoride	David Rindal	651-201-4660	-or-	Chris Eliasson	651-201-4678
Ground Water Rule	David Rindal	651-201-4660			
Lead and Copper	Pauline Wuoti	651-201-4674	-or-	Joe Cummings	651-201-4672
LT2, <i>Crypto</i>, <i>E. coli</i>	Lih-in Rezania	651-201-4661	-or-	David Rindal	651-201-4660
Nitrate	Cindy Swanson	651-201-4656	-or-	Joe Cummings	651-201-4672
Radiochemicals	Cindy Swanson	651-201-4656	-or-	Joe Cummings	651-201-4672
Stage 2 DBP Rule	David Rindal	651-201-4660	-or-	Cindy Swanson	651-201-4656
THM/HAA5	Pauline Wuoti	651-201-4674	-or-	Cindy Swanson	651-201-4656
TOC/Alkalinity	Lih-in Rezania	651-201-4661	-or-	Cindy Swanson	651-201-4656
Turbidity	Jenevera Cook	651-201-4668	-or-	Lih-in Rezania	651-201-4661
Water Quality Parameters	Joe Cummings	651-201-4672	-or-	Pauline Wuoti	651-201-4674

High-Hazard Cross Connections as Significant Deficiencies

The MDH implementation of the Ground Water Rule currently identifies, “The system is subject to contamination from hazardous cross connections,” as a significant deficiency within community public water supply (PWS) distribution inspection areas. MDH is considering hazardous cross connections to be of the high-hazard type, through which a condition exists wherein potential contaminant(s) could cause waterborne disease or illness and there is a possibility of the contaminant(s) entering the potable water system.

As of July 1, 2011 MDH District Engineers began notifying community PWSs if such conditions were observed during

a sanitary survey inspection. After January 1, 2013 affected PWSs will normally be required to perform corrective action to remove such cross connections within 120 days of notification.

MDH will provide regular updates regarding high-hazard cross connections and control practices, significant deficiencies, and discussions with stakeholders in each upcoming *Waterline* issue. The stakeholders include the Minnesota Section American Water Works Association’s Water Utility Council, Minnesota Department of Labor and Industry, Minnesota Rural Water Association, and the League of Minnesota Cities.

Fairmont Getting New Water Treatment Plant

Construction is underway in Fairmont on a new water treatment plant to serve the more than 10,000 residents and commercial customers in this southern Minnesota city, which is surrounded by a chain of five lakes.

The third lake in that chain, Budd Lake, is the city's source of drinking water. The treatment plant, on the west side of Albion Avenue and the east shore of the lake, was constructed in 1926 and performs lime softening. Three sand filters were added in 1954 for filtration and turbidity removal. The capacity of the plant is 3,000 gallons per minute.

As the plant entered its ninth decade, it became apparent that it would have to be rehabilitated or replaced. Older equipment and capacity limitations raised concerns about the plant's ability to meet future treatment regulations as well as residential and industrial growth. Water treatment superintendent Butch Hybbert says that complaints increased about taste and odor problems, a result of their inability to adapt to seasonal fluctuations in raw-water quality.

In 2008 the city analyzed the plant's condition, a process that included a risk analysis, which indicated that certain treatment equipment was in danger of failing. At a minimum, massive rehabilitation of the plant would be needed to keep it operating, and this would not address the need for advanced technologies to deal with future regulations as well as the seasonal issues that contribute to taste and odor problems.

Beyond the question of rehabilitation versus replacement was a decision on whether to continue using surface water or switch to ground water. Hybbert said one of the issues was the hardness of the ground water, which was around 750 parts per million (ppm) as opposed to about 200 ppm from the lake.

As for type of treatment, Hybbert said membrane filtration was one of the options, although a membrane plant would use 25 percent more water, among other things creating a discharge problem since it would be too much for the wastewater plant.



Butch Hybbert in front of the intake building and Budd Lake.

Fairmont has been working with Advanced Engineering and Environmental Services, Inc. (AE2S) of Maple Grove, Minnesota, for its facility planning. AE2S operations manager Grant Meyer said, as part of the overall process, they considered the condition of the existing plant, projections for future demand, and future drinking water regulations. Coordinating population growth estimates with planning also being done at the wastewater plant, Meyer said the conclusion pointed to building a new surface water

treatment plant.

Although rehabilitation of the existing facility was evaluated, issues such as structural reinforcement, equipment replacement, code compliance, safety improvements, and implementation of advanced treatment technologies all combined to result in the rehabilitation alternative being cost-prohibitive.

The new plant will be across Albion Avenue from the existing plant. With Budd Lake as its source, the facility will be a 5.4 million gallon per day (MGD) lime softening plant with granular activated adsorbers for taste and odor control. The plant will be on the current site of Budd School, which was recently demolished.

When the new plant is on-line in the spring of 2013, the existing plant will be torn down except for the intake station, which will be rehabilitated, and a pair of 16-inch transmission lines will carry the water to the new plant. The scope of the project will include two solids-contact softening basins, two recarbonation basins, two lime sludge holding basins, two filter presses for lime sludge dewatering, four 1.8 MGD conventional filters, four 1.8 MGD granular activated carbon adsorption filters for taste and odor, a 590,000 gallon clearwell with three high service pumps, an on-site sodium hypochlorite generation system for disinfection, and chemical storage and feed systems.

Continued on page 5.



On the left is the existing plant. On the right is Budd School, which has been demolished and will be the site of the new plant.



The filters at the existing Fairmont water treatment plant.

Since 2003 Cenex Harvest States, which uses 300,000 gallons per day for processing of soybean oil, has been the utility's largest customer. Hybbert says when the new plant is completed, an ethanol plant that is now using ground water will switch to Fairmont city water and use from 800,000 to 1.2 million gallons per day.

The total cost of \$31 million includes the demolition of Budd School, construction of the new water treatment plant, and restoration of shore lands.

The city of Fairmont recently received confirmation that it has been awarded \$5 million (\$1 million associated with green infrastructure and \$4 million based on affordability) in principal forgiveness loans, which are all part of the drinking water revolving fund.

Chad Kolstad Takes Over as MDH Drinking Water Revolving Fund Coordinator

Chad Kolstad has succeeded John Schnickel as the coordinator for the drinking water revolving fund program for the Minnesota Department of Health (MDH). Chad has been with MDH since 2001, working as a plan review engineer and then as a district engineer.

Chad grew up in the country, near the small town of Maribel, Wisconsin (about 20 miles south of Green Bay), and gathered job experience by picking stones, bailing hay, and combining oats. When he was 12 he started working for his dad, who owns a heating and plumbing company, and learned new skills by replacing lift pumps in septic tanks, pulling well pumps for farmers in January, designing mound systems, and replacing fire brick inside old fuel oil boilers.

While in college at the University of Minnesota, where he earned a degree in civil engineering, Chad did various jobs from janitor to printing-press operator until he landed a job with the Minnesota Geological Survey, which eventually led him to MDH.

Chad has a wife, Gail; son, Jack (5 years old); daughter, Bella (3); Marzi the cat (14); and Bessy the turtle ("Never get a turtle for a pet," Chad says). In his spare time Chad enjoys fishing, hiking, canoeing, kayaking, camping and bow hunting, and "basically anything you can do on water or in the woods. My most recent adventure was my second kayak trip to the Apostle Islands. For those of you familiar with the area, we made it out to Devil's Island, which has some of the most amazing sea caves on Lake Superior."



Water Education



The Minnesota Department of Health (MDH) again participated with the Minnesota Pollution Control Agency in the Eco Experience at the state fair (left). MDH personnel, as well as volunteers from the Minnesota Section of American Water Works Association (AWWA) helped staff the Eco Experience's water exhibits.

Water Works! A Drinking Water Institute for Educators was held in Duluth in August. Twenty-two Minnesota science teachers attended the three-day Institute, learning about drinking water and about ways to develop inquiry-based activities that can be incorporated into their existing science curriculum. Following the three days of training, the teachers developed action plans on how to use water education in their classrooms and reported back at a follow-up session October 1, which included a tour of the Superior, Wisconsin, water plant and system, hosted by Reed Whitney (above right). More than 200 teachers have attended the Drinking Water Institute since it began in 2001. *Water Works!* is sponsored by the Minnesota Department of Health and the Minnesota Section of AWWA and is conducted through a partnership with Hamline University's Center for Global Environmental Education. The 2012 Institute will be held from Monday, August 6 to Wednesday, August 8 at St. Cloud Technical & Community College. More information is available on the MDH website at <http://www.health.state.mn.us/water/institute/index.htm>.

Unregulated Contaminant Monitoring Rule – Revision 3 Expectations

By David Rindal

The U.S. Environmental Protection Agency (EPA) published proposed revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems on March 3, 2011. The UCMR regulation series meets the Safe Drinking Water Act requirement that the EPA publish a list of unregulated contaminants to be monitored, as well as design a monitoring program for such contaminants, every five years. Because the EPA is currently reviewing comments received by the May 2, 2011, deadline, a final version of this rule has not been published. The following is based on the proposed version:

Which public water supplies (PWSs) will be required to monitor unregulated contaminants?

All large (population greater than 10,000) community and nontransient noncommunity (NTNC) PWSs, as well as a statistically representative sample of 800 smaller PWSs (population fewer than or equal to 10,000) will monitor for 28 chemicals. An additional targeted group of 800 non-disinfecting ground water (community, NTNC, and transient noncommunity) PWSs serving fewer than or equal to 1,000 people will conduct monitoring for two viruses (as well as pathogen indicators such as total coliforms, *E. coli*, bacteriophage, *Enterococci*, and aerobic spores). The likely Minnesota community PWS distribution is as follows.

- Chemical contaminants:
 - Very small (population 25 to 500) ground water: 1 PWS
 - Small (population 501 to 3,300) ground water: 4 PWSs
 - Medium (population 3,301 to 10,000) ground water: 6 PWSs
 - Medium (population 3,301 to 10,000) surface water: 1 PWS
 - Large (population greater than 10,000) ground water: 69 PWSs
 - Large (population greater than 10,000) surface water: 15 PWSs
- Microbiological contaminants (conducted by EPA or its contractor):
 - Small (population 25 to 1,000) ground water: 2 PWSs

When will UCMR 3 monitoring occur?

All monitoring will take place during a continuous 12-month period with January 2013 through December 2015. Monitoring frequencies will be determined by source water and contaminant types.

- Chemical contaminants:
 - Ground water PWSs will monitor twice, five to seven months apart.
 - Surface water PWSs will monitor four times, three months apart (quarterly).
- Microbiological contaminants:
 - Ground water PWSs will monitor twice, five to seven months apart.

What contaminants will be monitored?

The proposed rule listed 28 chemicals and 2 viruses (with associated pathogen indicators) and requested comment on whether chromium-6 should be included. Two of these proposed contaminants maybe replaced by total chromium and chromium-6:

- Hormones: seven analytes using EPA Method 539
- Volatile Organic Compounds (VOCs): nine analytes using EPA Method 524.3
- Synthetic Organic Compound (SOC): one analyte using EPA Method 522
- Metals: four analytes using EPA Method 200.8 or alternate methods
- Oxyhalide Anion: one analyte (chlorate) using EPA Method 300.1 or alternate methods
- Perfluorinated Chemicals: six analytes using EPA Method 537
- Viruses: two analytes using quantitative polymerase chain reaction and a tissue culture assay, and up to five potential pathogen indicators

How does UCMR 3 differ from previous UCMR monitoring?

The EPA used information gathered from UCMR 1 and UCMR 2 to revise its design for UCMR 3. Notable differences of interest to Minnesota PWSs:

- Consecutive PWSs are subject to the monitoring requirements since all contaminants will be monitored at the Entry Point to the Distribution System (EPTDS); identification of a representative consecutive EPTDS will be necessary.
- Representative ground water sources must be the higher volume-producing wells and be consistently active.
- PWSs must report a sampling point ZIP code and service area ZIP codes.
- PWSs must report the type of disinfectant used at the sampling point.
- A Distribution System Maximum Residence Time location will be monitored for several listed contaminants (the proposed version designated these sampling points for metals and the oxyhalide anion [chlorate]).

The EPA is currently evaluating comments received from stakeholders, including proposals of cyanotoxin monitoring; inclusion of chromium-6 and/or total chromium; de-listing of contaminants based on occurrence and laboratory method reliability; contaminant monitoring justifications and natural occurrence; laboratory method improvements; appropriate minimum reporting level determinations; updated risk assessments; ZIP code collection feasibility; and consecutive PWS EPTDS monitoring. MDH expects a final UCMR 3 to be published in the near future.

REGISTRATION FORM FOR 2012 METRO DISTRICT SCHOOL

You may combine fees on one check if more than one person is attending a school; however, please make a copy of this form for each person. For questions regarding registration, contact Jeanette Boothe at 651-201-4697.

To request an exam application, contact Noel Hansen at 651-201-4690 or Mark Sloan at 651-201-4652.

Metro School, April 3-5, 2012. Ramada Plaza, Minneapolis Fee: \$175 (\$210 after March 22 or at the door).

On-line registration may be available for the Metro School in early 2012 at <http://mnawwa.org>.

An agenda for the Metro School and Information on other district schools is available at http://health.state.mn.us/divs/eh/water/wateroperator/trng/wat_op_sched.html

Name _____ Employer _____

Address _____

City _____ Zip _____ Day Phone _____

E-mail Address _____

Please enclose the appropriate fee. Make check payable to *Minnesota AWWA*. Mail this form and fee to Drinking Water Protection Section, Minnesota Department of Health, P. O. Box 64494, St. Paul, Minnesota 55164-0494.

Other Coming Attractions

Midwest Regional Water Utility Management Institute, March 13-15, 2012, University of Minnesota, St. Paul
<http://www.cce.umn.edu/Midwest-Regional-Water-Utility-Management-Institute>

Surface Water Treatment Workshop, April 24-26, 2012, Courtyard by Marriott, Moorhead

Reminder to All Water Operators

When submitting water samples for analyses, remember to do the following:

- Take coliform samples on the distribution system, not at the wells or entry points.
- Write the Date Collected, Time Collected, and Collector's Name on the laboratory request form.
- Write the Sample Point on the laboratory request form.
- Attach the label to each bottle (do not attach labels to the lab form).
- Include laboratory request forms with submitted samples; make sure the information on the bottle label and the lab form is similar.
- Use something other than a rollerball or gel pen; the ink may run.

Notify your Minnesota Department of Health district engineer of any e-mail changes for contact people.

If you have questions, call the Minnesota Department of Health contact on the back of all sample instruction forms.

Waterline

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CALENDAR

Minnesota Section, American Water Works Association

*February 29-March 2, Southeast Water Operators School, Ramada Hotel and Conference Center, Rochester. Contact Dennis DuChene, 507-384-0559.

*April 3-5, Metro Water Operators School, Ramada Plaza, Minneapolis. Contact Jeanette Boothe, 651-201-4697, or Stew Thornley, 651-201-4655.

*April 12, Southwest Water Operators School, Redwood Area Community Center, Redwood Falls. Contact Jeff Larson, 507-537-7005.

*May 16-18, Northeast Water Operators School, Sugar Lake Lodge, Grand Rapids. Contact Mark Proulx, 952-240-2023.

Information for all district schools, including agendas, is at
<http://www.health.state.mn.us/water/wateroperator/trng/schoolagendas.html>

***Includes a water certification exam.**

Minnesota Rural Water Association, Contact Kyle Kedrowski, 800-367-6792.

*March 6-8, Technical Conference, St. Cloud

Minnesota Rural Water Association Class D and E Training

Class D

September 14, St. Paul
October 11, Park Rapids

Class E

June 23, Rochester

Note: Class D workshops are eight hours, and Class E workshops are four hours. The morning session of a Class D workshop is the same as a stand-alone four-hour workshop for Class E operators; thus, Class E operators may attend either the stand-alone four-hour workshop or the morning session of the Class D workshop.

For an up-to-date list of events, see the training calendar on the MDH web site:
http://health.state.mn.us/water/wateroperator/trng/wat_op_sched.html