

Drinking Water News

A Newsletter for Pennsylvania's Public Water Systems

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Summer 2008

Welcome

From Barry Greenawald, Chief, DEP Operations Monitoring and Training Division

I'm pleased to welcome you to Pennsylvania's first issue of "Drinking Water News." DEP plans to publish this newsletter at least twice a year to keep all Pennsylvania public water suppliers, including nontransient noncommunity water suppliers, informed about what is going on in Pennsylvania's drinking water program. We also hope that this newsletter will be of interest to industry associations, accredited laboratories, consultants, product vendors and others associated with drinking water, such as watershed associations.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the course of your busy daily activities, it can be difficult to keep up with new federal rules, updated state regulations and guidance, training needs, and technical, financial, and managerial information. We plan to keep you informed of the latest developments, reminders, helpful tips and various sources of information related to drinking water - - everything from regulatory requirements and system security to operator certification, source water protection, water conservation and who to contact for more information.

Whether you are a community water supplier or a business or community service entity that also happens to be, by definition, a public water system, such as a school or factory, you bear a tremendous public health responsibility. You have been doing a good job, and in many cases with very limited resources. People expect safe drinking water, and regulations are complex and often costly to comply with. The future brings even more challenges as continuing research unveils the health effects of various substances that can be found in water, including new, emerging contaminants such as pharmaceuticals and personal care products that find their way into our streams. New analytical methods are allowing scientists to find substances in our water that we weren't able to detect just a few years ago. Ongoing research with a scientific approach will provide us with the occurrence and health effects information we need in order to determine if such substances need to be regulated.

It is vastly important that federal and state governments, researchers, the water treatment industry, municipal officials and water suppliers work together to meet these challenges. It is this partnership that will enable us to maintain economic vitality of our communities and ensure that the residents and travelers of Pennsylvania will always have a safe, adequate and sustainable supply of drinking water.

It is our intent to make this newsletter useful to you; so I encourage you to provide us with feedback on what types of information you would like to see, and how we can continually make it better to serve your needs.



We'll Be Joining The Electronic Age!



The first two editions of "Drinking Water News" will be printed and distributed through the U.S. Postal Service, but starting in 2009 the newsletter will be produced electronically. Water suppliers and others

who receive the newsletter will be sent a link when future editions of the newsletter are available. The electronic newsletter will also be posted on the DEP Drinking Water Web site.

If you want to be sure to receive an electronic link to "Drinking Water News" after it goes electronic, contact your sanitarian or the district office to **be sure that your correct e-mail address is in PADWIS.**

Contents

<u>page</u>	<u>topic</u>
2	CCR Webpage Updates
2	Well Head Inspections
3	Electronic Data
3	Education Opportunities for Certified Operators
4	Tampering Signs
4	Lab Reporting Tips
5	LT2 Status and Overview
7	Regulatory Update
8	DEP Research on Emerging Contaminants
9	Sustainable Water Infrastructure Task Force
11	Continuing Education for Certified Operators
11	We're So Glad You Asked

Consumer Confidence Report Data Webpage Enhancements

Deb Rotz, DEP Operations Monitoring and Training Division



Water suppliers are required to describe violations they receive in their annual Consumer Confidence Report (CCR) that is distributed to customers. These

descriptions include:

- an explanation of why the violation occurred;
- the potential adverse health effects (if any); and
- the steps taken to correct the violation.



We've added an enhancement to the DEP Web site's CCR violation report page that shows two-digit violation codes for each violation. We hope this will help public water systems to

complete their annual CCR more easily. A "Help Screen" button at the bottom of the page links to a page entitled *CCR Violations Report Field Descriptions*. The two-digit code is used for more than one type of violation so the descriptions will help you identify which situation caused your violation.



Clicking on the "Help Screen" button opens the *CCR Violations Report Field Descriptions* page. There is a "Click here" link at the top of the text that takes you to a Violation Type Description table that is organized by the two-digit violation codes. If you need more information about the violation, you can click on the 2-digit code link and the detailed descriptions will appear.

02	CHEM AVERAGE MCL	
	IOCs: This violation type occurs when the MCL is exceeded and the monitoring frequency is quarterly or the MCL is exceeded and the monitoring frequency is annual, three-year or nine-year, and a check sample is required and is included in the MCL computation.	Tier 2 PN
	VOCs: This violation type occurs when the MCL is exceeded and the monitoring frequency is quarterly or the MCL is exceeded and the monitoring frequency is annual, three-year or nine-year, and a check sample is required and is included in the MCL computation.	Tier 2 PN

To summarize, the steps to find this data are:

1. Go to the CCR Data web page at: www.depweb.state.pa.us, keyword: CCR Data
2. Enter your PWSID#; click on the "Go" button.
3. Under "Select a Report" click "Violations".
4. Under "Select a Report Year," confirm the most recent report year is highlighted.
5. Click the "Run Report" button.
6. If a violation is present, it will appear in a table.
7. If you cannot determine why the violation occurred, you can click on the "Help Screen" button (bottom of the page) to access the *CCR Violations Report Field Descriptions* web page.
8. Use the "Click here" link to view a list of the violations and their concise description.
9. To get a detailed description of each violation, click on the two-digit type code.

Well Head Inspection Suggestions for Spring and Summer

Jeffrey Allgyer, DEP Operations Monitoring and Training Division

Clean Up. Fix Up. Check Up. Spring and Summer bring homeowners important chores in the yard and around the outside of the house. The same can be said for water supply systems.

Our cold, windy winter and our sudden burst of spring created opportunities for conditions to change around well heads. It's a good management practice to assess what's happened (and what may be about to happen) at, and near, these critical areas.

Here are some field note suggestions to consider:

1. Inspect the condition of the well head and the area that it's in.

- Is the sanitary well seal secure and in good condition?
- Is the screen that covers the well vent secure and in good condition?
- Is the well terminus easily accessible? Are weeds and woody brush kept at bay without the use of herbicides?
- Is there any evidence of burrowing animals immediately surrounding the well?

2. Take note of changes that are occurring in or around the watershed.

- Is there any new construction and/or land development taking place?
- Have there been any changes in agricultural practices?
- Have there been any changes in land practices or ownership?



Clean Up. Fix Up. Check Up. It's not just a good idea. It's a good management practice.

Electronic Independence

DEP Data Systems and Analysis Division

Did you know that you can:

- ◆ **Download** your system's historical sample results;
- ◆ **View** your system's monitoring requirements;
- ◆ **Access** information to prepare your system's Consumer Confidence Report (CCR);
- ◆ **View** current sample results laboratories have electronically reported for your system; or
- ◆ **Electronically report** sample results

anytime you want to, or need to, just by using the internet?

At www.depweb.state.pa.us, keyword: CCR Data you can access information you can use to complete your system's annual Consumer Confidence Report (CCR). This page contains links to Detection and Violation Data, CCR Report Template and Instructions, and the Consumer Confidence Report Handbook. Reports showing detections, violations and lead and copper 90th percentile results for your system are accessible through the Detection and Violation Data link.



www.drinkingwater.state.pa.us/dwrs/HTM/DEP_frm.html

gives you access to the Drinking Water Reporting System (DWRS). Here, you can view and download your system's inventory, sample, and violation information. Your system's monitoring requirements are available as part of the Inventory data.

At www.depweb.state.pa.us/watersupply/dwelr you can learn more about the Drinking Water Electronic Laboratory Reporting (DWELR) system. DWELR allows labs accredited by or registered with DEP's Bureau of Laboratories to electronically report drinking water sample results. Through DWELR, water systems can view all current sample results electronically submitted for their systems. Anyone wishing to use DWELR must submit a DWELR registration form.

For further assistance with the CCR website contact the Operations Section at 717-772-4018. For further assistance with the Drinking Water Reporting System (DWRS) or the Drinking Water Electronic Reporting System (DWELR), contact the PADWIS Section at 717-787-6744 or via e-mail at ra-padwis@state.pa.us.

So, you don't always need to speak to your sanitarian or someone else in a DEP office in order to access, view, or report information for your system. You can easily exert your own electronic independence.

Education Opportunities for Certified Operators

Bill McNamara, DEP Operations Monitoring and Training Division

Within the last six years, certified drinking water and wastewater operators in Pennsylvania have been phased into a new continuing education program based on a three-year license cycle. The program requires certified operators to complete a specified number of training hours in each cycle (for the specific contact requirements and more information on certification visit www.dep.state.pa.us, keyword: Operators).

For training to count towards the continuing education requirement it must be approved by DEP. The approved course list is ever expanding and there are currently 180 DEP-approved training providers with approximately 1900 approved courses. The approved courses are available in various locations and delivery formats, such as classroom and Web-based. The complete catalog of approved



courses can be found at www.earthwise.dep.state.pa.us/edu.

DEP has also created a series of drinking water Web-based training courses that are approved for continuing education. These highly interactive courses are available 24 hours a day and range in time from two to four hours. The courses primarily focus on regulatory topics to help water systems meet the increasingly complex regulatory requirements. There are currently 23 Web-based drinking water courses available and many more in the development stages, including an important series on Consumer Confidence Reports. You can check out the DEP catalog of Web-based courses and try out the Web-based course tutorial visit www.depweb.state.pa.us, keyword: Earthwise Academy.



If you have any questions regarding continuing education or if you are interested in preparing to take the certification examinations, DEP can help. The operator training program's Training Section can be contacted directly at 717-787-0122 or by e-mail at DEPWSTechTrain@state.pa.us.

Is your current e-mail address in PADWIS?

Tampering Signs Available

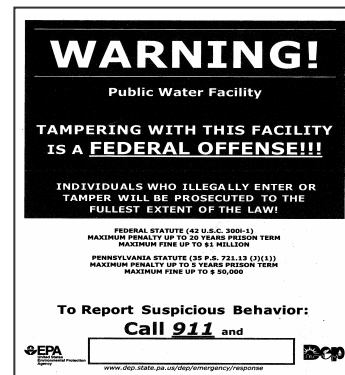
Thin, plastic signs warning against tampering with a public water facility are now available from DEP. The sturdy, red and white, 8 ½" X 11" signs indicate that tampering with a public water facility is a federal offense. Potential prison terms and fines are listed for breaking federal and Pennsylvania statutes on tampering.

The eye-catching, weather-resistant signs also provide a space to include a telephone number for individuals to

call if they observe suspicious behaviors near public water facilities.

Contact your DEP regional office to find out how to receive signs to use at your facility.

Supplies of the signs are limited.



Reporting Tips You and Your Lab Should Know

Dawn Hissner, DEP Operations Monitoring and Training Division

Who is responsible for reporting results of drinking water analyses to DEP? How are results reported?



When do the results have to be submitted? And, what information is necessary to accurately report these results so your water system receives the credit for monitoring?

Under the Chapter 109 Safe Drinking Water Regulations, both the public water supplier and the accredited laboratory are responsible for reporting analyses results to DEP. Most water suppliers rely on their lab to report the results, but if something is incorrect, the water supplier is most often held responsible. Analysis results are stored in DEP's PADWIS database, which stands for "Pa. Drinking Water Information System." In order for the results to be accepted into this database, specific pieces of information are needed to identify and verify each sample result.

With a few exceptions (such as turbidity, disinfectant residual, pH or alkalinity), Chapter 109 requires drinking water samples to be analyzed by an accredited laboratory. The sample results should be reported by the lab (or certified operator) that conducted the analysis. Many water suppliers also rely on their lab to collect the samples. Whether the water supplier, certified operator or lab personnel collects the samples, the water supplier is ultimately responsible for ensuring the lab (or certified operator) has the necessary information to report the data correctly.

Currently, water analyses results may be submitted either on paper forms or electronically through the Drinking Water Electronic Lab Reporting System (DWELR). Paper forms may be printed from DEP's Web site at www.depweb.state.pa.us. Go to "Forms & Publications," then "Forms" and look under "Water Standards and Facility Regulation." The DWELR

application is also available to water suppliers whether they are submitting results of analyses conducted by their certified operator or they are viewing the results submitted by an accredited lab on their behalf.

Analyses results must be received by DEP by the 10th of the month following the month in which the result is obtained or the end of the monitoring period, whichever is shorter. Remember to schedule your sample collection dates wisely!

In 2007, nearly 60% of all community and nontransient noncommunity water systems incurred a monitoring or reporting (M/R) violation. Most of those occurred because the data was reported incorrectly or late.

Many regulations specify very strict timeframes in which samples must be collected. Also, the closer you get to the end of a monitoring period, the less time you are allowing for your sample to be analyzed and reported to DEP on time.

In order to avoid delays and possible monitoring and/or reporting violations, DEP has created a SAMPLE checklist (see *next page*) to assist public water suppliers in correctly providing all necessary information to their testing lab (or to DEP, if you are reporting the results on in-house measurements). Many labs have developed their own checklist or form similar to this one, so you should check with your lab as to what documentation is needed for each sample. You should also provide a copy to your accredited lab of each sample site plan that identifies your location ID numbers (especially for the distribution system monitoring locations for the Total Coliform, Lead & Copper and TTHM/HAA5 sample sites).

Additional important information about reporting requirements is contained in the laboratory reporting manuals which may also be found on DEP's Web site under "Forms and Publications," then "Technical Guidance Draft Documents" or "Technical Guidance Final Documents." If you have any questions, please contact the Operations Section in Harrisburg at 717-772-4018.



Suggested Water Sample Submission Checklist

System Information:

- PWS Name _____
- PWS ID# (DEP assigned 7-digit number) _____

Contaminant(s) of interest: _____

Sample Information:

- Location Name or description _____
- Location ID# (the DEP assigned 3-digit code) _____

• Sample Date & Time _____ / _____ / _____ at _____ am pm
mm dd yyyy

- Sample Type
 - Raw (Source) Water R
 - Treatment Plant P
 - Entry Point E
 - Distribution System D
 - Maximum Residence Distribution System M
 - Check C
 - Special S

• Preservatives used _____

• Sample Collector _____

Monitoring Period _____ / _____ / _____ to _____ / _____ / _____
mm dd yyyy mm dd yyyy

Field Measurements:

- Temperature _____ °F °C
- Chlorine residual _____ mg/L (ppm)
- pH _____
- Other (specify) _____

Remember!

DEP assigns a unique code for each water system and a unique code for each source, treatment plant, and entry point within a system. DEP may also assign codes for distribution locations for certain contaminants. For your system to receive the proper credit for monitoring, the location code needs to be valid for your PWS ID and it should match the sample type.

- Source codes: 001 – 099; sample type = R
- Treatment Plant codes: 300 – 399; sample type = P
- Entry Point codes: 100 – 199; sample type = E or C
- Distribution System sample types are D, C, or M

A special (S) sample type could be used with any location code, but you may not receive monitoring credit for special samples.

The Drinking Water Reporting System (DWRS), www.drinkingwater.state.pa.us/dwrs/HTM/DEP_frm.html, has more important information on required monitoring (i.e. required contaminants, sample locations and codes, monitoring periods, etc.).

LT2 Status and Overview

Dave Hissner, DEP Operations, Monitoring and Training Division

The Long Term 2 Enhanced Surface Water Treatment Rule (LT2) requires systems to monitor source water, calculate an average *Cryptosporidium* concentration, and use the results to determine whether more treatment is necessary on source waters with high *Cryptosporidium* loading. The rule provides equal protection at all systems. Under previous regulations, treatment was not based on source water quality.

The LT2 rule includes public water systems that use either surface water or ground water under the direct influence of surface water.

US EPA currently has primacy for the LT2 and has sent letters to all affected systems notifying them of their schedule status and corresponding requirements. Schedule 1-3 systems have begun their required source monitoring. Key dates are shown in the table below.

Key Dates for Schedule 1, 2 and 3 Systems			
	Schedule 1 Systems	Schedule 2 Systems	Schedule 3 Systems
Monitoring began	October 2006	April 2007	April 2008
Deadline to complete 1 st Round of Monitoring	September 2008	March 2009	September 2009
Deadline to report Bin to EPA for approval	March 2009	September 2009	September 2010

Schedule 4 systems are currently beginning their source water monitoring. Schedule 4 systems may be eligible to monitor their source water for *E. coli* in lieu of *Cryptosporidium* monitoring. Key dates in 2008 for schedule 4 systems include:

Key 2008 Dates for Schedule 4 Systems	
July 1, 2008	<ul style="list-style-type: none"> ▪ Sampling schedule to EPA; or ▪ Notice to EPA of the system's intent to grandfather data; or ▪ Notice to EPA of the system's intent to conduct <i>Cryptosporidium</i> monitoring instead of <i>E. coli</i> monitoring
October 2008	Must begin 12 months of source water monitoring every 2 weeks for <i>E. coli</i> . (Total of 26 samples)
December 1, 2008	Submit <i>E. coli</i> monitoring results for data to be grandfathered
December 10, 2008	Submit results for first month of <i>E. coli</i> source water monitoring

Future activities and their deadlines for Schedule 4 systems include:

- September 2009 - Systems required to monitor their source water for *E. coli* complete initial round of source water sampling
- January 1, 2010 - Systems required to monitor for *Cryptosporidium* submit sampling schedule
- April 2010 - Systems monitoring for *Cryptosporidium* begin 12 or 24 months of source water monitoring
- June 1, 2010 - Systems submit *Cryptosporidium* monitoring results for data to be grandfathered
- June 10, 2010 - Systems submit first month of *Cryptosporidium* source water monitoring results
- March 2012 – Systems monitoring for *Cryptosporidium* complete initial monitoring round
- September 2012 - Systems monitoring for *Cryptosporidium* report their initial bin classification to EPA or PA for approval.

Tips for Schedule 4 Systems	
For <i>E. coli</i> monitoring:	<ul style="list-style-type: none"> ▪ Monitor sooner rather than later for planning purposes. ▪ Lab must be certified for LT2; see EPA's DCTS at www.epa.gov/cdx ▪ Quantify not presence/absence
For <i>Cryptosporidium</i> monitoring (Method 1623, 1622):	<ul style="list-style-type: none"> ▪ Matrix Spike volume - within 10% of corresponding field sample. ▪ Improper collection procedures can affect sample results. ▪ Take EPA's On-line Sample Collection Training Module. http://www.epa.gov/safewater/lt2/training/index.html#
For systems intending to grandfather data:	<ul style="list-style-type: none"> ▪ More time to prepare for compliance. ▪ Don't need to use DCTS to submit grandfathered data. ▪ Still need properly certified lab.
Sample location tips:	<ul style="list-style-type: none"> ▪ EPA: "Source Water Monitoring Guidance Manual for PWS" ▪ Prior to chemical treatment and filter backwash recycle return. ▪ Chemical interference will void your sample.
For Systems with multiple sources:	<ul style="list-style-type: none"> ▪ Consider all sources in your sampling plan. ▪ <i>Cryptosporidium</i> monitoring still needed if not using a "backup" source during LT2 monitoring, but plan to use it in the future. ▪ Crypto monitoring needed for new surface & GUDI sources.

If you have any questions about any aspect of the Long Term 2 Enhanced Surface Water Treatment Rule (LT2), please feel free to contact Michelle Moustakas with the U.S. EPA (Moustakas.Michelle@epamail.epa.gov) or Ed Chescatti at DEP (echescatti@state.pa.us.)

Regulatory Update

Lisa Daniels, DEP Operations Monitoring and Training Division

Bureau staffs are gearing up for a banner year of regulatory revisions to Chapter 109: Safe Drinking Water. There are an unprecedented number of regulatory packages in the pipeline. Here is the regulatory schedule:

Regulation	Rule Summary	DEP Schedule
General Update to Chapter 109	<ul style="list-style-type: none"> ➤ Will incorporate necessary federal requirements to obtain and/or maintain primacy for the Phase II/V, Filter Backwash Recycling, Lead and Copper, and Radionuclide Rules; and ➤ Will amend sections to improve data quality and compliance. <p style="text-align: right;">Contact: Lisa Daniels 717-772-2189</p>	<p style="text-align: center;">June 24, 2008</p> <p>Draft Final Rulemaking to Small Water Systems Technical Assistance Center Advisory Committee (TAC) for review and comment</p>
Public Notification (PN) Revisions	<ul style="list-style-type: none"> ➤ Will strengthen the public notification (PN) requirements for imminent threat situations ➤ Will include enhancements to planning requirements in the Operation and Maintenance Plan and Emergency Response Plan sections, and revisions to Tier 1 PN delivery requirements. <p style="text-align: right;">Contact: Deb Rotz 717-772-2190</p>	
Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DDBR)	<ul style="list-style-type: none"> ➤ Will incorporate EPA's Stage 2 DDBR. ➤ Will require community water systems and noncommunity water systems, which treat drinking water with a primary disinfectant other than UV to conduct additional compliance monitoring for trihalomethanes and haloacetic acids. <p style="text-align: right;">Contact: Godfrey Maduka 717-783-7088</p>	<p style="text-align: center;">July 15, 2008</p> <p>Proposed Rulemaking to Environmental Quality Board (EQB) for approval</p>
Enhanced Treatment for Cryptosporidium	<ul style="list-style-type: none"> ➤ Will supplement existing microbial treatment regulations ➤ Will target public water systems with higher potential risk from Cryptosporidium ➤ Will require systems to monitor source water to establish the degree of additional treatment, if any, the filtered system must provide. <p style="text-align: right;">Contact: Ed Chescattie 717-783-9764</p>	
Microbial Pathogens in Groundwater Rule	<ul style="list-style-type: none"> ➤ Will incorporate EPA's Ground Water Rule to provide for increased protection against microbial pathogens in public water systems that use ground water sources. <p style="text-align: right;">Contact: John Piekara 717-772-4061</p>	
Operator Certification	<ul style="list-style-type: none"> ➤ Will implement the provisions of Act 11 of 2002, the Water and Wastewater Systems Operators' Certification Act, which restructures the testing and training program for operators and enhances security provisions for all water and wastewater treatment systems in Pennsylvania ➤ Will eliminate remaining Chapters 301, 303 & 305 provisions. <p style="text-align: right;">Contact: Nicki Kasi 717-787-0122</p>	<p style="text-align: center;">September 2008 (anticipated)</p> <p>Draft Proposed Rulemaking to EQB for approval</p>
Lead and Copper Rule Short Term Revisions (LCRSTR)	<ul style="list-style-type: none"> ➤ Will incorporate federal requirements to strengthen existing Lead and Copper Rule requirements regarding monitoring, treatment processes, public education, customer awareness and lead service line replacement <p style="text-align: right;">Contact: Dawn Hissner 717-787-0130</p>	<p style="text-align: center;">August 2008 (anticipated)</p> <p>Draft Proposed Rulemaking to TAC for review and comment</p>
Fees	<ul style="list-style-type: none"> ➤ Will amend fees to cover Department costs <p style="text-align: right;">Contact: Lisa Daniels 717-772-2189</p>	

We encourage all water suppliers to participate in the rulemaking process by commenting on proposed regulatory packages, and providing input through professional organizations and advisory committees. Suppliers can learn more about the proposed rules on DEP's Public Participation Web page at <http://www.depweb.state.pa.us>, keyword: Public Participation.

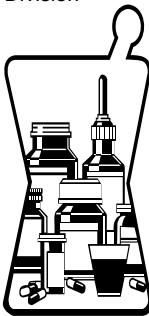
For more information, please contact Lisa Daniels at 717-772-2189.

REMEMBER: "Drinking Water News" is going electronic in 2009. If you'd like to continue getting updates such as these, DEP needs to have your e-mail address in PADWIS.

DEP Research on Emerging Contaminants

Arianne Proctor, DEP Data Systems and Analysis Division

There has been much media attention in the recent months regarding a vast array of drugs being detected in our nation's waters. In mid-March, the Associated Press published a three-part series on a five-month investigative study that released the results of voluntarily supplied water quality data acquired from water utilities across the United States.



In 2006, DEP entered into a cooperative agreement with the U.S. Geological Survey (USGS) Water Science Center in New Cumberland to conduct a reconnaissance study to screen for pharmaceuticals and antibiotic compounds in surface and well waters in South Central Pennsylvania. Samples were collected at upstream and downstream locations in the vicinity of 6 agricultural operations and 5 wastewater treatment plants. Samples were also collected at 6 groundwater stock wells in agricultural areas. Four samples were collected at each site March through September of 2006. Analyses were completed on 120 environmental samples and 21 quality control samples. Samples were analyzed for 15 pharmaceutical and 31 antibiotic compounds.

In the stream samples, 13 pharmaceuticals and 11 antibiotics were detected at least one time. Carbamazepine was the most frequently detected pharmaceutical, followed by caffeine and diphenhydramine. Caffeine, at 4.75 micrograms per liter ($\mu\text{g/L}$), and para-xanthine, a degradation product of caffeine, at 853 $\mu\text{g/L}$, had the greatest concentrations of pharmaceutical compounds analyzed for the study. Sulfamethoxazole was the most frequently detected antibiotic followed by trimethoprim, ofloxacin, erythromycin, and azithromycin. Azithromycin, at 1.65 $\mu\text{g/L}$, and sulfamethoxazole, at 1.34 $\mu\text{g/L}$, had the highest concentration range for antibiotic compounds. In 24 well samples, there were a total of five minute detections just at or a little above the minimum reporting levels



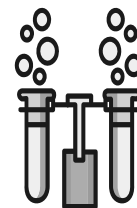
The report for Phase I titled "Concentrations of Selected Pharmaceuticals and Antibiotics in South-Central Pennsylvania Waters, March through September 2006" is available as a portable document format (PDF) file at: <http://pubs.water.usgs.gov/ds300/>.

To build upon Phase I, DEP commenced a three-year cooperative agreement in 2007 with the USGS titled; "Characterization of Emerging Contaminants and Fish

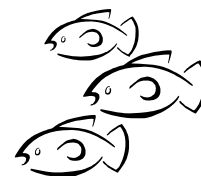
Health in Pennsylvania Surface Waters." The focus for Phase II is now statewide instead of centralized and will evaluate Pennsylvania's source water and conduct a comprehensive fish health assessment.

Part one of Phase II will continue to characterize surface water downstream of wastewater treatment plants. The five sampling locations from Phase I, plus 3 new sites and one reference stream will be evaluated. Analysis will include additional suites for hormone analytes and wastewater compounds in water and streambed sediment as well as the original suites for pharmaceuticals and antibiotics. Samples will be collected during low flow conditions one time per year for three years.

Part two of Phase II involves the chemical analysis of surface water at 27 Water Quality Network (WQN) stations in source water statewide. Stations were selected based on their proximity to public water supply surface water intakes. All sampling sites are located within three miles of an intake. Samples will be analyzed quarterly for three years for pharmaceuticals, antibiotics, and hormones as well as pathogens (*Cryptosporidium*) and bacteria (*E.coli* and *Enterococci*). Contaminant levels at these stations will be studied for their impacts on drinking water sources.



Part three of Phase II will evaluate the environmental impact of emerging contaminants, particularly hormones, by assessing the general and reproductive health of selected fish species. This will occur at 16 sites statewide, a subset of the stations from part two of Phase II. Therefore, water chemistry samples will be collected at these 16 stations and will be analyzed for pharmaceuticals, antibiotics, and hormones as well as wastewater compounds in water and bed sediment. The target species include the white sucker, a bottom feeder, and small mouth bass, a predatory species. All sites will be sampled during the summer months of 2007 and 2008.



The final component of phase II will involve the identification of pathogenic bacteria. The USGS Michigan Water Science Center (WI WSC) and the DEP Bureau of Labs will analyze for pathogenic and fecal source markers from *E. coli* and *Enterococci* in a side-by-side method comparison using cultures resulting from the DEP *E.coli* and *Enterococci* quantification from part two of Phase II. A total of 81 pathogen samples will be collected and analyzed from October 2007 through June 2008.

Using polymerase chain reaction (PCR), cultures will be analyzed for genes associated with pathogenic *E. coli* (*eaeA*, *stx1*, *stx2*, and *rfb0157*), a (*continued on next page*)

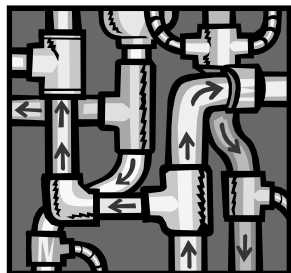
(continued from page 8) cattle-specific *E. coli* gene (LT11a), and a gene that is associated with human enterococci pathogens (esp) that is often used to track sources of human fecal pollution. By identifying specific genes through a PCR laboratory technique we may determine if the contaminant source originates in animals or humans and may also determine if the *E. coli* are pathogenic to humans.



A final report will characterize the distribution and occurrence of emerging contaminants, pathogens and bacteria, as well as the identification of pathogenic and fecal source markers. This formal USGS peer-reviewed report, will be available in the Scientific Investigations Report in June of 2010. A final report evaluating the fish health in PA source water is anticipated in 2009 and will assess whether impacts to fish are occurring that may be associated with the occurrence of emerging contaminants.

Sustainable Water Infrastructure Task Force

Joanne Nardone, DEP Operations Monitoring and Training Division



A number of state and federal funding programs have provided financial assistance for the construction and upgrade of the state's water infrastructure. Between 2003 and 2006, these programs provided approximately \$1.4 billion in loans and grants. However, the 2003 EPA

Drinking Water Needs Survey and the 2004 Clean Water Needs Survey estimate that Pennsylvania's total water infrastructure need is \$11 billion for drinking water. Existing programs will not be able to address the total financial needs associated with the long-term capital improvement, operation and maintenance of these systems. The need for new investments is evidenced by the number of water line breaks, increased occasions of inadequate capacity and storage, deferred rehabilitation or replacement work, and shortage of treatment capacity that plague water systems.

In February 2008, Governor Rendell created The Sustainable Water Infrastructure Task Force and tasked it to develop a report that analyzes the issues related to long-term infrastructure financing and offers recommendations for the resolution of these issues. The report is due out by October 2008. The 30-member task force, made up of business leaders, legislators, government officials and industry experts, will be chaired by the Secretary of the Department of Environmental Protection.

These 30 people will need to roll up their sleeves and ask some tough, but important, questions including:

What are the total infrastructure financing needs, and what are the causes for those needs?

What types of new technologies, treatments and non-structural alternatives are available to improve water quality in lieu of infrastructure? What costs, benefits, and effectiveness do they have?

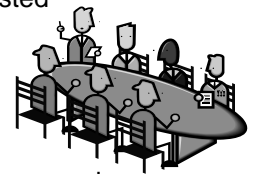
What aspects of the operation of a water system should be eligible for subsidized funding from the local, state, or federal government?

What methods and tools should be developed to assist water systems in delivering cost-effective service while maintaining public health, safety and environmental standards?

What eligibility criteria would you apply if additional state financing was devoted to water infrastructure?

What can be done through the legislative or regulatory process to encourage greater local investment in infrastructure and or lessen the cost of providing infrastructure improvements?

The task force created a subcommittee structure with five working groups. The groups and some of the issues they'll be addressing are listed in the table on the next page.



The task force hosted eight public meetings during May in Allegheny, Clearfield, Luzerne, Montgomery, Northampton, Venango and York counties. Members wanted to hear recommendations on issues the task force should consider; what existing statutory, regulatory or public policy barriers prevent the long-term sustainability of the state's water infrastructure; and possible new revenue streams that could help meet the state's infrastructure needs. Individuals testifying at the meetings included representatives of utility contractors, financial management companies, water resources groups and municipal authorities.

DEP's Web site has more information about the task force. Type in "Water Management" as your keywords, then click on the task force link to the left.

Going Electronic

"Drinking Water News" will become electronic in 2009. Is your correct e-mail address in the DEP PADWIS database so we can continue to make the newsletter available to you?

Sustainable Water Infrastructure Task Force Subcommittees

DATA COLLECTION WORKING GROUPS AND ISSUES

Needs Assessment

- Examine the current and projected costs for the construction, upgrade, repair and operation and maintenance of Pennsylvania's drinking water and sewage infrastructure.
- Examine the actual costs of water and sewer service, including recommendations for allocating the costs of capital investment, asset management, operation and maintenance among customers and state or federal assistance programs.
- Examine user rates and affordability throughout the basin
- Consideration should be given to other study requests and how they will be impacted.

Innovative Measures

- Examine the projected cost savings realized by the consideration and implementation of all available non-structural alternatives. This would include examining the cost effectiveness of trading.

Financial Resources

- Examine the current and projected financial resources to address water and sewer services and infrastructure needs.
- Examine the potential sustainable funding from federal, state and local source and public/private partnerships.
- Examine how and if operation and maintenance can be funded.

IMPLEMENTATION WORKING GROUPS AND ISSUES

Financial Sustainability

- Establish requirements for available funding, including consideration for:
 - Asset Management
 - Board and Local Official Training
 - Full-Cost Pricing
- Prioritization and Targeting of Resources
- Provide recommendations on the optimum mix of loan and grant monies to insure the affordability of projects and maximize the use of available funding
- Analysis of possible economies of scale

Legislative and Regulatory Issues

- Review existing statute and regulation and identify any provisions that prevent the effective implementation of an Infrastructure Sustainability Initiative to include the elements of sustainability defined in the Executive Order. If such requirements exist, develop recommendations to address these problems.
- Develop statutory language needed to implement the recommendations of the Task Force.

From the Editor's Desk

Joanne Nardone, DEP Operations Monitoring and Training Division



DEP wants "Drinking Water News" to be helpful **to you** - the individuals who own, operate and maintain the more than 3,200 community and nontransient noncommunity public water systems in Pennsylvania. This first edition contains a lot of technical and operational information with a few articles to keep you in touch with current and emerging issues related to safe drinking water. In the future, we plan to continue providing you with information, examples, and suggestions that support your efforts to provide clean, safe, drinking water to your customers and assist you in complying with state and federal drinking water regulations.

We welcome - and encourage - your feedback and ideas. Please tell us what you like and don't like about the newsletter. As a special request, I'd like to ask you to share your stories and innovations so they can help other water suppliers. Readers will want to hear about your first-hand experiences, so please share if you can. Feedback, ideas and experiences to share can all be sent to me via e-mail at jonardone@state.pa.us

Finally, as we've pointed out many times throughout this newsletter, "Drinking Water News" will become an electronic publication in 2009. Please be sure your e-mail address is up-to-date in PADWIS. Contact your sanitarian.

Thank you for providing clean, safe drinking water to so many Pennsylvania citizens and visitors!

Continuing Education for Certified Operators

Cheri Sansoni, DEP Bureau Business Management Office

Certified operators of drinking water and wastewater systems are required to complete continuing education in order to renew their certificates. **The training must be taken within the three-year renewal cycle.** This requirement applies to both existing and newly acquired certifications.

The first three-year cycle will require less continuing education than subsequent renewals. Continuing education acquired before the initial cycle will not count towards continuing education requirements, and you will not be able to bank hours. In other words, if you get 60 hours of continuing education, (and you were required to get 30), you will not be able to carry over the remaining 30 hours into the next cycle. Also, only continuing education approved by the Department will count. Failure to meet your continuing education requirements within the three-year period will result in the loss of your certification. There is no grace period.

Training may be provided by any of the organizations approved by DEP to provide such training; such as colleges and universities, technical institutes, educational units of governmental or industrial

agencies, professional operator organizations, and equipment suppliers and manufacturers. Below is a list of the current continuing education requirements.

Operator Class	Hours First 3-Yr Cycle	Hours Subsequent 3-Yr Cycle
Wastewater Continuing Education Requirements		
A	15	30
B	15	30
C	15	30
D	8	15
E	8	15
Grandparented	8	15
Drinking Water Continuing Education Requirements		
A	15	30
B	15	30
C	15	30
D	8	15
E	8	15
Dc	4	9
Dn	3	6
Grandparented	8	15

We're So Glad You Asked



We get a lot of good questions from water system operators and officials, so we thought we'd share some of the most common questions we receive in hopes of helping more water systems out there.

Q: I'm a certified Operator. How do I find out how many training hours I currently have?

A: If you have access to a computer, log onto www.depweb.state.pa.us, keyword: Operators. If you don't have access to a computer, you can call DEP staff who track Operator Certification requirements at (717)787-5236 or FAX them your questions at (717) 772-3249. You may also find it useful to visit the Earthwise Academy at www.earthwise.dep.state.pa.us for continuing education training information.

Q: Recently, a lab reported a distribution system chlorine residual measurement value as >5.0 mg/L. What should I do when the chlorine residual is measuring too high for the meter to read an exact measurement?

A: A residual value reported as "> 5.0 mg/L" (or as "> any number") is an invalid measurement because it's not a specific value. It merely shows that the residual value

is somewhere above the specific value of 5 mg/L. The sample should be diluted so that the colorimeter can determine a value in mg/L. That measurement value must then be multiplied by the dilution factor to determine the actual residual value that is reported to DEP for compliance purposes.

Q: How often should our Emergency Response Plan & Operations and Maintenance Plan be updated?

A: These plans are crucial to your system's operations and to your customers' health. They should be updated continually and improved to include all possible contingencies. Be sure you note on the cover pages for both plans, that they were given an annual review and are up-to-date.

We're Going Electronic!

It'll happen in 2009. Is your e-mail address in PADWIS?

Q: What is considered the most critical element in developing an Operations and Maintenance Plan?

A: In terms of a system's operation, the most critical element is whether the plan is sufficiently detailed and comprehensive for someone totally unfamiliar with the system to operate it and respond to emergencies.

Q: We received a “CCR Violation” last year and we think it was a timing issue. How can we avoid similar violations in the future?

A: All community water systems must deliver a brief annual water quality report known as a Consumer Confidence Report, or “CCR”, to their customers. CCRs are based on data from the previous calendar year and must be delivered to your consumers and DEP on or before July 1 of each year.

On or before October 1 of each year, every community water supply system must complete and submit to DEP a Consumer Confidence Report Certification Form. Available on DEP’s Web site (as publication 3800-FM-WSFR0084), the form outlines how the CCR was distributed and the signature of a responsible official certifies that the information in the CCR is correct and consistent with the compliance monitoring data previously submitted to the state.

Because of field staff time constraints, DEP central office staff is responsible for entering into PADWIS the dates that CCRs and CCR Certification Forms are received by the department. The best ways to avoid receiving a violation for a missing or late CCR are to (1.) complete and mail your CCR and CCR Certification Form in ample time before the deadlines, and (2.) submit both your CCR and your CCR Certification Form directly to the DEP Safe Drinking Water Program at 400 Market Street, 11th floor, Harrisburg, PA 17105-8467. You may want to send additional copies to your DEP sanitarian or county health department.

Q: When is the best time to do my monthly bacteriological sampling?

A: Do it as early as possible in the month, to allow sufficient time for analysis, check sampling if it is required, and reporting to the Department by the required due date, no later than the 10th day of the month

following the month of the sampling.

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*Commonwealth of Pennsylvania
Edward G. Rendell, Governor*

Department of Environmental Protection

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