



NEWS AND INFORMATION  
FOR PUBLIC WATER SUPPLIERS IN MINNESOTA

## Drinking Water Institute Receives AWWA Education Award

The youth education program initiated by the Minnesota Department of Health (MDH) and the Minnesota Section of American Water Works Association (AWWA) has received a national education award from AWWA.

Titled *Water Works! A Drinking Water Institute for Educators*, the three-day program brings teachers together to learn about drinking water and ways of teaching it in their classrooms. As part of the Institute, which is conducted with the participation of the Science Museum of Minnesota, teachers develop an action plan for incorporating education on drinking water into their existing science curriculum. Eighteen teachers attended the first Drinking Water Institute, held last summer in Eden Prairie. These teachers will reach a total of 2,500 students in each of the coming school years with drinking water education. An Institute is planned for this summer in New Ulm and more than one Institute could be held in 2003, depending upon the funds that can be raised through grants and donations from commercial organizations and foundations.

More information on the Institutes is available at:  
[http://www.mnawwa.org/Education/youth\\_ed.html](http://www.mnawwa.org/Education/youth_ed.html)

## MDH Issues Drinking Water Report

The Minnesota Department of Health released its annual report on the state of drinking water in Minnesota on April 18 as part of the bi-annual *Water 2002* Conference in St. Cloud. Pat Bloomgren, director of MDH's Environmental Health division, announced the results of monitoring done in 2001. Once again, the results indicate few problems and that drinking water supplies in the state are generally in very good shape.

The report is on the world wide web at:  
<http://www.health.state.mn.us/divs/eh/water/cinfo/dwar/report01.html>

Past reports, going back to 1995, are available at:  
<http://www.health.state.mn.us/divs/eh/water/cinfo/cinfo.html>

## Serving Sydney



Sydney, Australia, hosts a growing number of visitors, as well as residents, every year. This growth, combined with a climate that can reach extremes in many different ways, provides the region with water-supply challenges. To read about how Sydney copes with these issues, see the story on page 3.

## Upcoming Certification Exam Dates

*June 14, Deerwood*

*September 13, St. Cloud*

*September 18, Worthington*

*September 25, Walker*

*October 10, Redwood Falls*

*October 22, Brooklyn Center*

*October 23, Stewartville*

*October 25, Austin*

*October 30, Collegeville*

*December 5, Fergus Falls*

*See calendar on back page for more details*

## Consumer Confidence Report Compliance

By Pat McKasy  
MDH Senior Compliance Officer

Ready-made copies of the 2001 Consumer Confidence Report (CCR) were mailed out to every Minnesota Community Public Water Supply (CWS) by the Minnesota Department of Health on Wednesday, April 3, 2002. A copy of the CCR was sent to both the CWS Superintendent and the system owner, which is either the city responsible for the water system or an individual, in the case of privately owned water systems.

Each water system must complete distribution of its CCR by July 1, 2002, and must also submit by that date a copy of the CCR it distributed to its customers, along with the "Certification of Completion" form that the MDH provided to the water system. The MDH cannot make exceptions to the July 1 date, as this is the deadline set in the federal CCR regulation.

MDH differs from most other state primacy agencies in that it provides an individual CCR for each CWS in the state. Providing a ready-made report to each CWS has helped in achieving a very high compliance rate for both the 1999 and 2000 CCRs; 99 percent of systems distributed their reports and submitted the required documentation to MDH by the July 1 deadline each of the first two years the CCR Rule has been in effect. Hopefully, we will again see this high degree of participation and cooperation again this year.

It's up to the CWS on how it wants to use the state-made report; they can either use it "as is," simply making copies for distribution to their customers, after filling in a phone number for a contact person, or it can re-format the report the MDH provides into a newsletter or pamphlet form. The only stipulation is that every word that is in the MDH generated report must be included in any reformatted report. The MDH reports contain all of the language and results required by the U.S. Environmental Protection Agency; nothing in the report may be left out, although information may be added, and MDH encourages systems to address local concerns in their reports. Please take time to look over the small booklet that we send out each year with your ready-made CCR, *Preparing and Distributing Consumer Confidence Reports*. This booklet outlines, in easy-to-read and understandable terms, exactly what is required for CWSs to prepare and distribute their annual CCR.

In past years, the most common mistake CWSs have made when reformatting their CCRs is not displaying prominently—such as by using boldfaced, italicized, or underlined type—the paragraph on immuno-compromised persons being more vulnerable to contaminants in the drinking water than the general population. This paragraph must be included word for word, and it must be set apart in some manner, such as the ways listed above, from the rest of the report. The MDH generated report has this paragraph written using both boldfaced and italicized type style. This is what we recommend CWSs do if they reformat the report.

The second-most common mistake is the omission in the reports of the language about "opportunities for public participation in decisions that may affect the quality of the water." This language is included in the MDH-generated

report in the second paragraph, under "Source of Water." It is not enough to provide a name and phone number for people to call if they have questions; you must also include the "opportunities for public participation" language.

Systems with populations of fewer than 10,000 have the option of publishing the report, in its entirety, in a local newspaper, thereby eliminating the need for individual distribution. However, the rule stipulates that, if using this option, a system must inform its customers that the reports will not be mailed to them and that they are available upon request. Many systems are not including this language in the published report, which is a content violation. If your system uses this option, please check and make sure this language is included somewhere in the report.

One of the options that systems serving populations of 500 or fewer have is to simply provide notice to their customers, either by mail, door-to-door delivery, or by posting in an appropriate location, that the report will not be mailed to them but is available upon request. Systems that use this method are required to send a copy of this notice, along with the copy of the report and Certification of Completion form, to MDH. Many systems did not provide a copy of this notice to us, and this would also be considered a content violation.

Please feel free to call me at 651/215-0759 if you have any questions or concerns on the preparation or distribution of your 2001 CCR.

Thank you all in advance for your cooperation!

### Going the Extra Mile



Cindy Cook of the Minnesota Department of Health—flanked by Luther Johnson (left) and Ruth Hubbard of the Minnesota Rural Water Association (MRWA)—received the MRWA "Extra Mile Award," which the organization presents for "efforts put forth above and beyond his/her normal scope of responsibilities assisting water/wastewater systems and their personnel." Hubbard says, "Cindy has always volunteered to help the Minnesota Rural Water Association with our training efforts and giving the operator certification test at all our training sessions." The award was presented at the annual MRWA Technical Conference last March.

## Meeting the Needs Down Under

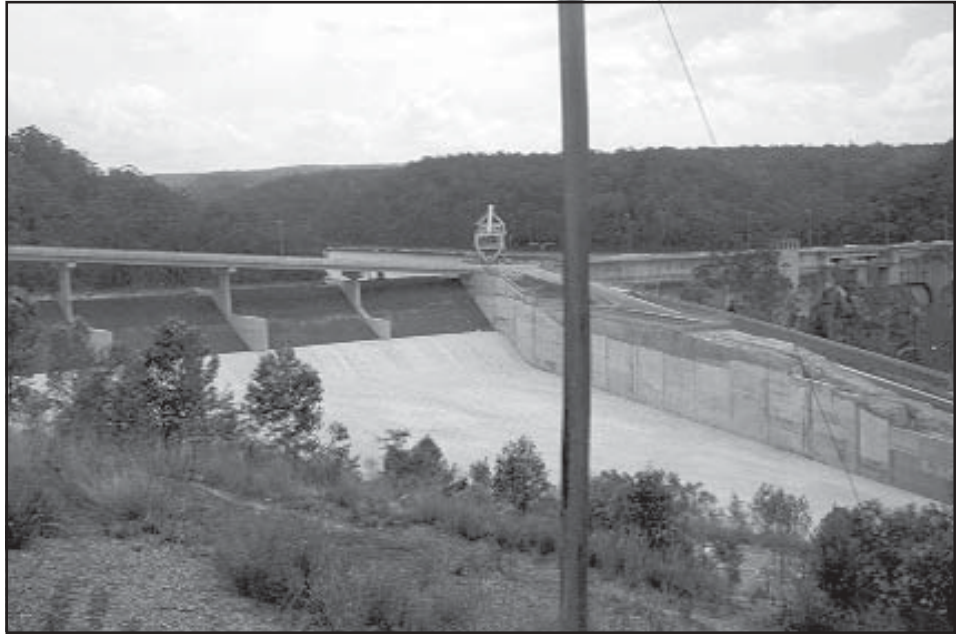
By Jeanette Boothe

Sydney, Australia, a city of about four million people, is best known for its Opera House and the Sydney Harbour Bridge. It is also known as a city of extremes with weather patterns ranging from heavy rains that bring on floods to droughts that result in out-of-control bush fires. Its uncertain climate, combined with the region's growing population, means that Sydney has to store more water on a per-capita basis than any other comparable part of the world.

To ensure an adequate supply of drinking water, a raw-water reservoir was built. Warragamba Dam, which stores approximately 80 percent of Sydney's available water, holds about 2,000,000 megalitres. (A megalitre is one million litres—about the size of an Olympic-sized swimming pool.) The raw water coming from the dam is of good quality. It has relatively low turbidity and is low in color.

In 1996, the Australian Drinking Water Guidelines were adopted. These Guidelines were prepared by a joint committee of the Agricultural and Resource Management Council of Australia and New Zealand and the National Health and Medical Research Council. Since that time, the drinking water for Sydney has been filtered. Prior to that, less than 10 percent of the water was filtered. There are now 10 filtration plants around the city. One of them is the Prospect Water Filtration Plant, located in the community of Prospect Park.

According to plant manager Claude Lubrano, the Prospect plant opened in 1996. It is operated by the Australian Water Services. They are jointly owned by Lend Lease Corporation, a global real estate and financial services company, and Suez Lyonnaise des Eaux, an international environmental services provider and world leader in water



**An example of engineering innovation and community effort, Warragamba Dam is one of the largest metropolitan water supply dams in the world. It stores approximately 80 percent of the available water for Sydney, Australia, providing the city with one of the most reliable drinking water supplies on the planet.**

treatment technology and water systems management. They have leased the plant for 25 years, after which time, it will revert back to the city of Sydney. The cost of building the plant was \$250 million (in Australian dollars).

The plant is one of the largest direct filtration plants in the world. It has the capacity to process 3,000 megalitres per day, but it normally processes 1,500 megalitres a day. The 15 operators who work at the plant have been trained in all aspects of the plant and rotate duties. The operators are given classifications from one to five, five being the highest. Since the operators rotate duties, they are all a classification five.

Coagulants are added to the raw water before filtering. Single-media sand filtration is the only treatment approach in particle removal at this plant. Disinfection is performed with chlorine. The pH level is corrected, if necessary, by adding lime. Fluoride is added to meet New South Wales health requirements. The water is tested at several stages during the treatment process to ensure that it meets Australian drinking water guidelines. SCADA equipment is also used to keep a close eye on the operations.

By-products from this plant are not sent to waste. The sludge is removed from the filters by trucks, spread out to dry, and then sold to a company to be made into compost. The sludge contains about 40 percent iron. On January 11, 2002, a backwash filtration plant, which further concentrates the backwash waste, went on-line at the same location. This plant was built at a cost of \$20 million.

The National Council of Australia awarded a 5-Star rating to the Prospect Water Filtration Plant for Health and Safety Management. This is the highest rating in Australia. This plant is one of the first operations in Australia that has been given this rating on its first audit, quite an honor to the Australian Water Services and its employees.



**The Prospect Water Filtration Plant, which opened in 1996, is one of the largest direct filtration plants in the world.**

# Rules Update: Disinfection Byproducts and Fluoride

By David Rindal

The Minnesota Department of Health's Community Water Supply program is continuing its preparations for the requirements set forth by the U.S. Environmental Protection Agency (EPA) in the Stage 1 Disinfectants/Disinfection Byproducts (DBP) Rule. Groundwater systems not under the direct influence of surface water that serve fewer than 10,000 people must comply with the requirements by January 1, 2004. Furthermore, preliminary monitoring is being planned for 2003. As a result, the prospective number of samples to be analyzed through the MDH Laboratory will be quite large.

Under Stage 1 DBP Rule requirements, 541 groundwater systems in Minnesota would need to measure disinfection byproducts (DBPs) in the water at the location of maximum residence time during the month having the warmest water temperature. It is probable that the sample volume generated by this rule would necessitate the employment of contract laboratories for DBP analysis. Initiation of further quality assurance measures among those contract laboratories would also be required. It was thought that an investigation into the nature of DBP concentrations and variations would allow for the development of a more flexible monitoring program.

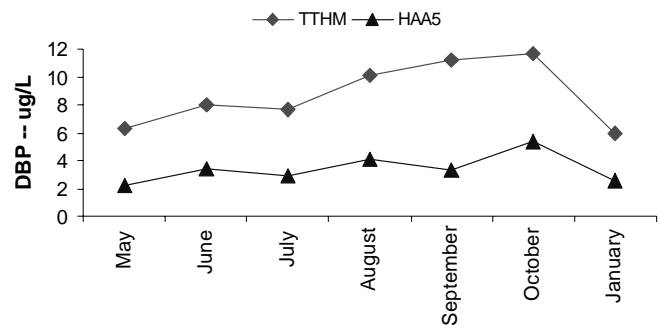
An investigative survey was conducted in which the concentrations of total trihalomethanes (TTHM) and five haloacetic acids (HAA5) within the distribution networks of 10 groundwater systems were analyzed. The survey began in May 2001 and ended in January 2002. DBP concentrations were found to reach a plateau-like maximum level from August to October. The warmest average water temperature was observed in August. The study showed generally low DBP levels, with moderate concentrations found at only a small percentage of subject systems. It is estimated that 80 percent of the subject systems would qualify for reduced monitoring after strict Stage 1 DBP Rule initial monitoring. The second year of monitoring would be expected to result in 10 percent of all subject systems remaining on a base monitoring schedule.

April 1, 2002 signified the first anniversary of the Minnesota Department of Health interim monthly fluoride reporting policy. This optional method of fluoride monitoring applies to any Minnesota municipality with a population of fewer than 3,300.

After receiving modified fluoride reporting forms by mail, eligible systems began using the interim monitoring technique in June of 2001, submitting their first reports to MDH by July 10, 2001.

Under interim policy requirements, daily observation of fluoride feed containers is still required. However, measurements of the amount of fluoride consumed (from the feed container) need only be conducted and recorded at least once during each calendar week. Finally, a single sample, drawn from the distribution system, is to be collected, analyzed, and recorded at least once during each calendar week.

Mean Distribution System DBP Levels  
10 MN Groundwater Systems Serving < 10,000



Based on the results of this study, MDH is proposing to expand the initial and reduced monitoring schedule windows from one to four months. Monitoring from July to October will enable observation of nearly all high DBP concentrations while reducing the (potential Stage 1 DBP Rule compliance requirements will help maintain superior quality control of laboratory analyses while collecting optimal data from those systems most at risk of DBP generation).

The one-month August sampling period will be reserved for the more critical base and second-year initial monitoring. The few systems at risk of not initially qualifying for reduced TTHM/HAA5 monitoring will be required to conduct August sampling during the second year of monitoring. At-risk systems will be defined as those surpassing one-quarter of either the maximum contaminant level for TTHM (20 parts per billion) or HAA5 MCL (15 parts per billion) during the initial monitoring year. The strict August sampling will capture results desired by the EPA. Those systems that don't qualify for reduced monitoring after the second year will enter base monitoring, in which sample times will remain limited to August. The Minnesota Department of Health believes that this approach provides regulatory flexibility without compromising public health protection and is seeking EPA approval and comment on this regulatory initiative.

## Fluoride

This interim policy serves two purposes. It allows smaller systems with limited resources the opportunity to reduce field monitoring while maintaining a safe fluoridation system. In addition, it enables systems in violation of the state water supply fluoridation laws to achieve compliance status, if only on an interim basis. It is expected that, as capabilities allow, fluoridating systems will ramp up their monitoring and reporting efforts to comply with state laws.

Initially, five systems opted to follow the interim fluoride policy. Since July of 2001, that number has increased to 10. The establishment of the new policy was a catalyst for some increased interest and inquiry about fluoride reporting requirements.

It is important to note that several systems eligible for the interim reporting procedure chose not to use it. Instead, those systems are continuing their daily feed and distribution system fluoride monitoring.

## Water System Security

The security of water systems remains a significant issue. MDH engineers will be highlighting security of part of their inspections to water systems. Meanwhile, systems are urged to remain vigilant at all times in guarding against physical attacks on their facilities, intentional contamination of their water supply, and hacking of their computer systems. Legislation pending in Congress may require all public water systems serving populations of 3,300 or greater to conduct a vulnerability assessment and develop an emergency response plan.

## Groundwater Rule Update

The U.S. EPA will finalize the Groundwater Rule by July of 2003; meanwhile, it continues to wade through the many responses submitted during the public-comment period.

Compliance with the Groundwater Rule will be based on a treatment technique—disinfection—as opposed to having to comply with a maximum contaminant level. Water systems that have drinking water sources identified as being at-risk to microbial contamination will need to either correct the deficiency that causes the source to be at risk or provide a defined level of disinfection.

For utilities selecting the disinfection path, the rule defines specific monitoring criteria based on the type of disinfectant used (chlorine, ultraviolet, ozone, etc). The most common disinfectant chemical, chlorine, requires systems serving populations of fewer than 3,300 to provide continuous monitoring of their chlorine residual. The continuous monitoring provision applies only to those water systems using disinfection as a treatment technique to comply with the Groundwater Rule. Water systems that are providing “casual” disinfection, and that have not been told by the state that their groundwater source is at microbial risk, will not be required to provide continuous chlorine monitoring.

## November 7 Teleconference to Focus on Treatment

This fall’s American Water Works Association Satellite Teleconference, *Emerging Treatment Technologies*, will be held Thursday, November 7 from 11:00 a.m. to 2:30 p.m. (with registration beginning at 10:30). Downlink locations are Hennepin County Technical College in Brooklyn Park, the Minnesota Department of Health in St. Paul, Memorial Union Hall on the campus of the University of North Dakota in Grand Forks, and Lake Superior College in Duluth as well as sites in North Mankato and Bemidji. Participants will receive 4 contact hours.

Registration will be \$65 by October 31 and \$85 after October 31, or at the door. All AWWA members will receive registration information in the mail.

## Dates Set for 2003 Metro School

The 2003 Metro District Water Operators School will be back at the Thunderbird Hotel in Bloomington from Tuesday, April 1 to Thursday, April 3. Registration will be \$115 by March 17 and \$150 after March 17, or at the door.

## Waterline

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To request this document in another format,  
call 651/215-0700; TDD 651/215-0707 or toll-free through the  
Minnesota Relay Service, 1/800/627-3529 (ask for 651/215-0700).

Past issues of the *Waterline* (in PDF format) are available at:

<http://www.health.state.mn.us/divs/eh/water/binfo/newsletters/archivedmain.html>

## Functional Water Towers



Randy Stetler, the supervisor of sewer and water for the city of Anoka, discovered this wooden water tower (above) that was converted into a house in Sunset Beach, California. Below is a water tower advertising one of the products produced by Seneca Foods in Rochester, Minnesota.



## Water Course Coming to Eden Prairie

St. Cloud Technical College will be offering a course on water environment technologies at the Eden Prairie water plant this August.

For more information, contact St. Cloud Technical College at 1/800/222-1009 or visit their web site at <http://www.sctc.edu>.

## CALENDAR

### Minnesota Section, AWWA

\*June 12-14, Central Waterworks Operators School, Ruttger's Bay Lake Lodge, Deerwood. Contact Bill Spain, 320/654-5952.

Annual Conference, October 2-4, Cragun's, Brainerd. Contact John Thom, 651/765-2965.

\*October 10, Southwest Water Operators School, Redwood Falls. Contact John Blomme, 507/537-7308.

\*October 25, Southeast Water Operators School, Austin. Contact Paul Halvorson, 507/292-5193.

\*October 30, Central Water Operators School, St. John's University. Contact Bill Spain, 320/654-5952.

\*December 3-5, Northwest Water Operators School, Best Western and Bigwood Event Center, Fergus Falls. Contact Stew Thornley, 651/215-0771.

### Water Operator Training

\***Suburban Superintendents School**  
October 22. Contact Carol Blommel, 952/953-2441.

### American Water Works Association Teleconference

November 7, *Emerging Treatment Technologies*, Brooklyn Park, St. Paul, Duluth, Bemidji, North Mankato, and Grand Forks. Contact Stew Thornley, 651/215-0771.

### \*Basic Water Operations

11 weeks. Northfield. Contact John Thom, 651/765-2965.

### MRWA Training for Non-Municipal Systems

**Minnesota Rural Water Association**  
September 10, Cass Lake  
October 1, St. Peter

### Minnesota Rural Water Association

Contact Kyle Kedrowski, 1/800/367-6792.

\*September 11-13, Certification Exam Prep, St. Cloud

\*September 18, Operation & Maintenance, Worthington

\*September 25, Operation & Maintenance, Walker

October 16, Operation & Maintenance, Nashwauk

October 16, Securing Financing for Small Systems, St. Cloud

October 17, Securing Financing for Small Systems, Mankato

\*October 23, Operation & Maintenance, Stewartville

December 4, 2002, Winterizing Your Water System, Grand Rapids

December 5, 2002, Winterizing Your Water System, St. Cloud

**\*Schools/meetings marked with an asterisk include 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, check the training calendar on the MDH web site at:

[http://www.health.state.mn.us/divs/eh/water/einfo/wat\\_op\\_sched.html](http://www.health.state.mn.us/divs/eh/water/einfo/wat_op_sched.html)

MDH Drinking Water Protection web page:

<http://www.health.state.mn.us/divs/eh/water>



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