

# Connecticut H<sub>2</sub>O Operator

The Connecticut Department of Public Health Drinking Water Section

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A Newsletter for Certified Operators

December 2005

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## Let it Snow! Let it Snow! Let it Snow!

By: Vicky Carrier, P.E., Sanitary Engineer 3, Operator Certification Program

With winter now upon us, you may want to think about where to put all of that Connecticut snow we are bound to get this season. You should take precautions to make sure the snow is not piled near your well. Why? There are two major reasons. The first is the impact from a snowplow on your well might crack or otherwise damage your casing. If your well is anywhere near a curb within reach of a snow plow, it should be protected with bollards (cement filled steel pipes). Another reason is you do not want to subject your well to excessive runoff when the snow melts. Snow piles become very dirty as they melt. Parking lot sand and salt may potentially be laced with oil, antifreeze and anything else that might be leaking from a car. You do not want these things near your well. To safeguard your well from these contaminants, remember to tell your snow removal contractor to move the snow piles away from well.



## ATCAVE 2006– Save the Date!

By: Vicky Carrier, P.E., Sanitary Engineer 3, Operator Certification Program

The Drinking Water Section is currently working on a training program for the 2006 Annual Technical Conference and Vendor Exposition (ATCAVE), which is scheduled for February 28, 2006 at the Crowne Plaza Hotel in Cromwell, Connecticut. Topics to be covered will include emergency and violation notification requirements, source water protection, technical standards, and a review of lessons learned during crisis. You can find registration information on the American Water Works Association- Connecticut Section's website, <http://www.ctawwa.org/>. We look forward to seeing you there. Continuing Education Units (CEUs) will be awarded for attendance at the technical sessions.



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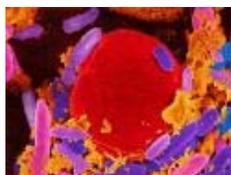
## Update on New Regulations

By: Phil Uzanas, Lead Planning Analyst, Monitoring, Reporting, and Enforcement Unit

On August 30, 2005 the Regulations of Connecticut State Agencies section 19-13-B102 was amended to incorporate the provisions of three new federal rules from the U.S. Environmental Protection Agency (EPA):

- 1) Long Term 1 Enhanced Surface Water Treatment Rule.
- 2) Arsenic and Clarifications to Compliance and New Source Monitoring Rule.
- 3) Radionuclides Rule.

### Long Term 1 Enhanced Surface Water Treatment Rule

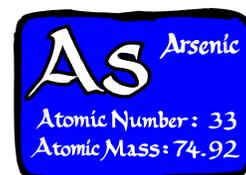


Cryptosporidium

The Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR) is intended to improve public health protection through the control of microbial contaminants, particularly Cryptosporidium. LT1ESWTR actually builds on the existing Interim Enhanced Surface Water Treatment Rule by including Public Water Systems using surface water or groundwater under the influence of surface water, and serve fewer than 10,000 people. There are two key general provisions of this rule. First, this rule enhances the control of Cryptosporidium with new standards concerning; maximum contaminant level goals (MCLG), filtration systems, and watershed control programs. Second, this rule also sets specific requirements for combined filter effluent turbidity, depending on the type of filtration used by the water system. The U.S. EPA estimates that the implementation of this rule will reduce the likelihood of endemic illness from Cryptosporidium by 12,000 to 41,000 cases annually.

### Arsenic Rule

The U.S. EPA classifies arsenic as a human cancer-causing agent. Research indicates that people living in areas where concentrations of arsenic are very high are more likely to have bladder, lung, or skin cancer. The toxic effects of arsenic exposure developed after many years of exposure. The new rule changes the MCL for arsenic from the present 50µg/L level to 10µg/L. The new rule also sets the MCLG at 0 and requires all new water systems and sources to collect initial monitoring samples for all inorganic chemicals, organic chemicals, pesticides, herbicides, and PCBs, which are commonly referred to as VOC's, IOC's and SOC's. Clarification of procedures for determining compliance for these chemicals have been established.



### Radionuclide Rule



This rule will retain the existing MCL's for radium-226 and radium-228, gross alpha particle radioactivity, and beta particle and photon activity. The rule regulates uranium for the first time and sets an MCL of 30µg/L. The U.S. EPA has projected a reduced uranium exposure for approximately 620,000 persons, which will provide protection from toxic kidney effects of uranium, in addition to providing a reduced risk from cancer. The rule will be implemented by community water systems of all size categories.

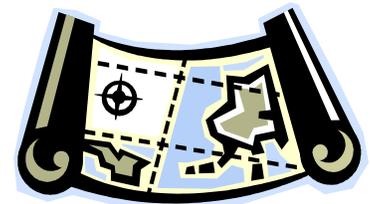
Additional information concerning these rules can be obtained from the U.S. EPA website at [www.epa.gov/safewater](http://www.epa.gov/safewater).

## Mapping Requirements for New Proposed Drinking Water Sources

By: Lori Mathieu, Supervising Environmental Analyst, Source Water Protection Unit

Accurate and up-to-date public drinking water source mapping is critical. The Department of Public Health Drinking Water Section (DWS) reviews numerous application forms for projects that concern sources of public drinking water. Frequently, the public water system or operator must quickly complete an application for a new or replacement well. In order to move the application review process forward, accurate source mapping is necessary. Many times the public water system does not have accurate and up-to-date mapping, and will provide to the DWS an out-of-date map with a hand drawn proposed well location. For many reasons this type of map is not acceptable. Typically, potential sources of pollution (i.e. underground drainage, buried fuel tanks) are not located, and hand drawn well locations are inaccurate. To that end, during the application completion process done by the public water system owner or operator, a professional land surveyor or engineer must complete a site survey and produce an accurate scaled map to include at least the following:

- GPS Point of proposed and existing public water supply wells
- Adjacent public and private active/inactive wells
- Sanitary Radius depending on desired well yield
- Land ownership/easement boundary
- Existing and potential sources of pollution
- Topographic contours
- 100 year flood line elevation if applicable
- North arrow
- Buildings/structures on site
- LS or PE stamp



The staff of the DWS then utilizes this mapping to review the appropriateness of the proposed site location. This map will also assist the DWS project reviewer during the site visit. Two copies of the final site map of the approved public well location are then required prior to final well site approval. One is a file copy, and the other is sent to the local health director.

Meeting the above items is critical to assure that public water supply wells are drilled in protected locations. Provision of the above-described maps will assist in a more timely review of well site applications. Please contact Lori Mathieu at (860) 509-7333 if there are any questions concerning the above.

### Picture Quiz

**CODE VIOLATIONS:** Find at least two code violations in this picture (*Note:* there is a mouse nest on top of the well cap, which additionally threatens the sanitary environment of this well). The mouse can easily enter this well since the wiring conduit is too short to fit snugly into the well cap. Find some less obvious things wrong with this well and e-mail your thoughts to Vicky at [vicky.carrier@po.state.ct.us](mailto:vicky.carrier@po.state.ct.us).



**Answers:**  
19-13-B51(j)(a) - Lack of a watertight well cap  
19-13-B51(j)(b) - Lack of a screened and shielded air vent

## Ultraviolet Light Disinfection Technical Standards

By: Tom Chyra, P.E., Sanitary Engineer 3, Capacity Review and Standards Unit  
Cameron Walden, Supervising Sanitary Engineer, Capacity Review and Standards Unit



The Drinking Water Section will be posting draft technical standards for the installation and maintenance of Ultraviolet Light (UV) treatment devices as used for the primary disinfection of bacteriologically contaminated groundwater public water systems. The draft technical standards will have a 30-day public comment period after which they will be finalized. UV can be allowed as a primary disinfectant only when certain criteria have been satisfied. Some of these criteria are:

- Confirmation that the source of bacteriological contamination is originating solely from the source(s) of water supply;
- All active sources of water supply are in compliance with the water supply well construction requirements in Section 19-13-B51 of the Regulations of Connecticut State Agencies;
- Water quality entering the UV device satisfies the maximum allowable limits of specific water quality parameters which may interfere with light transmission;
- UV devices must be certified to NSF/ANSI Standard 55 for Class A units.

UV disinfection is not a solution for poorly constructed and/or poorly protected wells. Every effort should always be made to identify and eliminate the source of pollution rather than relying on a treatment device as a safeguard. UV devices, like all other water treatment systems, require maintenance and oversight and will fail if they are installed and neglected. Alarms, fail-safe features, and daily inspections of UV devices are required by the technical standards to help minimize public exposure to an unsafe water supply should something go wrong. Operators are encouraged to review the draft UV standards on-line at <http://www.dph.state.ct.us/BRS/Water/DWD.htm>, and provide comments to the DWS. The draft standards will be posted in the “What’s New” section of the DWS web page. If you have any questions please contact Cam Walden or Tom Chyra at (860) 509-7333.

### Public Water System Notification Form



A reporting form to assist public water systems in documenting reports of violations and incidents is available on the DWS web page, <http://www.dph.state.ct.us/BRS/Water/DWD.htm>. This reporting form will help you confirm and document that you are in compliance with the reporting requirements of Sections 19-13-B46 and 19-13-B102(h) of the Regulations of Connecticut State Agencies. It is important, however, to note that **submitting this form is not a substitute for reporting emergencies promptly via telephone.**



*“Certified Operators are the Department of Public Health’s front line in maintaining the purity and adequacy of the state’s public drinking water. A well-trained, committed and ethical operator workforce working to assure regulatory compliance is essential for the security and safety of our public supplies. I am grateful to the men and women who assist public water systems and the Drinking Water Section in serving the public.”*

Gerald R. Iwan, PhD  
Section Chief

## 2005 Cross Connection Control Reminders

By: Bill Sullivan, Sanitary Engineer 2, Operator Certification Program

Public Water Systems (PWSs) are reminded to have the required cross connection inspections and tests of certain backflow prevention devices completed by Dec. 31, 2005 for the 2005 survey year. The summary report of the 2005 inspections must be submitted to the DWS and received by March 1, 2006. Cross Connection Survey Report Forms for reporting this information are available on the DWS web page (<http://www.dph.state.ct.us/BRS/Water/DWD.htm>). You can click on “Backflow Prevention and Cross Connection Control” to get these forms and to get more information about this subject.



Individuals who hold current certificates as a cross connection inspector and/or backflow prevention device tester are the only personnel authorized to inspect premises and/or test devices for a water company. A list of backflow inspectors and/or testers available for contract work can be found on the DWS web page.

The purpose of cross connection inspections at premises served by a PWS is to locate any inappropriate plumbing connections constituting cross connection violations that could potentially contaminate the PWS. Certain equipment connected to plumbing lines, such as boilers, sprinkler systems, toilets, etc., may be contamination sources to the PWS if backflow without proper backflow protection occurs. The purpose of testing is to ensure that the installed backflow prevention devices are working properly. It is important to work actively with customers to correct violations and repair failing backflow prevention devices as soon as possible.

For questions regarding cross connection survey reporting compliance please contact Bill Sullivan at (860)509-7333.

## 2005 Consumer Confidence Reports



By: Rachel Nowek, M.P.H., C.H.E.S., Environmental Analyst, Programs Unit

With the end of the 2005 calendar year approaching, all community public water systems (CWS) should start thinking about the development of their 2005 Consumer Confidence Report (CCR). The CCR is an opportunity for CWSs to improve public confidence in their water system, advance the public's understanding of drinking water, heighten public awareness of the need to protect water resources, enhance the image of the professionals in the drinking water community, as well as provide the consumer with information about the quality of their drinking water. By July 1, 2006, CWSs must distribute the CCR to customers, mail three (3) copies of the report to the Connecticut Department of Public Health Drinking Water Section (DWS), and mail one (1) copy to the Director of Health of each city, town, borough or district served. By August 9, 2006, CWSs also must submit a signed CCR Certification Form to the DWS, indicating that the information contained within the CCR is correct and consistent with monitoring data previously submitted to us, and that the report was delivered to consumers by the July 1 deadline. More specific information on CCR content, distribution requirements, CCR guidance documents, and CCR Certification forms can be found on the DWS web page, <http://www.dph.state.ct.us/BRS/water/DWD.htm>. If you have any questions regarding your PWS's CCR, please contact Mira Lami at (860) 509-7333.

## Drinking Water State Revolving Fund (DWSRF) Program

By: Theodore Dunn, Health Program Associate, Programs Unit



The Drinking Water Section (DWS) is currently accepting Eligibility Applications for DWSRF Loans for Federal Fiscal Year 2006. If your public water system would like to submit an Eligibility Application, or learn more about the DWSRF Program, visit the DWS webpage at [www.dph.state.ct.us/brs/water/srf/srf.htm](http://www.dph.state.ct.us/brs/water/srf/srf.htm) for more information. If assistance is needed, please contact the DWS at (860) 509-7333 and ask for a DWSRF representative. Applicants should read the DWSRF Process Overview and various Project Review Forms located on the DWSRF section of the DWS web page to become familiar with the DWSRF process prior to completing the Eligibility Application form.

## Educational Opportunities

By: Vicky Carrier, P.E., Sanitary Engineer 3, Operator Certification Program

Gateway Community College currently offers a Water Management Certificate Program that entitles an individual (once the program has been completed) to qualify to take any Water Treatment Plant or Distribution System Operator Exam. Passing the exam then allows an individual to become an Operator-in-Training. The operator may apply to become fully certified as an operator after they have acquired the required experience. If you are already employed by a water utility and would like to expand your knowledge or meet continuing education requirements for your water operator license or are looking to enter the “water business”, more information can be obtained by visiting the Gateway Community College website (<http://www.gwctc.commnet.edu>). Click on Academic Information and then on Programs of Study. Water Management can be found under the right column titled “Certificate Programs”. You may also contact the Program Coordinator, Wesley Winterbottom at (203) 285-2354 or [wwinterbottom@gwcc.commnet.edu](mailto:wwinterbottom@gwcc.commnet.edu).



## Check Your Water Quality Testing Schedule!

2006

By: Vicky Carrier, P.E., Sanitary Engineer 3, Operator Certification Program



December is the perfect month to check your testing schedule and make sure that you have completed all the water quality testing that your water system is required to submit for the year. After all, it is better to find out your requirements now while you still have time to collect the proper samples. The failure to collect the required samples will become a 2005 monitoring violation as of January 1, 2006. Remember that all 2005 samples have to be *collected* by December 31, 2005 and be *reported* to this office by January 9, 2006. Effective January 1, 2006, submittal of all 2006 monitoring data must be via electronic data interchange (EDI). If something that you believed was submitted by EDI is not shown as having been received, please call the Monitoring, Reporting and Enforcement Unit at 860-509-7333.

*\* While you are looking at your schedule, it is important to ensure that your contact and operator information is up-to-date.*

## Record Keeping Requirements

By: Rachel Nowek, M.P.H., C.H.E.S., Environmental Analyst, Programs Unit

Record keeping is a crucial but often overlooked task, especially for small systems that may not have the resources of a large public water supplier. Maintaining records is required by the Public Health Code, and in addition can help a public water system (PWS) better manage its infrastructure. Maintaining records is an essential component of a PWS's financial, managerial and technical capacity. Knowledge of a PWS's infrastructure and other structures within the vicinity of the PWS, such as septic systems etc., must be documented in written form to ensure that staff throughout the duration of the PWS's existence are familiar with the location and operation of all system components. Records can also be helpful when a PWS has to undergo an investigation, such as during a waterborne disease outbreak. These records should include at least:

- An as-built map of the septic systems
- A map showing all wells and their activity status (active, inactive, abandoned and whether they are still connected to the water system)
- Well completion reports
- A map showing the distribution system layout

Please look at the table below and become familiar with the records retention regulations contained within Section 19-13-B102 of the Regulation of Connecticut State Agencies. Expect to be asked for them the next time our field staff surveys your water system:

Item to maintain on record	Time frame
Total coliform bacteria test results	Five (5) years
Chemical test results	Ten (10) years
Actions taken to correct violations	Three (3) years
Sanitary survey reports and responses to such	Ten (10) years
Records concerning a variance granted to the water system	Five (5) years
Maps and records showing location of mains, hydrants and other facilities (community water systems)	Integrated map to be filed and updated every five (5) years
Complaint log (community water systems)	Three (3) years following resolution
Lead and copper records	Twelve (12) years
Cross-connection control records	Five (5) years
Consumer confidence reports (community water systems)	Five (5) years
Filter turbidity measurements (typically for larger community water systems served by surface water)	Three (3) years
Public notices issued and certification forms	Three (3) years
Production Meter readings (community water systems)	Readings taken weekly, submit monthly or as requested

## Training Registration Information



Since July 1, 2005, all training registrations have been completed on the Training Finder Real-time Affiliate Integrated Network (TRAIN). TRAIN is a training resource for professionals who protect the public's health. Visit the TRAIN web page, <https://ct.train.org/DesktopShell.aspx>, to create a free user account and view upcoming certified operator events.

Be sure to check out the DWS's web page, <http://www.dph.state.ct.us/BRS/Water/DWD.htm>, for the latest information regarding certified operator training and exam dates. Dates are subject to change.

This newsletter was prepared by the DWS Operator Certification Program (OCP) and Programs Unit. If you have any questions or would like to contribute to the newsletter, please contact Vicky Carrier or another OCP staff person listed below.

- Robert Rivard, P.E.– Supervising Sanitary Engineer- Program Supervisor
- William Sullivan– Sanitary Engineer 2– Exams, Renewal, Cross Connection Control
- Joseph Higgins– Engineer Intern- Cross Connection Control
- Carol Martin- Office Assistant

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