



NEWS AND INFORMATION

FOR PUBLIC WATER SUPPLIERS IN MINNESOTA

Water for People Holds Benefit Concert



The Johnny Holm band performed last spring as a fundraiser for Water for People for the Minnesota Section of American Water Works Association (AWWA), providing an opportunity for education on the importance of safe water in the world. Minnesota AWWA hopes to do another concert in 2010.

A Green Boom in Water Supply



Public water systems are among the institutions using green technology to perform their functions while being environmentally responsible. The Schaar's Bluff Gathering Center near Hastings is one example. See page 2 for more information.

Upcoming Water Operator Certification Exam Dates

September 25, St. Cloud

September 30, Zumbrota

October 7, North Mankato

October 21, Collegetown

October 23, Owatonna

October 29, Minnetonka

November 18, Waite Park

December 3, Bemidji

Note: The October 23 date for the Southeast District School in Owatonna is a change from October 30.

See calendar on back page for more information

An Easy, No-Cost Pandemic Drill for Utilities

By Jon Groethe, Minnesota Department of Health Engineer

There's a lot of talk about pandemics nowadays. The H1N1 novel influenza, formerly known as the Swine Flu, remains a concern as our seasons shift this fall. What can utilities do to prepare for a large-scale pandemic? Utilities may train with other first responders to prepare for general emergencies, but, relative to their own internal operations they often function more as an island. Mutual aid agreements can help with neighborly assistance in the short run, but what if a pandemic was protracted and wide-spread?

Planning and conducting exercises and drills often require time and capital. There is, however, a simple exercise that could be coined the "40 Percent Drill." Utilities with more complex treatment and diverse operations may find it the most useful. By using a completely random selection process, eliminate 40 percent of your utility staff—without pre-grouping them! This could be done by running a random-sort program on your computer or simply drawing names out of a box. Then sit down and tabletop (or actually drill for a day) how your utility would function under those new circumstances. Further, project you were required to sustain operations with that same 40 percent loss for a good week to 10 days. How will the full scope of the normally required tasks get done? What gaps will emerge? What cross-training is needed? Conducting the "40 Percent Drill" at your utility could be an easy first step to identifying and addressing internal staffing vulnerabilities that may affect you during a future pandemic.

Green: A New Color for Water



Left: The green roof on the expansion of the Burnsville Water Treatment Plant. Right: Schaar's Bluff Gathering Center

Green is the word in environmental activities, and that extends to public water systems.

Creating systems that incorporate environmentally friendly processes in addition to the construction of the facilities is an increasingly important objective in all aspects of water supply. However, the pursuit of sustainability remains a priority only to the extent that public health is not compromised.

A pair of water systems in Minnesota were recognized recently for combining public health and safety with innovative approaches to protecting and preserving the environment.

One is a noncommunity water system in Nininger near Hastings. Schaar's Bluff Gathering Center opened in 2008 on a 100-foot-high bluff above the Mississippi River within a nature center in the Spring Lake Park Reserve. Described as "one of the state's 'greenest' buildings" by the architect, Meyer, Scherer & Rockcastle, Ltd. (MS&R) of Minneapolis, the design is based on the concept of Permaculture, described by MS&R as "the idea of designing ecological, efficient buildings that focus on sustainable use of local resources and energy."

Sustainable design elements include in-floor radiant heat, a wind turbine to generate the building's electrical power, and cisterns to capture rain water for the toilets. In addition, the building is sited in a way to take advantage of weather patterns. Windows on opposite sites of the building and linked to the heating and air conditioning system allow breezes to cool or warm the facility. Insulation, along with automated shades and light/heat sensor-controlled blinds, help to control heat gains and losses.

Meanwhile, the city of Burnsville has received an award from the Minnesota Environmental Initiative, which honors projects "that have achieved extraordinary outcomes for Minnesota's environment by harnessing the power of partnership."

The Burnsville Surface Water Treatment Plant Project received the award in the category of Natural Resource Protection and Restoration. "Rapid growth of the Twin Cities southwestern metropolitan area has placed heavy demands upon the Prairie du Chien-Jordan Aquifer, an economically feasible groundwater source used by the cities

Continued on page 3



Caltha palustris is among the flora and fauna in the Savage Fen, which is being protected from excessive water withdrawal because of the technology at the Burnsville Water Treatment Plant.

Continued from page 2

of Burnsville and Savage,” the award citation read. “Drawing down the aquifer puts at risk two very rare calcarious fens as well as a spring-fed trout stream. The Burnsville Surface Water Treatment Plant Project is an innovative solution to this problem, as it recovers and treats groundwater discharging



The Burnsville plant features a rain garden fed by water from the roof.

per day that would otherwise be pumped from wells, replacing it with potable water from the quarry. The recovered water also has spared the two cities the cost of drilling added wells to meet demand, and has reduced the use of wells closest to the threatened fens.”

A complete list of the 2009 awards is available at <http://www.mn-ei.org/awards/finalistswinners.html>.

into the Kraemer Mining and Materials Inc. quarry for potable use by both Burnsville and Savage. The newly constructed Treatment Plant building also satisfies the Minnesota Sustainability Building Guidelines. The Treatment Plant will conserve at least 4 million gallons of groundwater

(The Burnsville treatment plant was also profiled in the Fall 2008 *Waterline*, and a story is on the Minnesota Department of Health web site at <http://health.state.mn.us/divs/eh/water/com/waterline/featurestories/burnsville.html>.)



The backflow preventers for the boiler feed and cistern water (left) and the manifold for the in-floor heat tubing (right) at the Schaar’s Bluff Gathering Center in Nininger Township.

REGISTRATION FORM FOR FALL 2009 SCHOOLS

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. Questions regarding registration, contact Jeanette Boothe at 651-201-4697.

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

- Southwest School, October 7, 2009, Best Western, North Mankato. Fee: \$25 (\$30 at the door).
- Southeast School, October 23, 2009, Cabela’s, Owatonna. Fee: \$25 (\$30 after October 23 or at the door).
- Northwest School, December 1-3, 2009. Hampton Inn & Suites, Bemidji. Fee: \$130 (\$140 after November 20 or at the door).

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.

For the Central School October 21 in Collegeville, registration is \$40 (\$20 for students). Send a check, made out to *AWWA - Minnesota Section*, to Laura Schwantz, St. Cloud Water Department, 400 2nd Street South, St. Cloud, Minnesota 56301.

Promising Prairie Disinfection Byproduct Precursor Removal Paradigms

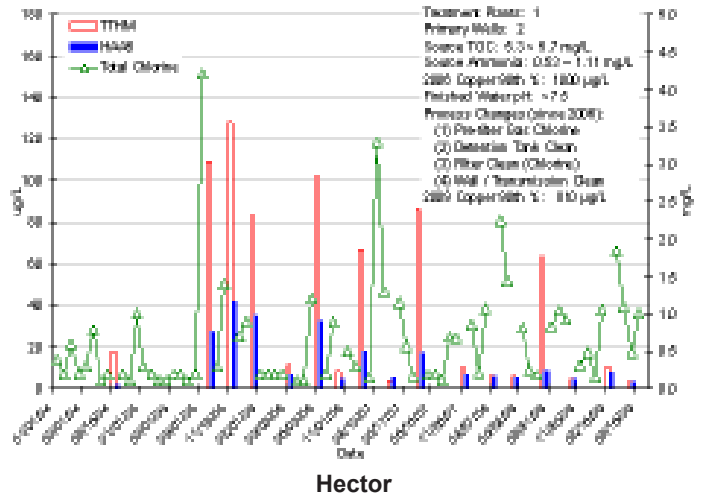
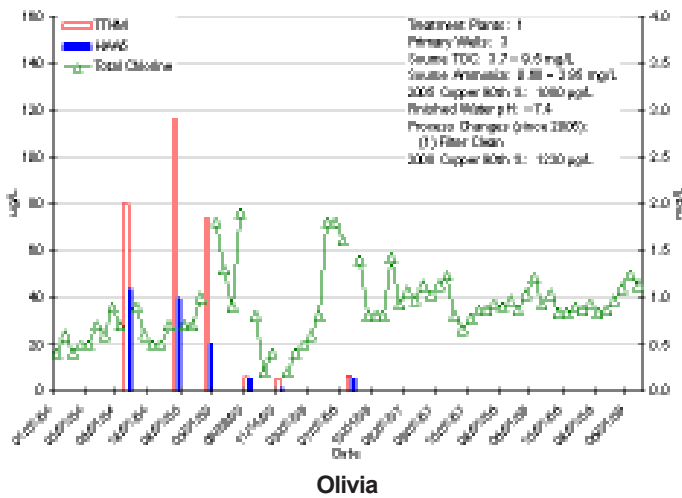
By David Rindal, Minnesota Department of Health Engineer

Simultaneous compliance with regulations such as the Total Coliform Rule, Arsenic Rule, Lead and Copper Rule, and Stage 1 Disinfectants/Disinfection Byproducts (DBP) Rule can be difficult at any public water supply (PWS) that attempts to remove metals from groundwater with high natural organic carbon and ammonia levels. Biological activity makes chloramine generation difficult.

Two cases of similar PWSs exist in close proximity to one another in central-southern Minnesota. Each utility uses aeration and permanganate oxidation to target iron, manganese, and/or arsenic removal through gravity filtration. One utility, Olivia, cleaned its filter media during a single session using a proprietary chemical solution. Another, Hector, has performed thorough cleaning of its treatment

components from wells and transmission lines to the detention tank and filter cells. Furthermore, the gas chlorine feed line was split into pre-filter and post-filter streams, enabling chloramine production and better biological control.

As shown in the plots below, DBP concentrations have been reduced to consistently lower concentrations at both of the utilities. Residual chlorine concentrations, measured as average total chlorine in the distribution system, appear to have stabilized at higher levels with less variability than before process improvements (Hector uses a six-month filter regeneration protocol, which likely accounts for much of the cyclical chlorine residual variation). Continued vigilance is required going forward, as compliance with the copper levels and potential distribution system nitrification will be necessary.



I'd give my right arm to be ambidextrous.
 —former pitcher Dick Pole

The trouble with retirement is you never get a day off.
 —basketball coach Abe Lemons

Grants Coming for Source Water Protection Implementation

The Clean Water, Wildlife, Cultural Heritage, and Natural Areas Amendment to the Minnesota constitution, approved by voters last fall, provides funding for a grant program to help public water systems implement source water protection plans. The Minnesota Department of Health (MDH) will administer this grant program through the Drinking Water Protection Section. This fall, MDH will convene an advisory committee to help determine the scope of the grant program and to determine details such as the maximum grant amount, the time period for a grant, and the source water protection activities that can be supported with grants. The MDH anticipates that it will begin taking grant applications in January of 2010. MDH has set aside \$150,000 for grants in 2010 and \$200,000 in 2011.

Information will soon be on the MDH Source Water Protection web site at <http://health.state.mn.us/divs/eh/water/swp/index.htm>, and questions may be directed to Bruce Olsen, 651-201-4681, bruce.olsen@state.mn.us.

A Source Water Protection Success Story

Training and education are often the key ingredients in implementing source water protection plans. A recent experience in Windom illustrates the role of cooperation. A local agricultural co-op planned to install a diesel fueling facility for its trucks. Although the facility complied with rules and setback distances set by MDH and the Minnesota Pollution Control Agency (MPCA), the 10,000-gallon underground storage tank would be within the one-year time-of-travel zone for a pair of municipal wells. Representatives of the city of Windom, MPCA, MDH, and Minnesota Rural Water Association met with the property owner, who shared their concerns about a threat to the city's water supply should the tank leak. The group worked together, and the co-op agreed to go beyond the MPCA regulations regarding the use of double-walled piping and tanks to protect the city's wells and the aquifer. The additional conditions the business owners agreed to include installation of a concrete slab surrounding the pump and an annual inspection of the tank and pump at the expense of the business.

Said MDH's Steve Robertson, who was part of the meeting, noting that the proceedings were not adversarial. "The co-op was cooperative," he said.

Engineering America's Tony Belden Still Remembered by Notre Dame Fans

The rich history of Notre Dame football includes a classic comeback in the 1979 Cotton Bowl as the Irish overcame a 22-point deficit to beat the Houston Cougars 35-34. Joe Montana completed the rally with a touchdown pass as time ran out. Montana was suffering from the flu and had stayed in the locker room as the second half began on an ice-encased gridiron during a cold snap in Dallas, Texas. Montana bolstered himself with chicken soup and eventually returned to the game. The game is known in Notre Dame lore as the "Chicken Soup Game" in honor of Montana, although the unlikely comeback started with a blocked punt from a man who now heads a prominent company serving the water industry and is active in the Minnesota Section of American Water Works Association (AWWA).

Tony Belden was a freshman at Notre Dame in 1978-79. A bruising fullback at Armstrong High School in Plymouth, he was recruited by a number of schools in addition to Notre Dame, including Minnesota, Purdue, Nebraska, and Colorado. When informed by Notre Dame coach Dan Devine that he was being offered a full scholarship, Tony asked, "Where do I sign?"

Belden played in every game in his four years at Notre Dame, mainly on special teams, and started some games at defensive end and outside linebacker, although he never topped his feat in the Cotton Bowl. Houston led Notre Dame 34-12 with 7:37 left in the fourth quarter as the Cougars punted from their own 33 yard line. Belden broke through from the right side of the line and blocked the punt. Belden's roommate and fellow freshman, Steve Cichy, corraled the ball and returned it for a touchdown.

Belden, who was the special-teams captain his senior year, graduated from Notre Dame with a degree in business finance and returned to Minnesota. He was hired by Bob Morgan and Bob Wigley with Water Products Companies (now HD Supply Waterworks) and sold for them for seven years. One of his customers was Engineering America, Inc., and in 1989 Belden joined that company as a salesman. He is now the President, CEO, and majority owner in a firm that is a 100-percent ESOP (owned by the employees). Engineering America sells and installs glass-fused-to-steel



liquid storage tanks and custom designed geodesic-domed or flat aluminum storage tank covers as well as representing manufacturers of water and wastewater treatment equipment. Belden is also the chair of the Minnesota Associates Council of Minnesota AWWA.

Of the 1979 Cotton Bowl, Belden remembers the weather as much as his blocked punt. "It was a contest played during the tail end of Dallas' most severe storm in 30 years," wrote Douglas S. Looney in the January 8, 1979 *Sports Illustrated*. "Officials said game conditions—temperatures in the low 20s, winds gusting to 30 mph, frozen stadium chairs—were by far

the worst in the Cotton Bowl's 43-year history. Only 32,500 spectators showed up, a credit to their nose for barn burners."

Belden says the crowd had greatly diminished by the time the comeback started, and it seemed that only family and friends were left in the stands. He added that he and Cichy, who was from Fargo, North Dakota, were among the few players on the Irish who were used to the cold and icy conditions that affected the game.

Another water connection: Cichy's dad, Sid, was a long-time coach at Shanley High School in Fargo and coached Roger Maras (who changed the spelling of his name to Maris after entering pro baseball) in football, baseball, and track and field at Shanley. After retiring in 1977 following 30 years of coaching and 16 state football championships, Cichy worked for a division of Northern Pipe Products, Inc. in Fargo, a PVC fitting manufacturer and supplier to the municipal water industry.

Belden now lives in the northern St. Paul suburbs with his wife, Mary, and children, Cal, 18, and Liz, 15. Cal plays defensive back and on special teams for the Mahtomedi High School football team and is also involved in chamber choir, track and field, and the math team. He has applied to attend Notre Dame next year. Liz is on the Mahtomedi High Dance Team and dances competitively at a local studio.

Video of Belden's big play in the Cotton Bowl is on YouTube at http://www.youtube.com/watch?v=MSjHI_LeLic (look for number 36 in the white jersey racing in from the right).

Anyone with human-interest items related to Minnesota waterworks may contact Stew Thornley, stew.thornley@state.mn.us.

Minnesota AWWA Bylaws Being Revised

The Minnesota Section of American Water Works Association is revising its bylaws. The changes include updates required by American Water Works Association and the reduction of redundant language. In addition, revisions are being proposed in response to operational changes made over the past 12 years by Minnesota AWWA.

The Minnesota Section will discuss the changes at meetings of its board of governors over the next year. The full membership will then vote to ratify the revised bylaws in September 2010. All Minnesota AWWA members are encouraged to read the revised bylaws, which are available on the section web site at <http://mnawwa.org>.

CALENDAR

Minnesota Section, American Water Works Association

September 30-October 2, Annual Conference, Duluth Entertainment and Convention Center. Contact Corey Lubovich, 218-262-7725.

*October 7, Southwest Water Operators School, Best Western, North Mankato. Contact Mark Sweers, 507-389-5561.

*October 21, Central Water Operators School, St. John's University, Collegeville. Contact Lisa Vollbrecht, 320-255-7225.

*October 23, Southeast Water Operators School, Cabela's, Owatonna. Contact Paul Halvorson, 507-292-5193.

*December 1-3, Northwest Water Operators School, Hampton Inn & Suites, Bemidji. Contact Jeanette Boothe, 651-201-4697, or Stew Thornley, 651-201-4655.

Water Operator Training

Minnesota Rural Water Association

Contact Kyle Kedrowski, 800-367-6792.

*September 23-25, Water Certification Refresher Course & Exam, St. Cloud

*September 30, Operation & Maintenance, Zumbrota

October 22, Hands-on Specialized Treatment Training, Chaska

October 27, Water Rates for Your System, St. Cloud

October 27, Winterizing Your Water System, Grand Rapids

October 28, Winterizing Your Water System, St. Cloud

November 10, Financing Your Community Projects, Hutchinson

November 17, Cross Connection & Backflow Prevention, Site TBA

*November 18, Operation & Maintenance, Waite Park

December 9, Operation & Maintenance, Biwabik

MRWA Class D and E Training

September 15, St. Paul (Class D)

September 29, St. Peter (Class D)

October 20, Cloquet (Class E)

November 24, Loretto (Class E)

December 8, Little Falls (Class E)

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.

*Suburban Superintendents School

October 29, Minnetonka Community Center, Contact Jon Eaton, 952-563-4501.

***Includes a water certification exam.**

To be eligible to take a certification exam, applicants must have hands-on operations experience at a drinking water system.

For an up-to-date list of events, see the training calendar on the MDH web site at:

http://health.state.mn.us/water/wateroperator/trng/wat_op_sched.html

MDH Drinking Water Protection: <http://www.health.state.mn.us/water>



Environmental Health Division

625 North Robert Street

P. O. Box 64975

St. Paul, Minnesota 55164-0975

Presort Standard
US Postage
PAID
Permit No. 171
St. Paul, MN

ADDRESS SERVICE REQUESTED