

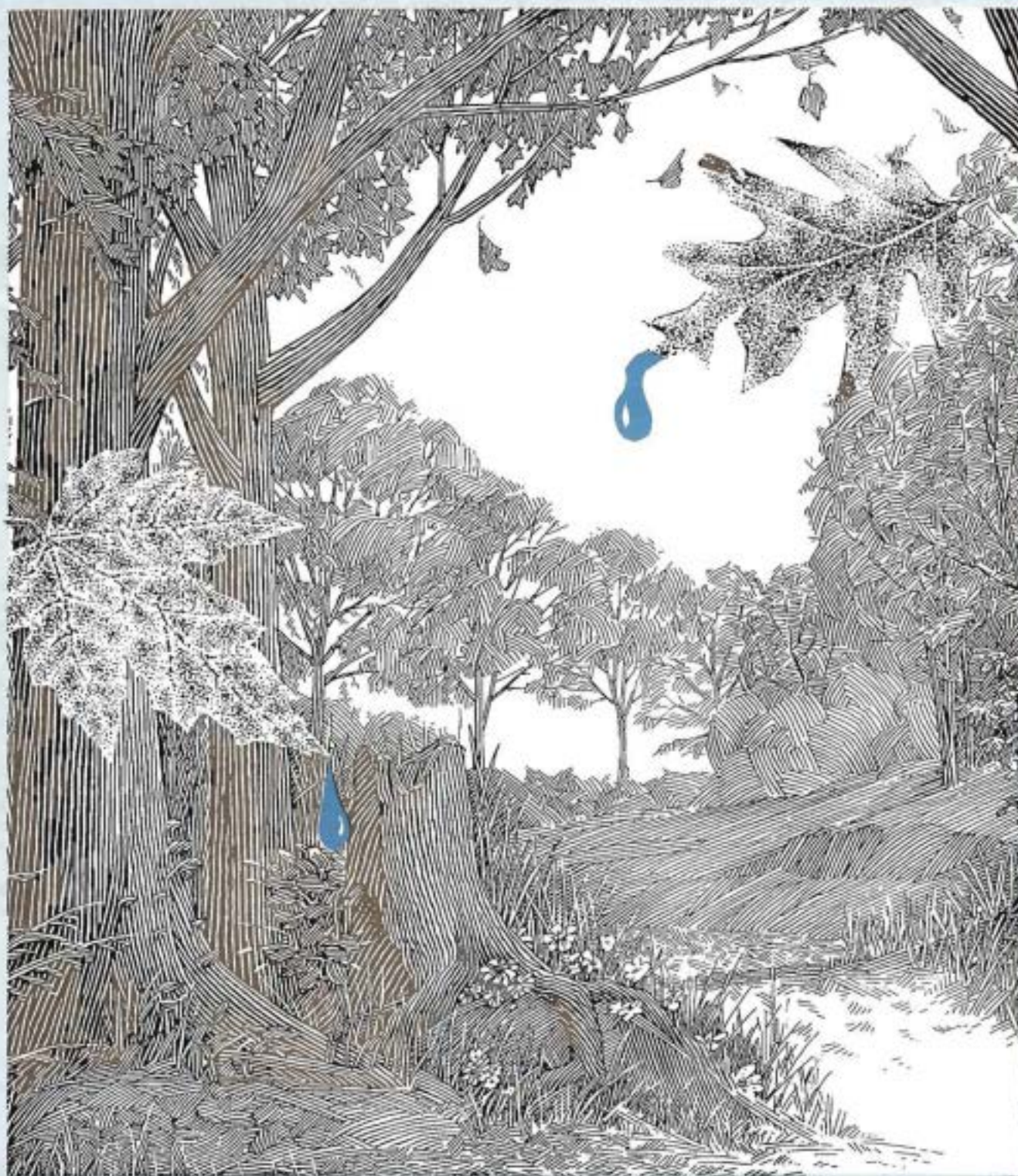
A Publication of the Pennsylvania Rural Water Association



The Keystone Tap

Fall 1993

VOL. VI, NO. 3





**THE CARNEGIE
MUSEUM OF NATURAL HISTORY**

July 31, 1993

Judith M. Muehl
S. Williamsport, PA 17770

Dear Judy:

I would like to take this opportunity to thank you for presenting a program on groundwater, Sunday, July 11, 1993 at Powdermill Nature Reserve's Florence Lockhart Nimick Nature Center.

Our program series are a great success because of concerned people like yourself who willingly volunteer their time and talents to present informative programs on issues that effect all our lives.

Thank you again. I look forward to working with you again.

Sincerely,
Theresa Gay Rohall
Theresa Gay Rohall
PNR Education Assistant

PILLOW BOROUGH AUTHORITY

P.O. Box 206
Pillow, PA 17080

PA Rural Water Association
138 West Bishop Street
Bellefonte, PA 16823

Dear Sir,

We are a small water authority (130 customers) and don't have finance. We pump 55,000 gallons a day into our water tank and are selling 15,000 gallons a day, as you see there are some leaks. Mr. Chris Shutt has been a great help to us finding some of the leaks, but we need to find more. Thank you for the service Mr. Shutt is giving us.

Yours Truly,
Charles R. Phillips
Chairman

P.S. We found and fixed leaks of about 20,000 gallons a day so we are now pumping 35,000 gallons a day.

The Borough of Berlin

700 North Street
Berlin, Somerset County, Pennsylvania 15530
Phone: (814) 267-3837 • 267-3017

August 7, 1993

Mr. David Quinn
PA Rural Water Association
138 Bishop Street
Bellefonte, PA 16823

Dear Mr. Quinn:

Last month we had the pleasure of meeting with Steve Krcnavy, a staff member of the Pennsylvania Rural Water Association. I had requested that Steve come to Berlin in an effort to help us determine if a water leak existed under a section of Route 219 where it passes through Berlin. Although no leak was detected in this area, while Steve was here we asked him to check a section of line located on Fletcher Street. Steve pinpointed what he felt was a leak of some substance. In addition, he educated our employees in the use of leak detection equipment.

The day after he was here, we excavated the area where he felt there was a leak. We found a broken water line from which the water was infiltrating into our storm sewer. We estimate that the system was losing approximately 40,000 gallons of water per day from this leak. Steve was right on target. We commend his efforts on our behalf.

We appreciate the assistance we received and are pleased that we are a member of your Association. We are looking forward to working with Steve once again on September 2.

Sincerely,
BOROUGH OF BERLIN
Kerry B. Claycomb
Kerry B. Claycomb
Executive Borough Secretary



6492 LINCOLN WAY WEST
P.O. BOX 312
ST. THOMAS, PENNA. 17252-0312
PHONES: Office (717) 369-5890
FAX (717) 369-3477

June 28, 1993

Pennsylvania Rural Water Association
138 West Bishop Street
Bellefonte, PA 16823

To Whom it may concern:

The St. Thomas Township Municipal Authority thanks the people and their services for their involvement in helping us locate an infiltration problem. During the discussion and smoke testing we also discovered the flow into the lift station was greater than seemed normal. Plans study of flow direction revealed a recirculation problem that was the abnormal flow and also corrected an odor situation that was developing due to stale sewage.

Our sincere thanks to William Keller, circuit rider, for the PA Rural Water Association for his efforts to study and help us correct this unusual situation.

Thanks for being there and keep up the good work!!!

Yours in pollution control,
Gary L. Keller
Gary L. Keller
Operations Manager

GLK/ajk



The Keystone Tap

PRWA BOARD OF DIRECTORS

- | | |
|--|--|
| Dave Quinn
White Haven, Pennsylvania
President | Jan Gallo
Clymer, Pennsylvania
Director |
| Teresa Rissmiller
Elizabethtown, Pennsylvania
Vice President | Guy Shaffer
Bellefonte, Pennsylvania
Assistant Sec.-Treas. |
| L. Edmund Wilson, Jr.
Alexandria, Pennsylvania
Secretary | Robert J. Blough II
Jennerstown, Pennsylvania
Director |
| Patrick Regan
Carrolltown, Pennsylvania
Treasurer | |

PRWA — STAFF

- Stephen Krchnavy, Program Manager
- William Keller, Waste Water Technician
- Chris Shutt, Circuit Rider
- Judy Muehl, Groundwater Protection Technician
- Barbara Judeich, Office Manager
- Deb Fagan, Member Services/Training
- Donna Miller, Receptionist/Data Entry

NOTICE TO READERS

Pennsylvania Rural Water Association would like to invite you to prepare a short article about your water system or other topics which would be of interest to our readers. We also welcome articles from our Associate members.

Send your articles with black and white photographs, if available to:

PRWA
138 West Bishop Street
Bellefonte, PA 16823

Articles and Features:

Pennvest Report.....	3
Local Government Accomplishments	4
HIV in Wastewater Not A Recognized Threat ..	6
Math Corner	8
Formula Conversion Chart	9
Williamstown Dedication	10
Weird Assortment of Litter Found	13
PRWA Buck Pool	15
Public Education Requirements of the Lead and Copper Rule	19
NDWC Offers New Lead Education Materials	23
What's On Tap	25
Down the Well Traveled Road	25
One More Thing	26
Down the Line	26
Legislative Updates	31
Office Pool	32
The Rash Limburger Show	33
How I Spent My Summer Vacation	37
Word Search	41
The Washington Report	42
Safe Drinking Water Act	44
Drips & Drops	47 & 53
The Diffuser	54
A Day in the Life of a Circuit Rider	55
PRWA Trainings	58
Conference 1994	58 & 59

The **KEYSTONE TAP** is the official publication of the **PENNSYLVANIA RURAL WATER ASSOCIATION**, 138 West Bishop Street, Bellefonte, PA 16823, and is published quarterly for distribution to representatives of Rural and Municipal Water Supplies. Issues are mailed free of charge to member and non-member rural water associations. Articles and photographs are encouraged with payment in complimentary copies. For more information regarding this publication, contact the PRWA office, 138 West Bishop Street, Bellefonte, PA 16823, 814-353-9302.



LAYNE WELL & PUMP DIVISION

**GROUND WATER SUPPLY WELLS & PUMPS
SALES & SERVICE
GROUND WATER MONITORING / RECOVERY WELLS**

P.O. Box 788 • Meadville, Pennsylvania 16335
800-331-5651 800-522-6124 (In Pa.)



BCM Engineers Inc.

Engineers, Planners, Scientists
and Laboratory Services

Engineering big-picture
environmental solutions

Stroudsburg, PA
(717) 421-3770

Plymouth Meeting, PA
(215) 825-3800

Pittsburgh, PA
(412) 361-4000



AREA CODE 814
944-2006

MID-STATE CHEMICALS

Division of E & E (US) Inc.
INDUSTRIAL CHEMICALS

Van Beck
Sales Representative

P.O. Box 430
Altoona, PA 16603

*A road map will tell us everything
we want to know
except how to fold it up again.*

LEGGETTE, BRASHEARS & GRAHAM, INC.

Professional Ground-Water Consultants

- Ground-Water/Surface-Water Assessments
- Geophysics and Downhole TV
- Computer Modeling
- Water Rights
- Ground-Water Supply
- Well Efficiency
- Wellfield Management
- Wellhead Protection

Exton, PA
(215) 363-8480

Offices Nationwide
Established: 1944



PENNVEST WORKS WITH SMALL AND RURAL SYSTEMS

by Bill Shadow, Pennvest

PENNVEST involvement in aiding small and rural communities in meeting their water infrastructure needs is unique among the states. With over 75 percent of the community water systems in the Commonwealth having fewer than 1,000 connections, the problem of funding the necessary rehabilitation and expansion of Pennsylvania's clean water infrastructure becomes a daunting challenge of statewide proportions.

PENNVEST policy and procedure is specifically tailored to meet the challenge of assuring fairness to small systems (systems with fewer than 1,000 connections) in the loan application review process. Two provisions in the PENNVEST enabling legislation assure that small systems are on an equal footing with large systems. One: total assistance for any one project cannot exceed \$11 million except in cases where the system serves more than one municipality. In these cases total funding can be as high as \$20 million. Two: the PENNVEST ranking and selection process is independent of system size.

As a result of these policies and procedures, nearly 60 percent of the total number of projects funded are small system projects. Thirty percent of the more than \$1.3 billion in PENNVEST funding went to small systems. Additionally, small systems received 79 percent of the grants awarded by PENNVEST.

From a different perspective, with 55 of Pennsylvania's 67 counties classed as rural (less than 200,000 population) 55 percent of the projects, totaling 46 percent of total PENNVEST funding, went to rural systems.

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL RESOURCES
STATE BOARD FOR CERTIFICATION OF SEWAGE TREATMENT PLANT
& WATERWORKS OPERATORS**

APPLICATION FOR CERTIFICATION OF SEWAGE TREATMENT PLANT AND WATERWORKS OPERATORS

EXAMINATION DATES:

January 22, 1994

All applications must be received no later than November 8, 1993.

June 25, 1994

All applications must be received no later than April 11, 1994.

APPLICATIONS MUST BE RECEIVED IN THE OFFICE OF CERTIFICATION, LICENSING & BONDING BY THE ESTABLISHED CUTOFF DATES STATED ABOVE (NOT POSTMARKED).

If you are a person with a disability and require accommodation to take the Sewage Treatment Plant or Waterworks Operator exam, please contact the Board at 717-787-5236 or through PA AT&T Relay Services at 1-800-654-5984 (TDD) to discuss how the Board may accommodate your needs.

LOCAL GOVERNMENT ACCOMPLISHMENTS RECOGNIZED

PITTSBURGH, PA — September 22, 1993 — On Friday, September 10th the Greater Pittsburgh Chamber of Commerce and the Intergovernmental Cooperation Program (ICP) presented the 1993 Intergovernmental Cooperation Awards to individual(s), municipalities, school districts/municipalities and organizations who have distinguished themselves in the area of intergovernmental cooperation. The program also presented the 1993 Council of Governments (COG) Service Awards.

The Chamber assumed responsibility for the management and administration of the ICP in July 1986 as a continuation of Pittsburgh's tradition of public/private partnership. "By creating models for replication by other local governments throughout Allegheny County both the Chamber and the ICP are helping to make local government more efficient through cooperation," stated Marshall Bond of the Chamber. The ICP's mission is to foster cooperation and provide local governments, municipal authorities and school districts with the opportunity to work together, on a voluntary basis, to accomplish the following primary objectives: improve efficiency; reduce costs; broaden the base of knowledge and understanding of local elected officials; and assess and address area-wide problems such as infrastructure decay, refuse disposal and emergency communications.

Congratulations to all the 1993 award winners! Individual Award Recipients include: George Brkovich, Retired Chief of Police, Elizabeth Township; Thomas A. Michlovic, State Representative, 35th District; and Marcia L. Taylor, Assis-



tant Manger, Mt. Lebanon. The Municipality Award was given to Ohio Township and Emsworth Borough for their Joint Police Services Contract. In the School District/Municipalities Category the award was given to the Gateway School District/Municipality of Monroeville/Borough of Pitcairn for their Gateway 2000 Community Education Visioning Project. Organizations receiving award include: Allegheny Intermediate Unit; the Commission on the Future of Libraries in Allegheny County; and the Wellhead Protection Project (Allegheny County Health Department, Allegheny County Planning Department, PA Rural Water Association).

For more information on this program please contact Marshall Bond, Intergovernmental Cooperation Manager, at 392-4512.

On Eagles

Although bald eagles have long nested in Pennsylvania, before 1988, all of them were found in Crawford County. So, just about the only bald eagle you were likely to see in the Keystone State was found on the b-side of a quarter dollar, or even more rarely, flanking a half-dollar coin.

Today, thanks to the efforts of volunteers and professionals, bald eagles can be found in Butler, Tioga, Dauphin, Lancaster and Crawford counties.

The Pennsylvania Game Commission began a seven-year reintroduction program in 1983 when they brought the first of almost 100 eaglets from Canada.

The birds grew up here, in man-made nests, while Game Commission personnel tried to convince the birds to eventually set up nests here.

It's a tough life for a bald eagle. The young birds leave the nest after 10 to 12 weeks and don't reach sexual maturity until they're four or five years old. It's been reported that only one of every ten reaches sexual maturity.

Until reaching maturity, bald eagles have a dark brown head and tail, with dark brown mottling through their wings and tail. It's easy to confuse an immature bald eagle with a

golden eagle. If you're not sure, remember that adult goldens are nearly uniformly dark without any of the white mottling found on immature balds. Immature goldens have white wing patches and a white band at the base of the tail.

You may be most likely to catch a glimpse of a bald eagle during the colder months when it has returned to Pennsylvania from summer range farther north.

88 people who conducted bald eagle surveys for the Game Commission in 1990, scouted between January 6 and 16th and found the most eagles in Lancaster County, along the Susquehanna River; in Crawford County, at Pymatuning Lake; and along the upper Delaware River.

So, if you're pondering a post-holiday wildlife pick-me-up, consider eagle-watching and liven up an otherwise quiet month!



Moody and ASSOCIATES, Inc.

WATER AND EARTH SYSTEMS — CONSULTANTS AND DEVELOPERS



"Celebrating 100 Years of Excellence!"

COMPLETE GROUND WATER SERVICES

- | | |
|-----------------------|------------------------------------|
| Monitoring Wells | Ground Water Contamination Studies |
| Test Wells | Monitoring Systems |
| Production Wells | Expert Testimony |
| Pump Testing | Well Site Selection |
| Pump Sales and Repair | Well Field Management |
| Well Rehabilitation | Pump Test Analysis |

R.D. 4, Cotton Road
Meadville, PA 16335
814/724-4970
800-836-5040

CLA-VAL Automatic Control Valves

■ PRESSURE REDUCING ■ FLOW CONTROL

■ PRESSURE SUSTAINING ■ FLOAT VALVES

■ CHECK VALVES ■ PUMP CONTROL VALVES

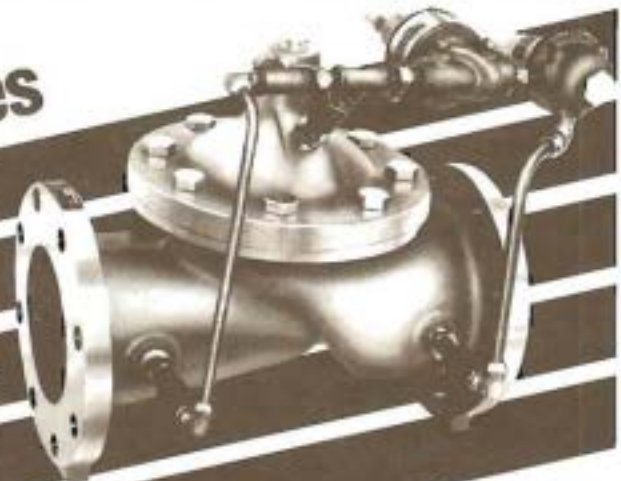
■ SURGE ANTICIPATORS ■ RELIEF VALVES

■ BACKFLOW PREVENTERS ■ ALTITUDE VALVES

FOR : ■ WATER DISTRIBUTION SYSTEMS
■ IRRIGATION SYSTEMS

■ FIRE PROTECTION SYSTEMS
■ FUEL HANDLING

■ MARINE ■ CHEMICAL
■ INDUSTRIAL



Made in the United States and Canada

Represented by:

THE W.C. WEIL CO.

Allison Park, PA

Phone: 412-487-7140 • Fax: 412-487-7144



HIV In Wastewater Not A Recognized Threat, Other Pathogens Can Be

by Nancy Gover, NSFC Staff Writer

Acquired Immune Deficiency Syndrome (AIDS) in wastewater is a hot topic among wastewater treatment plant operators these days. Everyone wants to know: Is there a risk of transmission of the Human Immunodeficiency Virus (HIV), the virus that causes AIDS, from contaminated wastewater?

"No," is the answer from the Center for Disease Control (CDC) in Atlanta, Georgia. Because AIDS is a blood-borne disease, the CDC does not consider the water-borne route a possibility for its transmission.

But what about recent studies, including one conducted at the University of Pittsburgh in 1992, that seem to indicate that the virus is stable in wastewater?

In fact, the study, "HIV Survivability in Wastewater," published in the May/June 1992 issue of *Water Environment Research*, concluded that "HIV is fairly stable in wastewater for up to 12 hours but experiences a 2 to 3 log reduction in infectivity after 48 hours."

The problem arises, says a CDC source, when one attempts to compare these studies, conducted in a laboratory setting, with what happens in the real world (or, in this case, wastewater).

"Theoretically, the only way you could get HIV infection from wastewater is if you were injected with rather large amounts of it, which is hardly likely."

Center for Disease Control Source

Such studies are of interest to the academic and scientific communities because they provide valuable insight into how a virus behaves, says the CDC source. However, they do not reflect what happens in the natural environment.

As the CDC source points out, these laboratory studies use immense concentrations of HIV. In reality, a person infected with HIV has very low levels of the virus in his or her bloodstream. HIV is a delicate, blood-borne virus, and viruses, unlike bacteria and fungi, are unable to multiply outside a living host cell.

"HIV is not shed in the feces of infected individuals, as is poliovirus and other enteric viruses. Its only means of getting into wastewater is by mixing of water with blood, semen, saliva, or tears prior to entering the sewer system. Therefore, concentrations of HIV in wastewater should be quite low," adds Jim Kreissl, environmental engineer with the U.S. Environmental Protection Agency's (EPA) Center for Environmental Research Information in Cincinnati, Ohio.

Once in wastewater, the fragile viruses (which would be very dilute) would not find conditions there amenable to their survival, according to the CDC source.

They would be subject to a host of hostile conditions, including disinfectants and other chemicals, vast numbers of other microorganisms, changes in temperature and pH, etc. The number that would survive in wastewater would therefore be infinitesimally small.

But the most important thing to remember about the potential for HIV infection—from any source—is how it enters the body. *It must enter through the bloodstream.* "Theoretically, the only way you could get HIV infection from wastewater is if you were injected with rather large amounts of it, which is hardly likely," says the CDC source.

According to the CDC, the only recognized transmission mechanisms for HIV are by needle sticks, through sexual intercourse, and from mother to baby.

"It is dangerous to assume that mere presence of the virus ensures it will cause disease," says the CDC source. "The disease is not transmitted by sewage or wastewater."

Other pathogens

While the risk of HIV transmission from wastewater is virtually nonexistent, there are a variety of other pathogens in wastewater that could pose a threat to operators.

As with HIV, the key to understanding the risk for infection is knowing how a particular microorganism enters the body. Some pathogens that enter through the nose and eyes, for example, may pose a risk to those who work in wastewater treatment plants.

Infection may occur when the microorganisms become airborne during agitation or spraying of wastewater and are breathed in, or when wastewater is splashed in the eyes, for example. Dirty hands may also be the culprit, by inadvertently passing a pathogen to the eyes or mouth.

While there is a risk of disease transmission from some pathogen found in wastewater, those who work in treatment plants can minimize the risks by following simple rules of good hygiene and first aid and by wearing suitable protective clothing.

For further information about disease hazards found at wastewater treatment plants, call the NSFC and order the Operator Occupational Health Hazards Information Package. Ask for Item #P000528. Cost is \$4.25, plus \$2.00 for shipping and handling.

Reprinted from National Small Flows Clearinghouse, July 1993.

*Stocking Distributor for Quality
Waterworks Products*

Pipe — Valves — Fittings

• Ductile Iron • Drainage • PVC Pressure • PVC Sewer • 1 1/2" Through 48" Pipe •



J-M PIPE



Waterous
DEPENDABLE

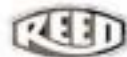


WATTS
REGULATOR

MUESCO



The Ford Meter Box Co.



Some of the Products We Carry Are . . .

- Backflow Preventers
- Boxes
- Clamps
- Couplings
- Fire Hydrants
- Fittings-Brass, Iron, PVC
- Regulators
- Restraining Systems
- Tools
- Tubing-Copper, Polyethylene
- Valves-AWWA-ULFM
- Water Meters

And Much More

All the material you need . . . when you need it.



**NATIONAL
ROAD
UTILITY
SUPPLY
INC.**

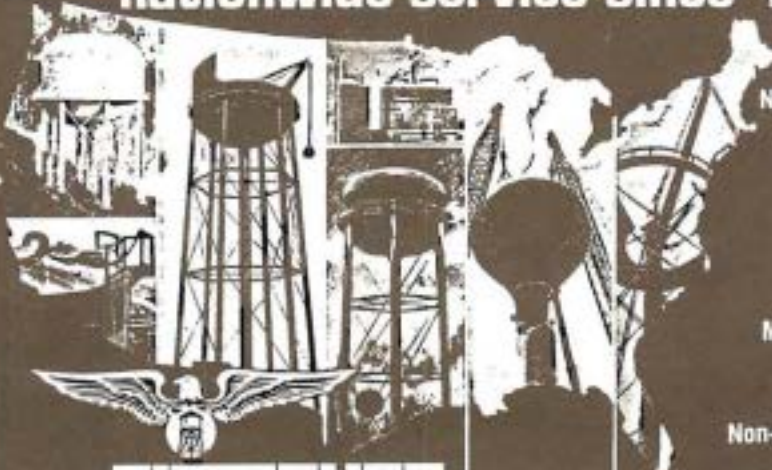


1-800-727-6787

P.O. BOX 188
WEST ALEXANDER, PA 15376

***“A winner listens —
A loser just waits his turn to talk.”***

nationwide service since 1919



**PITTSBURG
TANK & TOWER CO.**

- New & Used Tanks
- Elevation Changes
- Relocation
- Feasibility Studies
- Maintenance
- Certified Inspections
- Non-Destructive Testing
- Earthquake Modifications



P.O. Box 913 Henderson, Ky 42420 (502) 826-9000 or (502) 827-4417-FAX

MATH CORNER

Recently PRWA has received a number of requests for help with mathematics for operators. With the assistance of Dr. Dave Long, Penn State University, PRWA will be running a series of water supply and process control mathematics problems. The formula/conversion table will assist you with solving problems. Sharpen your pencils and get out the calculators.

SMALL WATER SUPPLY SYSTEMS Water Supply and Process Control Mathematics Worksheet No. 1

Perform the necessary arithmetic for the problems shown below:

1. $\frac{(8 + 3) \cdot (6 - 2)}{(4 - 2) \cdot (3 + 5)}$
2. Calculate the chemical feed rate in lb/d for feeding Calgon if the dosage is 1.5 mg/L and the daily flow is 32,000 gallons.

3. Calculate the dosage of HTH in mg/L if a total of 1.2 lb/d of HTH is fed when the flow is 41,000 gpd.
4. Calculate the total daily flow of water from a well if the pump capacity is 17 gpm and the pump runs for a total of 7 hours during the day.
5. If the system using the well described in Problem No. 4 has a total of 137 persons connected to the system, what is the average daily use of water in the system. Assume the total flow calculated in Prob. No. 4 represents an average daily total use.

Answers on page 12.

Computer Model Estimates System Development Costs



A computer software model that estimates the costs involved in constructing and operating a new small water system is now available through the National Drinking Water Clearinghouse (NDWC).

The software, called "PAWater," uses preliminary information and "what-if" assumptions to provide

the user with a realistic view of the full costs involved in constructing and operating a viable small water system (less than one million gallons per day). Users also can use the information to compare the costs of a new system to possible alternatives, such as connecting to an existing system.

Cost estimates are based on the average costs of typical water systems that are in good condition.

The estimates' accuracy depends on how closely the typical water system resembles the new one being considered.

Computer programming knowledge is not necessary to operate and understand PAWater, as the menus guide the user through the necessary steps.

Originally developed under contract for the state of Pennsylvania, the PAWater Cost Model Package costs \$25.00 and includes a user's manual and two 5-1/4 inch disks or two 3-1/2 inch disks that can be used on any IBM-compatible PC. (Low or high density disks are available by request.)

For additional information, see page 23.



Wound Fiberglass Chemical Storage Tanks

Used - Like New Condition

- 1 pc - 5,000 gallon (9 ft diameter) - Horizontal Tank with dished ends
- 1 pc - 7,000 gallon (9 ft diameter) - Horizontal Tank with dished ends
- 2 pc - 7,000 gallon (12 ft diameter) - Vertical Tank with closed top

Call:
Water & Waste Systems Construction Inc.
Engineers and Contractors
37 McMurray Road
Pittsburgh, PA 15241
412-831-8843, ask for Dave Leonard

FORMULA CONVERSION TABLE

FORMULAS:

$$\text{Acid Feed Rate} = \frac{\text{Waste Flow} \times \text{Waste Normality}}{\text{Acid Normality}}$$

$$\text{Alkalinity} = \frac{(\text{mL of Titrant}) (\text{Acid Normality}) (50,000)}{\text{mL of sample}}$$

$$\text{Area} = \text{Length} \times \text{Width} = .785 \times (\text{Diameter})^2 = 1/2 \times \text{Base} \times \text{Height}$$

$$\text{Chemical Feed Pump Setting, \% Stroke} = \frac{\text{Desired Flow} \times 100\%}{\text{Maximum Flow}}$$

$$\text{Circumference} = 3.14 \times \text{Diameter}$$

$$\text{Composite Sample Single Portion} = \frac{(\text{Instantaneous Flow}) (\text{Total Sample Volume})}{(\text{Number of Portions}) (\text{Average Flow})}$$

$$\text{Detention Time} = \frac{\text{Volume}}{\text{Flow}}$$

$$\% \text{ Digested Sludge Remaining} = \frac{\text{Raw Dry Solids} \times \text{Ash Solids} \times 100}{\text{Digested Dry Solids} \times \text{Digested Ash Solids}}$$

$$\text{Discharge} = \frac{\text{Volume}}{\text{Time}}$$

$$\text{Dosage, LBS/Day} = \text{mg/L} \times 8.34 \times \text{MGD}$$

$$\text{Efficiency} = \frac{\text{In-Out}}{\text{In}} \times 100$$

$$\text{Filter Backwash Rate} = \frac{\text{Flow}}{\text{Filter Area}}$$

$$\text{F/M} = \frac{\text{Organic Load LBS BOD/Day}}{\text{Mixed Liquor Solids LBS}}$$

$$\text{GPCD} = \frac{\text{GPD}}{\text{Population}}$$

$$\text{Hardness} = \frac{(\text{mL of Titrant}) (1,000)}{\text{mL of sample}}$$

$$\text{Horsepower} = \frac{\text{Flow (GPM)} \times \text{Head (FT)}}{3960}$$

$$\text{Hydraulic Loading Rate} = \frac{\text{Flow}}{\text{Area}}$$

$$\text{MCRT} = \frac{\text{Suspended Solids in Aeration Systems LBS}}{\text{Suspended Solids Wasted LBS/Day} + \text{Suspended Solids Lost LBS/Day}}$$

$$\text{Organic Loading Rate} = \frac{\text{Organic Load LBS BOD/Day}}{\text{Volume}}$$

$$\text{Oxygen Uptake} = \frac{\text{Oxygen Usage}}{\text{Time}}$$

$$\% \text{ Reduction in Flow} = \frac{(\text{Original Flow} - \text{Reduced Flow}) \times 100}{\text{Original Flow}}$$

$$\text{Slope} = \frac{\text{Drop or Rise}}{\text{Distance}}$$

$$\text{Sludge Age} = \frac{\text{Mixed Liquor Solids LBS}}{\text{Primary Effluent Solids LBS/Day}}$$

$$\text{Sludge Index} = \frac{\% \text{ Settleable Solids}}{\% \text{ Suspended Solids}}$$

$$\text{Solids Concentration} = \frac{\text{Weight}}{\text{Volume}}$$

$$\text{Solids, mg/L} = \frac{\text{Dry Solids} \times 1,000,000}{\text{mL of sample}}$$

$$\text{SRT} = \frac{\text{MLSS (LBS)}}{\text{WAS (LBS)} + \text{Effluent TSS (LBS)}}$$

$$\text{Surface Loading Rate} = \frac{\text{Flow}}{\text{Area}}$$

$$\text{SVI} = \frac{(\text{Settleable Solids, \% (10,000)})}{\text{MLSS, mg/L}}$$

$$\text{Velocity} = \frac{\text{Flow}}{\text{Area}} = \frac{\text{Distance}}{\text{Time}}$$

$$\% \text{ Volatile Solids} = \frac{(\text{Dry Solids} - \text{Ash Solids}) \times 100}{\text{Dry Solids}}$$

$$\text{Volume} = \text{Length} \times \text{Width} \times \text{Depth} = .785 (\text{Diameter})^2 \times \text{Depth}$$

$$\text{Waste Milliequivalent} = \text{mL} \times \text{Normality}$$

$$\text{Waste Normality} = \frac{(\text{Titrant Volume}) (\text{Titrant Normality})}{(\text{Sample Volume})}$$

$$\text{Weir Overflow Rate} = \frac{\text{Flow}}{\text{Weir Length}}$$

$$\text{One Acre} = 43,560 \text{ FT}^2$$

CONVERSION FACTORS:

7.5	GAL/CF
8.34	LBS/GAL
2.31	Feet of Head/PSI
1.34	Horsepower/KW

ABBREVIATIONS:

C	Celsius
CF	Cubic Feet
CFS	Cubic Feet per Second
F	Fahrenheit
GAL	Gallons
GPM	Gallons per Minute
GPD	Gallons per Day
LBS	Pounds
mL	Milliliter
mg/L	Milligrams per liter
MGD	Million Gallons per Day
SF	Square Feet

NOTE: You may want to save this page for use with further Math Corner problems in upcoming issues of the Keystone Tap. Use it as a ready reference in your system also.

WILLIAMSTOWN DEDICATION

Facility for 'Best Water' Dedicated

by Hugh Dougherty

Staff Writer, *The Citizen-Standard*, Valley View, PA

Williamstown Borough Authority recently dedicated facilities that handle Pennsylvania's "best" rural water supply.

Community leaders, local politicians, residents and representatives of the authority took part in an open house and ribbon-cutting ceremony at the \$946,000 water treatment facility, located along Route 209 near the borough. The plant officially went into operation in January.

The authority was the winner of the 1993 Pride of Pennsylvania Water Taste Test conducted by the Pennsylvania Rural Water Association on March 30 at State College. At Saturday's dedication, Rep. Jeffrey Piccola (R-104) presented a special citation from the House of Representatives in recognition of the award.

The authority, which serves approximately 2,400 people in Williamstown and Williams Township, was ordered several years ago by the Department of Environmental Resources to construct the facility because giardia cysts were found in the water supply.

Authority members noted that while a much less sophisticated system could have been built, there was a desire to create a state-of-the-art facility to serve the future.

Designed to process approximately 450,000 gallons of water per day, the plant treats the water for the giardia as well

as turbidity and other conditions as required by federal and state safe drinking water standards. It currently handles an average daily use of approximately 180,000 gallons (see graph for more details of the operation).

One part of the system, a water conditioning building, was actually placed in service in March of 1988.

The plant was designed by Glace Associates Inc., Camp Hill, with work on the backwash system done by authority employees, saving approximately \$30,000, said authority manager John M. McCready. Assistant manager is Paul R. Ferron.

(Following is a description of the water treatment process at the new plant.)

① Raw (untreated water) from the reservoirs flows by gravity through an 8" water main to be filtered in the filtration building.

② Once the raw water enters the filtration building, the turbidity (a measure of the amount of suspended particles in the water) and raw water rate are immediately measured and recorded. An electronic signal from the flow meter is used to control the speed of the pumps which add filtering agents, such as alum and soda ash, to condition the water before filtration. These filtering agents enlarge the suspended particles in water so that they may be captured by the filters. Once these agents are added, water passes through an in-line static mixer before entering the filter units.

③ Water is filtered through a two stage pressure filter consisting of a clarifier vessel and a multi-media filter vessel. It first passes through the clarifier where the clarifier media collects the larger particles in the water. The clarified water then flows through the multi-media filter where the smaller particles are collected by the media. The filters, and the filtered water turbidity is recorded.

④ Once the filtered water turbidity is recorded, the water is piped to the conditioning building for further chemical conditioning.

⑤ In the conditioning building, the water is treated with lime, soda ash, carbon dioxide and zinc orthophosphate. These chemicals are used to adjust the pH and to control the natural corrosive tendencies of water in the distribution system.

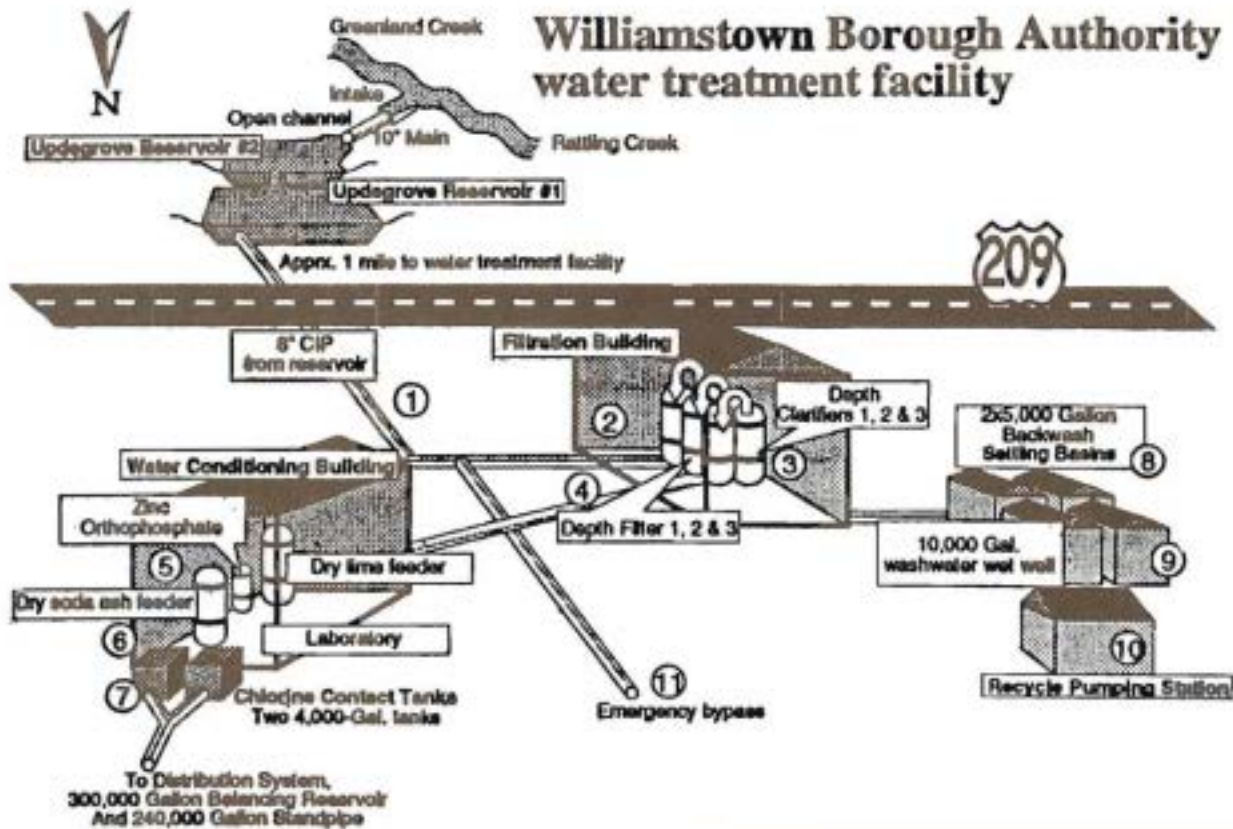
⑥ Once conditioned with these chemicals, the water is chlorinated for disinfection before going to the chlorine contact tanks.

⑦ Complete chlorine disinfection is achieved in two 4,000 gallon underground baffled contact tanks. Once the water passes through these tanks, it enters the distribution system through an 8" water main. The entire process illustrated above is carried out under normal operating pressures of 110-110 psi.

⑧ The water used in backwashing the filters is discharged



Pictured left to right Charles Croft, member of Williamstown Borough Authority; John L. Rautzahn, Chairman of the Authority; Carl C. Machamer, member; Rosemary T. Boyer, Authority Secretary; John M. McCready, Williamstown Borough Authority Manager; Paul Ferron, Assistant Manager; and Jack L. Herb, Vice Chairman of the Authority, following a ribbon-cutting ceremony dedicating the new Williamstown Water Treatment facility.



Williamstown Dedication

from the filtering building to the backwash settling tanks.

⑧ The backwash tanks contain the suspended particles which have been captured by the clarifiers and filters and removed from these units. These particles settle in the tanks and are trucked to the Williamstown Wastewater Treatment Plant for disposal. The backwash water that separated from the particles is discharged to the washwater wet wells.

⑩ Clean washwater is then pumped at a low rate from the recycle pump building to the inlet pipe of the filtering building. This recycling process eliminates the need to waste most of the backwash water.

⑪ In the event of an emergency, water can be released directly into the distribution system. This water is subject to a boil advisory.



RETTEW

Associates, Inc.

ENGINEERS • PLANNERS • ENVIRONMENTAL CONSULTANTS • LANDSCAPE ARCHITECTS • SURVEYORS

Comprehensive Environmental Consulting
and Engineering Services Including:

- Water/Waste Treatment Design
- Groundwater Investigations and Remediation
- Municipal Water Wells
- Hazardous Waste Investigations

Lancaster, PA (717) 394-3721 Mechanicsburg, PA (717) 697-3551

RETTEW Associates, Inc.

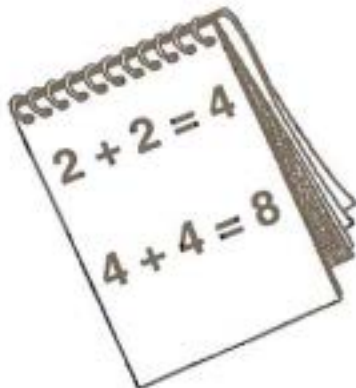


Gary C. Martin, Director of Environmental Engineering at the Lancaster-based engineering firm of RETTEW Associates, Inc., has been appointed as a national Financing & Charges Task Force member for the Water Environmental Federation and will provide input into the Federation's publication of *Financing and Charges For Wastewater Systems*.

The proposed 18-chapter "Manual of Practice" will provide updated trends, methods and costs for financing

and will be utilized by individuals in the Wastewater field as well as both the municipal and industrial sector.

The purpose of the Task Force, which is made up of experienced authors and reviewers in the water and wastewater fields, is to apply relative experience in wastewater utility financing and the formation of utilities to assist in the development of an updated version of this national publication for the financing of wastewater facilities.



Answers to MATH CORNER problems:

- $$\frac{(8+3) \cdot (6-2)}{(4-2) \cdot (3+5)} = \frac{(11) \cdot (4)}{(2) \cdot (8)} = \frac{44}{16} = 2.75$$
- $$\begin{aligned} \text{lb/d} &= \text{mg/L} \times 8.34 \text{ lb/gal} \times Q \text{ (MGD)} \quad (Q \text{ being 'flow'}) \\ &= (1.5) \times 8.34 \times \frac{33,000}{1,000,000} \\ &= 0.4 \text{ lb/d} \end{aligned}$$
- $$\begin{aligned} \text{mg/L} &= \frac{\text{lb/d}}{(8.34 \text{ lb/gal}) (Q, \text{MGD})} = \frac{1.2}{(8.34) \times \frac{(41,000)}{(1,000,000)}} \\ &= 3.5 \text{ mg/L} \end{aligned}$$
- $$Q \text{ gpd} = 17 \text{ gpm} \times 7 \text{ hr/d} \times 60 \text{ min/hr} = 7140 \text{ gpd}$$

(Q being 'flow')
- $$\begin{aligned} \text{gpd/c} \text{ (gallon per day per customer or capita)} \\ \text{gpd/c} &= \frac{7140 \text{ gpd}}{137 \text{ persons}} = 52.1 \text{ gpd/c} \end{aligned}$$



GIBSON-THOMAS ENGINEERING CO., INC.

LATROBE, PA 15650

(412) 539-8562

Consulting Engineers/Surveyors
(Since 1916)

Total Project Capability In:

- Civil
- Water Supply
- Wastewater Treatment
and
- Municipal Engineering

WEIRD ASSORTMENT OF LITTER FOUND NEAR THE OHIO

Sweep At River Nets Tombstone, Varied Car Parts

By Lawrence Walsh
Post-Gazette Staff Writer

Melvin E. Hook of Indiana Township is one of the major reasons why the Ohio River has become a cleaner waterway in recent years for enthusiasts of boating, fishing, water skiing and shoreline picnics.

But Hook, who today completes his one-year term as chairman of the Ohio River Valley Water Sanitation Commission (ORSANCO), says the credit belongs to people such as Kent Schwarz of Wexford, Tom Ebken of McCandless and the Flaherty family of Ross — Kathy, Tom and their daughter, Susan, 10.

They were part of the more than 17,000 men, women and children who participated in the fifth annual Ohio River Sweep, a six-state assault on debris that litters the banks of the 981-mile-long waterway from Pittsburgh to Cairo, Ill., where it joins the Mississippi River.

More than 13,000 tons of trash were collected June 19.

In addition to the usual beer and soft-drink bottles and cans that seem to multiply on their own, volunteers in Allegheny and Beaver counties also picked up a tombstone, a baby buggy, shopping carts, a washer and a dryer (at different sites), a variety of car parts, especially tires, and a dead frog.

"No, it wasn't Kermit," said a smiling Betsy Mallison, a spokesperson for the state Department of Environmental Resources and coordinator of the sweep program in Pennsylvania.

"It was a great effort by everyone involved," said Hook, 66, a professional engineer who retired last year as manager of the Fox Chapel Water Authority after 40 years with the agency. "The DER supports us with staff and volunteers. Industry supports us with money and equipment.

"We're sort of a guardian for the river," Hook said in explaining ORSANCO's role as the interstate agency with regulatory and enforcement authority for improving and maintaining the water quality of the Ohio for drinking water and recreation.

The river flows 40 miles from Pittsburgh to Ohio and then meanders south and west along the border of that state and those of West Virginia, Kentucky, Indiana and Illinois. Almost 3 million people rely on the river for their drinking water.

Hook, who likes to be where the action is, joined DER Secretary Art Davis, Mallison and others for an up-close-and-personal look at "sweep day" activities from the decks of the Jessie R. Johnson tow boat and an attached crane barge during a round trip from Leetsdale to Rochester.

As the tow boat pushed its human and equipment cargo down the placid Ohio at a bow-slapping 12 miles an hour, a variety of small, medium and large multicolored pleasure boats zipped past.

In the wake of some were smiling, arm-waving water-skiers



Mel Hook (left), 1993 Chairman of the Ohio River Valley Water Sanitation Commission (ORSANCO) and Art Davis (right), Pennsylvania DER Secretary, during this year's Ohio River Sweep near Pittsburgh.

obviously enjoying themselves on the sweltering sunny 90 degree day. One boat towed a bouncing inner tube rider, who was getting his clock cleaned by splashing water, which was hitting him just above the chin.

A fish did a Shamu imitation as the tow boat nosed the barge into the slag-sloped shoreline along the LTV Corp. plant site in Aliquippa. The river is home to approximately 100 species of fish, including bass (white and striped), perch, sunfish, paddlefish (no canoe required) and those ubiquitous hometown favorites, carp and catfish.

Kent Schwarz, 43, of Wexford, a sales representative for Ashland Petroleum Co., was one of 45 sweating volunteers scouring the riverbank for debris.

"I wish we did this more than once a year," he said as he hoisted plastic bags bulging with trash up to the deck of the barge. "I like to see the natural resources preserved, and this is a good way to do it."

Schwarz said the group, most of whom were from the New Bethlehem United Presbyterian Church in Aliquippa, picked up "a variety of plastic items, tires and lots of stuff discarded by recreational boaters or fishermen. I don't understand why they, of all people, wouldn't want to keep the river and the shoreline clean.

"This is my fourth year doing this and I think we're making progress. I see a definite improvement over last year. (The sweep) is an awareness thing more than anything else. People have to realize they can't use the river as a garbage dump."

Another sweep veteran, Tom Ebken, 39, of McCandless, was one of the first volunteers to appear at the Leetsdale Fish Commission Boat Launch. He said "the sheer volume of

continued on page 15



Systems for water analysis

- Test Kits ▪ Turbidimeters
- pH Meters and Electrodes ▪ Colorimeters
- Chlorine Analyzers ▪ Reagents

HACH COMPANY
 P.O. Box 389, Loveland, Colorado 80539
 1-800-227-4224

Boss — Browns Hill Stocks Filter Media In Pittsburgh



- ✓ We're the only company in W. PA stocking filter sands and gravel.
- ✓ Meets AWWA, State & Local Specs
- ✓ Analysis and lab test reports provided.
- ✓ Reasonable prices, ready for pick up or shipping

(412) 461-9060
 Outside Pittsburgh: (800) 854-SAND (7263)

We Also Supply Activiated Carbon and Anthracite

BROWNS HILL SAND & GLASS BLOCK
 (4 minutes from M. Sq. Hill Tunnels across Homestead Bridge)
 135 W. SEVENTH AVENUE • HOMESTEAD, PA 15120



Utility Billing Systems

Water, Sewer, Trash Gas, Electricity

- | | |
|--|--|
| Flexible and Easy-to-Use
Customized to your needs
Uses any MS-DOS Computer
12 Month History
Estimated Readings
Detailed Reports | Multiple Rate Schedules
Multiple Billing Routes
Ready-to-Mail Bills,
Receipts, Shut-off-Notices
and much more
Reasonably Priced |
|--|--|

Direct, or through more
 than 350 dealers Nationwide
 Presently installed in
 44 states

El Dorado SoftWorks
 2157 Bethel Road
 Mt. Holly, AR 71758

501-554-2300

Utility Billing Specialists
 Since 1984



MAIN OFFICE
 3705 Trindle Road
 Camp Hill, PA 17011
 (717) 731-1579

LANCASTER OFFICE
 Post Office Box 315
 Reamstown, PA 17567
 (215) 267-5706

ENVIRONMENTAL & MUNICIPAL ENGINEERS / PLANNERS

- Annual Services*
- Computerized Facilities Management
 - Environmental Engineering & Services
 - General Engineering During Construction
 - Facilities Engineering
 - Financial Support Services
 - Litigation Support
 - Operations & Maintenance Assistance
 - Planning
 - Sanitary Engineering
 - Solid Waste Engineering
 - Water Resources Engineering

Weird Assortment of Litter

continued from page 13

plastic, Styrofoam and aluminum" around the concrete launch site was "pretty overwhelming."

Working nearby was the Flaherty family — Tom and Kathy, both DER geologists, and Susan. While father and daughter cleaned the upstream shoreline, mother checked in volunteers, handed out light work gloves and green and tan garbage bags.

Sharon Goldstein of Highland Park, who works for Giant Eagle at its headquarters in the RIDC Park, near Blawnox, directed hungry and thirsty workers for boxes of doughnuts on a nearby maroon picnic table and a cooler of iced soft drinks donated by the food company.

Hook said the sweep was financed by Ashland Oil Inc., Procter and Gamble, BASF, Miles Inc., DuPont, Ohio River Co., Dow Corning, Louisville Gas and Electric, Neville Chemical Co., ARCO Chemical Co., American Electric Power, Kanawha River Towing, Louisville Water Co., GE Plastics and Wheeling-Pittsburgh Steel Corp.

Dozens of other companies, such as Phil Johnson Towing in Monaca, Beaver County, and communities "all along the river" donated equipment and employees.

So what's Hook going to do after relinquishing the ORSANCO chairmanship to Dr. Richard S. Engelbrecht, an environmental engineering professor at the University of Illinois.

"Start working on next year's sweep," he said.

Reprinted with permission from Pittsburgh Post-Gazette.

1st (But Not Last) PRWA Buck Pool

After we ran the photo earlier this year of Tom Horrex, Environmental Services, Inc., with his trophy buck, we got a lot of stories from you guys 'bout your trophy buck! Seems to us, we got a powerful lot of hunters in Pennsylvania! Why do we think so? Well, the office staff tells us that huntin' season is the only time the phones aren't ringin' off the wall. And, heck — if we ever tried to schedule any system visits at the end of November, you'd think we were either crazy or we forgot to get our huntin' license! So . . . we figured, if we can't beat 'em, join 'em.

Send us a photo of your buck this year with the number of points, spread size of the rack and the dressed-out weight of your deer and get yourself entered in the PRWA Buck Pool. All entries must be postmarked by December 31, 1993 to be considered eligible for prizes. Now, bein' as we aren't licensed for games of chance, we can't award any cash prizes (Guess you could say the 'buck stops there!') but we've got some real nice prizes for the big ones! So be careful out there, load the 30.06 and the 35mm . . . and hang up the Gone Huntin' sign! Send your photo entry and information to: PRWA Buck Pool, c/o PRWA, 138 West Bishop St., Bellefonte, PA 16823.

P.S. Stories about the one that got away are optional. We're looking for "whitetails" not "tall tales." — Thank you for your support.

Small Water Systems Sampling Guide Is Available

A free guide designed to help small drinking water operators understand and comply with the monitoring requirements of the Safe Drinking Water Act (SDWA) is now available through the National Drinking Water Clearinghouse (NDWC).

The April 1992 publication, called *Pocket Sampling Guide for Operators of Small Water Systems*, contains quick reference information concerning the Volatile Organic Chemicals Rule, the Total Coliform Rule, the Surface Water Treatment Rule, and the Lead and Copper Rule.

Developed by the U.S. Environmental Protection Agency, the 92-page pocket guide contains introductory information and a summary of each rule, a list of important terms, and each rule's monitoring requirements and sampling procedures.

To obtain a copy of the guide, please refer to the ordering information on page 23.



ENVIRONMENTAL SERVICES

Serving the water treatment industry
with these fine products and services.

ACIDS

- ▼ Hydrochloric Acid (Inhibited)
- ▼ Hydrofluosilicic
- ▼ Phosphoric
- ▼ Sulfuric

COAGULANTS

- ▼ Aluminum Sulfate Chloride
- ▼ Aluminum Chlorhydrate
- ▼ Aluminum Sulfate
- ▼ Ferric Chloride
- ▼ Ferric Sulfate
- ▼ Ferrous Sulfate
- ▼ Poly Aluminum Chloride
- ▼ Clay
- ▼ Sodium Aluminate

ALKALINITY CONTROL

- ▼ Calcium Hydroxide
- ▼ Caustic Soda
- ▼ Lime
- ▼ Magnesium Hydroxide
- ▼ Soda Ash
- ▼ Sodium Bicarbonate
- ▼ Sodium Hydroxide
- ▼ Lime Scale Inhibitors

POLYMERS

- ▼ Coagulant Aids
- ▼ Dewatering Aids
- ▼ Filter Aids

ACTIVATED CARBON

- ▼ Powdered
- ▼ Granular

CORROSION INHIBITORS

- ▼ Polyphosphate
- ▼ Zinc Polyphosphate
- ▼ Zinc Orthophosphate
- ▼ Sodium Hexametaphosphate
- ▼ Sodium Silicate
- ▼ Lead Corrosion Control

SEQUESTERANTS

- ▼ Polyphosphate
- ▼ Zinc Polyphosphate
- ▼ Sodium Hexametaphosphate
- ▼ Calgon

DISINFECTANTS

- ▼ Chlorine
- ▼ Bromine Chloride
- ▼ HTH
- ▼ Calcium Hypochlorite
- ▼ Sodium Hypochlorite
- ▼ Sodium Chlorite
- ▼ Chlorine Dioxide

FLUORIDATION

- ▼ Hydrofluosilicic Acid
- ▼ Sodium Silicofluoride
- ▼ Sodium Fluoride

DECHLORINATION

- ▼ Carbon
- ▼ Hydrogen Peroxide
- ▼ Potassium Permanganate
- ▼ Sodium Bisulfite Solution
- ▼ Sulfur Dioxide

TASTE & ODOR CONTROL

- ▼ Carbon
- ▼ Copper Sulfate
- ▼ Hydrogen Peroxide
- ▼ Potassium Permanganate

OTHER PRODUCTS

- ▼ Ammonia Anhy/Aqua
- ▼ Antifoams
- ▼ Ammonium Sulfate
- ▼ Copper Sulfate
- ▼ Defoamers
- ▼ Solar Salt
- ▼ Sodium Silicate
- ▼ Sodium Chloride
- ▼ Diatomaceous Earth

SERVICES INCLUDED

Laboratory/On-Site Testing
Chemical Applications Selection
Trial Equipment Leasing
Custom Chemical Feed System Design
System Operational Review & Reporting
Taste and Odor Evaluations
Polymer Application Evaluations
Coagulation Flocculation Evaluations
Corrosion Control Testing
Water Sample Analysis
Primary Coagulant Evaluation
Filter Aid Evaluation
Coagulant/Setting Aids Testing
Corrosion Control & Testing
Water Sample Analysis
Carbon Regeneration
Filter Cleaning & Regeneration

Your exclusive Mid-Atlantic  Distributor



BANKSON ENGINEERS INC.
Consulting Engineers

- Water and Wastewater Engineering
- Topographic and Property Surveys
 - Municipal Engineering
 - Feasibility Reports

100 Blue Run Road • Indianola, PA 15051
(412) 767-5100

(412) 285-4333



AQUA • TECH, MARK SMITH

105 Judson Avenue
Butler, PA 16001

SPECIALISTS IN LEAK DETECTION

*You may be
disappointed if you fail,
but you are doomed if
you don't try.*



BERMAD VALVES

FOR RURAL WATER AND MUNICIPAL SYSTEMS



- PRESSURE REDUCING
- ALTITUDE VALVES
- PUMP CONTROL VALVES
- RELIEF VALVES
- SURGE CONTROL
- RATE OF FLOW CONTROL

DIRECT FACTORY OFFICES AND
TECHNICAL SERVICES

P.O. Box 330 Carnegie, PA 15106
412-429-0247

REPRESENTED BY

PHILADELPHIA:

BUCKS ENVIRONMENTAL

P.O. Box 550

Buckingham, PA 18912

215-794-8841

Tom Cumiskey

PITTSBURGH:

KERR MARKETING AGENCY

10001 York Theta Dr.

Cleveland, OH 44133

216-582-1720

Ken Kerr

DER Now Accepting Environmental Education Grant Applications

DER issued final guidelines this week describing eligibility and other requirements for applying for environmental grants under Act 24 sponsored by Sen. Musto (D-Luzerne) and Sen. Brightbill (R-Lebanon). Public and private schools, conservation and education organizations and county conservation districts are eligible to apply for grants of up to \$10,000. Applications will be accepted until December 10. For more information contact Paul Zeph, DER Environmental Education Coordinator, 717-787-2869.

**R & D
Engineering, P.C.**
Melvin E. Hook
Project Manager
40 Oak Spring Drive
Pittsburgh, PA 15238-1744
412-967-0449

TAPP CO. 

Tapping Machine Repair & Service

P.O. Box 26
North Lima, Ohio 44452-0026
Phone: (216) 549-3061

WATER ACCOUNTABILITY SERVICES/PRODUCTS

- Operations/accounting audits
- Meter testing
- Maintenance and repair of instruments – most makes
- Leak detection/pinpointing services and instruments
 - **AQUA-SCOPE®**
 - **STETHOPHONE**
 - **GEPHONE**
- Pipe/cable locators
- Valve box locators

For more information, write or call:
Heath Consultants Incorporated, Rte. 51, RD 3 #, Box 325, Belle Vernon, PA 15012.
Tel: 412/929-2300 or Toll Free 1-800-HEATH US (432-8487).



An organization with offices across the United States and Canada, Heath Consultants has almost 60 years of successful experience in water accountability

“Be Up Front With Your Customers!”

Public Education Requirements of the Lead and Copper Rule

by Beth Cahape
NDWC Staff Writer

The U.S. Environmental Protection Agency (EPA) has estimated that as many as 10,000 small water systems will exceed lead action levels in this year's initial lead and copper monitoring. And, unlike any other EPA drinking water regulation, the Lead and Copper Rule requires that water systems conduct an extensive public education campaign if a system shows unacceptable lead levels.

This article examines the specifics of these requirements and was prepared with the assistance of Lonnie Finkel, an environmental protection specialist on the Lead Task Force at EPA's Office of Ground Water and Drinking Water.

Education Is Not Notification

If your water system exceeds lead action levels, are you prepared to begin the extensive public education program the U.S. Environmental Protection Agency (EPA) requires? Do you know what these requirements include? Do you know the difference between public education and public notification requirements?

Lonnie Finkel, an EPA environmental protection specialist, explains, "Public education requirements under the Lead and Copper Rule are far broader in scope than the general public notification requirements listed in the Safe Drinking Water Act. [With public education requirements] EPA is not just talking about posting a small notice in the local newspaper."

Just how much more does a public education program take to implement? "The public education program is multi-media in approach," says Finkel. "The information must be sent to the local paper, the broadcast media serving the community [radio and television], and to all rate payers. You also must send this information to doctors' offices, hospitals, schools, and other facilities in the community that come in contact with pregnant women and children on an on-going basis." (See box on page 22 for specifics.)

"The other unique aspect of the program is that public education must be repeated every year, as long as a system exceeds the action level," Finkel adds. "Should your system exceed the action level for 12 years, you would have to perform 12 years of public education activities."

Be Responsible to Customers

Essentially, these public education requirements are for the safety of your customers. Since high levels of lead can especially harm the nervous systems of children and unborn babies—which can hinder both the mental and physical development of a child—water system customers have a right to know about the possible dangers. Customers should be advised, too, that high lead levels can potentially be caused by their own plumbing.

"You have to make people aware of the risk of exposure to lead in tap water. They can take responsibility for reducing their chance of consuming water with high concentrations of lead in it," explains Finkel. "EPA's main purpose in requiring this education is to raise people's consciousness about what they can do, why they should do it, and who they can contact in their community for more information."

How Many Will Be Affected?

When the Lead and Copper Rule was first proposed, there were only rough estimates of how many water systems might exceed the lead or copper action levels. Now that most large- and medium-sized water systems have collected and returned their monitoring data to the states, EPA officials have a much better idea of what to expect when small systems monitor.

"As of mid-March," says Finkel, "the information we have suggests that 13 percent of both large and medium water systems have exceeded lead action levels."

Considering that about 90 percent (of approximately 78,225) of the nation's water systems are categorized as small, the final number of small water systems having high lead content could

number well over 10,000.

Don't Hide Test Results

Obviously, with this many water systems expected to exceed the lead action level, a lot of small system operators and managers will have to deal with the fears and concerns of their anxious customers.

"Besides the need to carefully take the time to just send this



continued on page 20

Public Education Requirements

continued from page 19

information out," says Finkel, "the biggest thing is not to be afraid of dealing with the public. Exceeding lead action levels should really be dealt with in a partnership fashion. Homeowners have to be told that it is their problem and responsibility as much as it is the water system's."

Finkel suggests that water system personnel should make a real effort to approach customer questions and complaints without being defensive. More than anything else, Finkel urges water systems to "be up front with your customers. Don't let them find out about high lead levels in some other way. The media loves to produce 'cover-up' sorts of stories, and, if this happens to your community, the backlash for you could be pretty nasty."

One System's Story

A recent National Rural Water Association publication related the experiences of water system personnel in Broward County, Florida—situated in the Fort Lauderdale area. National newscasts portrayed this system as among the "top ten violators" of the Lead and Copper Rule.

"Despite horrendous headlines on the national level," says the system's engineer in the article, "at the local level it hardly caused a stir. The reason was that we had long since met with the press, regulatory agencies, and local community associations to inform them of our situation . . . and the possible threats that it posed...."

Broward County system personnel also anticipated exceeding lead action levels because they had done preliminary sampling before their required monitoring date. "The key to our success was being well prepared," the engineer explained.

Along with completing all the requirements of public education, system staff also took the time to personally contact each customer whose tap sample exceeded lead action levels. And, rather than being hunted by the press, this water system sought out the media, presented their results, and explained how they planned to address the problem. Finally, Broward County system personnel conducted two public hearings at local schools to answer questions and respond to complaints from concerned customers.

Find Others To Assist

In addition to everything else they must do for their systems, small system operators and managers are likely to feel that the requirements and suggestions discussed thus far are way beyond what they can realistically accomplish.

Lead task forces are one option EPA literature suggests you consider. A "task force" is a group of individuals, preferably community leaders, who agree to meet with and assist you in getting the word out to your community. Business people, school teachers, doctors or public health officers, and especially editors and/or news directors from your local newspaper, radio, and television stations often can help you find the most effective way to educate your public. (See box on page 21 for more information about educational resources.)

Don't eliminate this option as impossible. Many individuals are willing to assist if they see your task force as the community service that it is.

Offer Lab Testing Help

Should your system exceed lead action levels, it may be "cold comfort" to some of your alarmed customers when you tell them that the number of homes in their community with high lead levels may, in fact, be very low. (Remember that tap samples are taken only from high risk locations.)

One way EPA suggests that water systems can help calm concerned customers is to offer additional sampling on request. Many large and medium systems are already doing this, and at their own expense.

"A good alternative for small systems," says Finkel, "might be to try and sample as many homes as you can . . . and charge your customers for this service. It's not going to cost that much, maybe \$20, and then these people aren't in the dark. [This] let's them know what's going on."

Some technical assistance providers have suggested that water systems might consider charging a small additional fee above the test costs. Systems can then use this extra revenue, for example, to purchase more public education materials.

However, many small systems — if not most — may lack the resources and/or personnel to offer this service. If this is your system's situation, Finkel suggests that you can, at the very least, act as the middleman and make sure that your customers get the name of a reasonably priced and reputable lab. By offering these tests or providing assistance in obtaining them, you can go a long way toward showing your customers that you care about their health.

Small Town, No Media?

Many small water systems may find that they simply don't have the required number of radio and television stations in their area to broadcast public service announcements (PSAs). Likewise, some systems may be a very small part of a much larger population—such as a mobile home park—and could have trouble getting the local newspaper or radio to publicize their lead education materials.

Finkel agrees that this could be a problem. "I doubt," explains Finkel, "that a small West Virginia water system near Pittsburgh is going to have any luck having their PSAs broadcast on the Pittsburgh radio or television stations."

In this type of situation, Finkel advises the small water system to "do what makes sense. Sure, if you have no other choice, you can technically meet the radio and television part of these requirements by sending PSAs to these stations . . . Even if you have little hope that those stations will broadcast your material, do it for the sake of compliance," he says. "But there are other media sources where you might get the message across [to your customers] in a much better way. You should emphasize the form of media—whether it be your weekly paper or the local schools — where you can actually *deliver your message locally*."

And if your community doesn't have a particular type of media (such as a television station) or a location (such as a

continued on page 21

Public Education Requirements

continued from page 20

hospital or health clinic) where your public education information is required to be available, Finkel again stresses the common-sense approach: "If the media or clinic doesn't exist, don't do it!"

Use Direct Methods

Finkel emphasizes that isolated or very small water systems within a larger community should use the most direct method of getting the information to their customers.

"I'd advise these small systems to begin by sending out information in their bills," says Finkel. "Then, I'd tell them to try the newspapers next. Lots of times you can get a reporter for your local paper to write a story about this topic. It's a good news item, and makes the paper look good. It doesn't matter if the paper is a daily or a monthly, either. It will still reach your public."

Next, says Finkel, small systems should consider doing public education through the local schools. "Teach the kids how to flush their water lines; tell them about how they should never use hot water for cooking; give them your brochures or flyers so they can take them home to their families. Sometimes children are the very best place to start educating your public: What they learn goes right home to the rest of the family."

Reaching Non-English Speakers

A portion of the Lead and Copper Rule states, "In communities where a significant proportion of the population speaks a language other than English, public education materials shall be communicated in the appropriate language(s)."

Does this mean that small water systems with, for example, a Spanish speaking population must distribute this information in Spanish? What percentage of a community must these residents comprise before this is required?

Finkel says, "It is entirely up to the state regulators and [the system operator or manager's] discretion. EPA," he adds, "didn't want to put a percentage on it because it would have been totally arbitrary."

[The NDWC is offering an educational brochure in Spanish. See box below.]

What About Costs?

According to Finkel, the public education requirements will cost you more time than money. "Really small systems will need to just look at postage and copying costs, as far as expenses are concerned.

"There are lots of resources available to small systems: EPA, your state regulatory agencies, technical assistance providers, state rural water associations and even your local doctors can help you meet these requirements," he says.

"Some people are very skeptical about these public education requirements," concludes Finkel, "but I can tell you that

Public Education Resources

The National Drinking Water Clearinghouse (NDWC) offers the following educational materials about lead in drinking water.

The Lead in Drinking Water Regulation: Public Education Guidance Manual (U.S. EPA document)

This 55-page manual includes informational brochures that water systems may photocopy and send to customers. Also included is information on how to organize your overall education program; how to prepare your public education materials; and, finally, suggestions for setting up a customer water-testing program. A major emphasis of the manual is the importance of putting together a community task force. This product also may be available from your state drinking water regulators.

Sampling Our Drinking Water for Lead and Copper Content (New England Water Works Association video)

Developed for use by water system personnel to train volunteers to take tap water samples from their homes, this 11-minute video also provides excellent background information about the health hazards of lead. As of September 15, this video will be available on a four-week loan basis from the NDWC. Borrowers must pay for return postage. Please allow three weeks for delivery.

Protecting Your Kids From Lead in Drinking Water (New York City Department of Environmental Protection Spanish language brochure)

This brochure has been revised by the NDWC so that any water system with Spanish-speaking customers can use it. Included is information about childhood lead poisoning, how lead occurs in drinking water, what precautions to take in the home, and how to improve plumbing to reduce lead exposure. The brochure is printed on standard-sized paper for easy photocopying, and an English version is provided for your information.

Copper, Drinking Water, and You (Iowa Association of Municipal Utilities/NDWC fact sheet)

Many systems are witnessing elevated copper levels and must answer the questions of concerned customers. To address this need, a one-page fact sheet was developed by the Iowa Association of Municipal Utilities and the NDWC. Easily reproduced, this fact sheet discusses the health risks from overexposure to copper, how copper occurs in drinking water, and what customers can do to reduce their risk of exposure.

continued on page 22

Public Education Requirements

continued from page 21

EPA will be very strict about enforcement of violations. EPA's list to identify 'significant noncompliers' under this rule will include violations in monitoring, corrosion control treatment, source water treatment . . . and definitely public education."

For a more complete discussion of the Lead and Copper Rule and how it will impact small water systems, call the National Drinking Water Clearinghouse for reprints of their 1992 On Tap Lead and Copper Rule series.

12 Ways Fools Handle Stress

1. I rush through each day at breakneck speed so that I don't have to think about anything.
2. I skip meals and eat junk food all day; sitting down to eat a good meal is a waste of time.
3. I allow myself to be over-scheduled; that way I'm never bored and the adrenaline is always pumping.
4. I bark orders at my kids, partner, and coworkers; it saves them from having to make any decisions of their own.
5. I never have to worry about my luggage being lost since I never take any vacations.
6. I overeat whenever I have the chance. Food's my drug of choice, and it fills up the emptiness I feel inside.
7. I sit around at work as much as I can; when I get home, I sit in front of the TV.
8. I never plan for the future, and I don't have anything interesting to look forward to. I have enough problems trying to handle the numerous daily crises at hand.
9. When I'm angry, I yell and scream a lot. It's a great tension reliever; and if it stresses other people out and complicates their day—well, that's *their* problem.
10. I only help other people when there's something in it for me; otherwise, it's a waste of time.
11. Spiritual concerns are irrelevant since what really matters is success, money, fame and power.
12. I never waste any time on laughter and play; they're time consuming and unproductive.

Stephan R. Yarnall, MD



Public Education Requirements for Community Water Systems

If your water system exceeds lead action levels, you must complete each of the following within 60 days:

- Distribute information notices in your water bills every 12 months;
- Enclose a special alert *on the water bill itself* every 12 months;
- Publish information notices in major local newspapers every 12 months;
- Deliver pamphlets or brochures every 12 months to the following facilities and programs located in your area:
 - public schools and/or the local school board
 - city or county health departments
 - Women, Infants, and Children (WIC) and/or Head Start program
 - public and private hospitals or clinics
 - family planning clinics
 - local welfare agencies;
- Release public service announcements every six months to at least five of the radio and television stations with the largest audiences that broadcast to the community served by your water system;
- By December 31 of each year, send a letter and copies of related documents to the state regulatory agency to demonstrate the system has delivered the public education materials that meet content and delivery requirements.

Individual state regulatory programs may vary, especially in the exact date required for completing the above requirements. Check with your state regulator for further information.

Source: U.S. Environmental Protection Agency's Lead in Drinking Water Regulation: Public Education Guidance Manual.

NDWC Offers New Lead Education Materials

Free items are limited to one of each per order. If free items are not available, you will be given the opportunity to receive free photocopies.

A minimum \$2.00 shipping and handling (s/h) charge applies to all orders, unless otherwise noted.

The Lead in Drinking Water Regulation: Public Education Guidance Manual

Item #: P494

(See box on page 21.)

Price: \$7.40

Pocket Sampling Guide for Operators of Small Water Systems

Item #: P522

Price: \$0.00

Lead in School Drinking Water

Item #: DWBLPE06

Four general topics are included in this 51-page booklet: the effects of lead on children; detecting lead in school drinking water and pinpointing its source; reducing or eliminating lead in drinking water; and personnel training for sampling and remedial programs.

Price: \$5.00*

Protecting Our Drinking Water from Microbes

Item #: DWBLGN07

The U.S. EPA's role in enforcing provisions of the Safe Drinking Water Act to control waterborne diseases, the most common such diseases, and the detection and control of disease-causing microorganisms are discussed in this booklet.

Price: \$0.00



Water Quality Self-Help Checklist

Item #: DWPCGN17

Designed to help individuals analyze their own water supplies, this checklist provides information about potential sources of groundwater pollution, particularly in farming areas.

Price: \$1.20

PAWater Computer Model

Item #: DWSWFN01

(See description on page 8.)

Price: \$25.00

Copper, Drinking Water, and You

Item #: P535

(See box on page 21.)

Price: \$0.00 (free s/h)

Protecting Your Kids from Lead in Drinking Water

(a Spanish language brochure)

Item #: P553

(See box on page 21.)

Price: \$ 0.00 (free s/h)

Sampling our Drinking Water for Lead and Copper Content

Item #: P533

(See box on page 21.)

Price: Available for loan for up to four weeks

* indicates a U.S. EPA publication that has been photocopied because it is either out of print or temporarily unavailable in bulk. It is possible that free copies of these documents may be available from the EPA Safe Drinking Water Hotline: (800) 426-4791.

*Order any NDWC product
and receive a free key chain
(while supplies last).*

TO ORDER:

*Call 1-800-624-8301.
Shipping and handling
charges apply.*

GD&F

**GWIN
DOBSON &
FOREMAN INC.**
Consulting Engineers

(814)943-5214

Corporate Office:
2900 Fairway Drive
P.O. Box 1589
Altoona, PA 16603
Fax: (814) 943-8494

Watermain Cleaning by the Experts

- * Distribution Mains
- * Leak Detection
- * Foam Pigs, Launchers, and Receivers
- * Transmission Mains
- * Turn-Key Consulting

*Meter Installation



Call, write, or fax
for a free quotation:
Montauk Services, Inc.
P.O. Box 190
Freeport, NY 11520
Fax: 516/623-7800

1-800-632-8893

MALATESTA HAWKE & McKEON

- PENNVEST Applications
- Environmental Regulation and Litigation
- Public Utility Commission Proceedings
- Regulatory Compliance Matters
- Related State and Federal Litigation

MALATESTA HAWKE & McKEON

100 North Tenth Street
P.O. Box 1778
Harrisburg, PA 17105

Contact: Louise A. Knight Thomas J. Smisak Thomas P. Bregan (717) 236-1300



What's On Tap

By Chris L. Shutt, Circuit Rider

Well, Guys and Girls, we're into another quarter, and the Lead and Copper (or Copper and Lead) Rule has started for the small systems. I've been out there in the systems, and I'm hearing: "This doesn't apply to us, does it?" The only answer I have to say is "YES, it does!" If you haven't started yet, please do so, and if you have any problems, give us a call. We'll be glad to get you going in the right direction.

Another reminder I would like to pass along: If you don't have an operation and maintenance plan, let's get it done and save some heartaches.

Well that's all this time, remember you are in charge of your community's health, so do your job and do it well!



DOWN THE WELL —

PRWA just completed four workshops on groundwater protection across the state. Attendance was good, and most people left with a better understanding of groundwater and how to protect it. The groundwater technician (me), on the other hand, turned into a witch the day before the last workshop on July 22 (for those of you present- Mr. Belk & Mr. Stevens — you can change the first letter of what I became if you'd like).

In looking back, I think I may have taken this all too seriously. Next time, I'd like to change the format a little and have some speakers on new and different subjects:

Bill Gough, Moodys & Associates: "How to talk and put water in the groundwater model at the same time — is it impossible?"

Tom Fridirici, DER: "How many mashed potatoes are too many mashed potatoes at a groundwater workshop?"

Randy Anderson, NRWA: "What questions you should not ask when a DER Hydrogeologist is in the room."

Jeff Moody, Moody & Associates: "The slowest way to get to Sharon, PA" or "An adventure with PRWA — Meadville to Sharon by way of Pittsburgh" or "You can't get there from here!"

Dave Schantz, Leggette, Brashears & Grahman: "Faith healing and the water industry."

Jack Crook, DER: "Why a speaker should talk fast and show the same slides as the next speaker."

Tom Belk, USEPA: "Being mechanically inclined: a necessity or a hindrance in groundwater protection speakers."

Tania Brice, GeoServices: "How to resist the temptation to deck the groundwater technician when she interrupts your presentation."

Bob Stevens, Stevens Consulting Company: "How to set up a conference room and dine out at a restaurant at the same time."

If you don't understand what all this means, I guess you had to be there . . . and if you weren't, you missed all the fun! We worked hard, but we also had a good time . . . and guess what . . . we missed you!

Thanks to all who helped us with this project! You are truly nice people, and we really appreciate you!



TRAVELLED ROAD

By: Judy Muehl,
Groundwater Protection Technician



“ONE MORE THING”

Stephen Krchnavy, Program Manager

- Planning for the Annual Conference March 27-28-29 has begun. This year's conference will feature our usual great and informative training plus sessions that will help system personnel develop professionally. Look forward to seeing you at State College.
- The EPA has estimated that as many as 10,000 small systems will exceed lead action levels in this year's initial lead and copper monitoring. And, unlike any other EPA drinking water regulation, the lead and copper rule requires water systems conduct an extensive public education campaign if a system shows unacceptable lead levels.

Are you prepared?

- PRWA continues to comment on the SDWA reauthorization. PA Senator Harris Wofford is a member of the committee on Environment and Public Works, and any input from you on this issue is very helpful in the decision making process.
- PRWA membership drive is in high gear. Have you “Tapped A Buddy”?
- ONE MORE THING! Our accountant, Craig Rumbaugh, has gone back to Penn State to continue his education. Debra Fagan will now take on the position of Membership Services/Training Coordinator. Giving our office manager, Barb Judeich, more time to spend with the financial department, coordinate the PRWA conference and edit the Keystone Tap magazine and Members Only Newsletter. The new voice on the phone belongs to Donna Miller. Best wishes Craig and a warm welcome to Donna.

“Down the Line”

by Bill Keller, Wastewater Technician

Well, if you've been wondering where I've been all summer, there is an article in the magazine concerning my adventures, so I won't bore you with the details, but I do have some things I want to get off my mind, as they are weighing me down.

- 1.) Even though it has been 90+ this week, and last week, and the week before, etc. . . , winter is coming, and you should be getting your plant prepared. One suggestion is, when changing oil in machinery that is exposed to the elements, use a lighter oil so it won't gum up.
- 2.) We have been doing some wastewater training and plan to do a lot more in '94. We need subjects, trainers, and locations, and we sure appreciate any help and suggestions.
- 3.) If you think it's been hot here, you should have been in El Salvador! No comparison.
- 4.) With hunting season coming, I just want you to know P.R.W.A. now carries a full line of camouflage hats. Call the office for details on how to order.
- 5.) While we're on hunting, we are starting the biggest rack buck contest for members. Any comments? Call Krchnavy.
- 6.) Don't miss the '94 state conference March 27-29 in State College. It will be the best yet! Details in this Keystone Tap.
- 7.) We have had a good year for smoke testing, but I couldn't get to everyone, so if I missed you, give me a call!
- 8.) The Pittsburgh Steelers are going to the Super Bowl! (I say that every year, but sometimes I've been right!)
- 9.) Congratulations to the Phillies for a great season! (That was hard to say—I'm a Pirate fan!)

That's it! My head feels better, as a matter of fact, it feels a little light! See you next issue, Bill.

INDUSTRY MEMBERS HELP SUPPORT OUR WORK LET'S SUPPORT THEM!

- A-1 PIPE INC.**
BOX 55, CAKDALE, PA 15701
- ADVANCE INSTRUMENTS, INC.**
5335 PROGRESS BLVD., BETHEL PARK, PA 15012
- AQUA-TECH**
105 JUDSON AVENUE, BUTLER, PA 16001
- AUS CONSULTANTS**
WEBER RICK & WILSON, INC.
1000 N. FRONT STREET, SUITE 200
WORMLEYSBURG, PA 17043
- BCM ENGINEERS, INC.**
5777 BAUM BLVD., PITTSBURGH, PA 15206
- BADGER METER, INC.**
SUITE 211, 5301 LIMESTONE RD.
WILMINGTON, DE 19808
- BANKSON ENGINEERS**
100 BLUE RUN RD., INDIANOLA, PA 15051
- BARBER'S CHEMICALS, INC.**
950 MAIN STREET, P.O. BOX 135, SHARPSVILLE, PA 16150
- BERMAD CONTROL VALVES**
BOX 330, CARNEGIE, PA 15106
- DAVE BONKOVICH TESTING SERVICES**
DAVID B. BONKOVICH
186 TROXEL RD., SHOEMAKERSVILLE, PA 19555
- CDS**
DIV. LAYNE-WESTERN CO. INC.
279 MILLERS RUN RD., BRIDGEVILLE, PA 15017
- CENTRE ANALYTICAL LABORATORIES, INC.**
3048 RESEARCH DRIVE, STATE COLLEGE, PA 16801
- CHEMPLY DIVISION OF E & E (US) INC.**
P.O. BOX 18049, PITTSBURGH, PA 15236
- THE CHLORAMONE COMPANY**
1866 CHESTNUT STREET, EMMAUS, PA 16849
- COMMONWEALTH ENGINEERING & TECHNOLOGY INC.**
(C.E.T.)
3113 NORTH FRONT ST., HARRISBURG, PA 17110
- CONRADY CONSULTANTS SERVICES**
P.O. BOX 650948, VERO BEACH, FL 32965-0948
- CONTINENTAL INDUSTRIES**
P.O. BOX 984, TULSA, OK 74101
- GEORGE S. COYNE CHEMICAL CO., INC.**
3015 STATE ROAD, CROYDON, PA 19020
- CULLIGAN INDUSTRIAL WATER SYSTEMS**
50 BELDEN AVENUE, SODUS, NY 14551
- DABCO CHEMICAL**
2215 SUTTON ROAD
YORK, PA 17403
- DICKSON, INC.**
830 S. WESTWOOD AVENUE, ADDISON, IL 60101
- EARTH DATA**
916 SPRING DRIVE, WHITELAND TECHNOLOGY CENTER
EXTON, PA 19341
- EASTERN SYSTEMS MANAGEMENT, INC.**
GRANITE RUN CORPORATE CENTER
272 GRANITE RUN DRIVE, LANCASTER, PA 17601
- ECOMETRICS, INC.**
130 W. MAIN STREET, SILVERDALE, PA 18962
- EICHELBERGERS, INC.**
841 W. TRINDLE ROAD, MECHANICSBURG, PA 17055
- ENOPCON, INC.**
550 CLEVELAND AVE., CHAMBERSBURG, PA 17201
- ENVIRONMENTAL EQUIPMENT & SERVICE COMPANY**
7 WEST 9TH ST., MARCUS HOOK, PA 19061
- EXETER SUPPLY CO. INC.**
BOX 448, R.D. 6, SINKING SPRING, PA 19608
- FIBERTEK, INC.**
302 CRESCENT ST., SCOTTSDALE, PA 15683
- FISHER TANK CO.**
3141 WEST 4TH STREET, CHESTER, PA 19013-1809
- FLUID SYSTEMS INTERNATIONAL, INC.**
2010 NORTHWAY ROAD, WILLIAMSPORT, PA 17701
- FRANKLIN MILLER, INC.**
80 OKNER PARKWAY, LIVINGSTON, NJ 07039
- GANNETT FLEMING ENVIRONMENTAL ENGINEERS**
P.O. BOX 67100, HARRISBURG, PA 17106-7100
- GEO-SOURCE**
7 SOUTH SEASONS DRIVE
DILLSBURG, PA 17019
- GEO-SERVICES, INC., LTD**
1240 N. MOUNTAIN ROAD
HARRISBURG, PA 17112
- GWIN, DOBSON, FOREMAN, INC.**
2900 FAIRWAY DR., BOX 1589, ALTOONA, PA 16603
- HACH COMPANY**
BOX 388, LOVELAND, COLORADO 80537
- HEATH CONSULTANTS, INC.**
R.D. 3, BOX 325, BELLEVERNON, PA 15012
- HILL ENGINEERING INC.**
8 GIBSON STREET, NORTH EAST, PA 16428
- HUNT ENGINEERS & ARCHITECTS INC.**
410 PENN ST., BOX 487, WILLIAMSPORT, PA 17703-0487
- HYDRO GROUP**
LAYNE WELL & PUMP DIVISION, BOX 788
MEADVILLE, PA 16336
- L.K. STOLTZPUS SONS, INC.**
168 GREENFIELD ROAD, LANCASTER, PA 17601
- IRON CITY WATER & WASTE, INC.**
PITTSBURGH INTERNATIONAL INDUSTRIAL PARK,
SUITE 307, RT. 978, CAKDALE, PA 15071
- KENNEDY VALVE MFG. CO./MCWANE INC.**
169 COLEMAN AVENUE, ELMIRA, NY 14805
- KERR MARKETING AGENCY**
10001 DL YORK THETA DR., CLEVELAND, OH 44133
- L. ROBERT KIMBALL**
615 W. HIGHLAND AVENUE, EBENSBURG, PA 15931
- KJELL WATER CONSULTANTS INC.**
BOX 834, BELLOIT, WISCONSIN 53511
- KROFTA WATER, INC.**
P.O. BOX, LENOX, MA 01240
- LB WATER SERVICE, SOUTH INC.**
330 WOLF AVENUE, BOX 484
CHAMBERSBURG, PA 17201
- LB WATER SERVICE INC.**
550 S. HIGH STREET, BOX 60
SELINGSGROVE, PA 17870
- LAMOTTE CHEMICAL**
P.O. BOX 329, RT. 213N, CHESTERTOWN, MD 21620
- LEE SIMPSON ASSOCIATES, INC.**
BOX 504, DUBOIS, PA 15801
- LEGGETTE, BRASHEARS & GRAMAM**
577 EXTON COMMONS
EXTON, PA 19341
- MAIN LINE DISTRIBUTORS**
169 BORO LINE ROAD
KING OF PRUSSIA, PA 19406
- MALATESTA HAWKE & MCKEON**
P.O. BOX 1778, 100 NORTH STREET
HARRISBURG, PA 17105
- MEISER & EARL, INC.**
1512 WEST COLLEGE AVE., STATE COLLEGE, PA 16801
- MID ATLANTIC STORAGE SYSTEMS INC.**
WASHINGTON COURT HOUSE, OH 43160
- MID STATE CHEMICALS**
P.O. BOX 430, ALTOONA, PA 16603
- MONTAUK SERVICES INC.**
465 W. SUNRISE HWY., FREEPORT, NY 11520
- MOODY & ASSOCIATES, INC.**
R.D. 4, COTTON ROAD, MEADVILLE, PA 16335
- MUELLER CO.**
744 VENANGO AVE., PITTSBURGH, PA 15209
- NATIONAL GUARANTY MANAGEMENT, INC.**
P.O. BOX 5406, NORWALK, CT 06856
- NATIONAL ROAD UTILITY SUPPLY INC.**
BOX 188, WEST ALEXANDER, PA 15376
- NEILAN ENGINEERS, INC. (EADS GROUP)**
1055 TAYMAN AVE., SOMERSET, PA 15501
- OLANDER & BROPHY**
BOX 73, 2300 ELDO ROAD, MONROEVILLE, PA 15146
- PARKER BROTHERS WELL DRILLING INC.**
6075 EAST STATE ST., HERMITAGE, PA 16148
- PATCO ASSOC. - CARL ANDERSON AGENCY**
133 NORTH 5TH STREET
ALLENTOWN, PA 18102-4151
- PBAS CHEMICAL**
P.O. BOX 426, 4200 WALNUT AVENUE
MCKEESPORT, PA 15134
- PITTSBURGH TANK & TOWER**
P.O. BOX 1348, 801 FIFTH STREET
HENDERSON, KY 42420
- JOSEPH G. POLLARD CO.**
200 ATLANTIC AVE., NEW HYDE PARK, NY 11040
- PUBLIC FINANCIAL MANAGEMENT, INC.**
2101 N. FRONT STREET, SUITE 200
HARRISBURG, PA 17110
- R & D ENGINEERING**
OAK SPRING DRIVE, PITTSBURGH, PA 15238-1744
- REED MANUFACTURING CO.**
P.O. BOX 1321, ERIE, PA 16512
- RESOURCE TECHNOLOGIES CORP.**
65 S. MAIN STREET, BLDG C, PENNINGTON, NJ 08634
- RETTEW ASSOCIATES, INC.**
3020 COLUMBIA AVE., LANCASTER, PA 17603
- RORDAN MATERIALS**
6198 BUTLER PIKE, SUITE 150, BLUE BELL, PA 19422
- ROMAC INDUSTRIES/HAYS BRASS**
1064 4TH AVE., P.O. BOX 3212, SEATTLE, WA 98114
- SAFETY CORP OF AMERICA**
1005 INTERNATIONAL DRIVE
CAKDALE, PA 15071-9223
- SAL CHEMICAL CO., INC.**
3036 BIRCH DRIVE, HALFMOON INDUSTRIAL PARK
WEIRTON, WV 26062
- R.F. SCHEIDER PIPE & SUPPLY**
ROUTE 18 NORTH, R.D. 2 BOX 343
CONNEAUT LAKE, PA 16316
- SEEWALD LABORATORIES, INC.**
1403 W. 4TH STREET, WILLIAMSPORT, PA 17701
- SENATE ENGINEERING CO.**
420 WILLIAM PITT HIGHWAY, PITTSBURGH, PA 15238
- SOMPLE SUPPLY, INC.**
BOX 428, GREENSBURG, PA 15601
- JON L. STEENSON AND ASSOCIATES**
5026 E. STATE STREET, HERMITAGE, PA 16148
- RALPH L. STEMLER, INC.**
1118 RIDGE AVENUE, PITTSBURGH, PA 15233
- STERNSON, LTD - ONTARIO, CANADA**
BOX 1540, BRANTFORD, ONTARIO, CANADA N3T-5V8
- STIFFLER, MCGRAW & ASSOCIATES**
310 PENN ST., P.O. BOX 462
HOLLIDAYSBURG, PA 15648
- SUBSURFACE TECHNOLOGIES**
165 STEWART AVENUE, E. ROCHESTER, PA 15074
- TRUMBULL INDUSTRIES**
BOX 555 INTERSTATE 70 AT RT. 917
BENTLEYVILLE, PA 15314
- TUCKER ARENSBERG, PC**
116 PINE ST., SUITE 403, HARRISBURG, PA 17101
- UNI-TEC CONSULTING ENGINEERS, INC.**
2007 CATO AVE., STATE COLLEGE, PA 16801
- UTILITY SERVICES ASSOCIATES, INC.**
R 451 MARY STREET, SCRANTON, PA 18506
- UTILITY SUPPLY OF AMERICA**
3895 COMMERCIAL AVENUE
NORTHBROOK, IL 60062
- VICTORY WHITE METAL CO.**
1330 SEABORN ST., MINERAL RIDGE, OH 44440
- WALSH VALVE & SPECIALTY CO.**
1431 GRANDIN AVE., PITTSBURGH, PA 15216
- WATERPRO**
1107 SAUNDERS CT.
WEST CHESTER, PA 19380
- R.E. WRIGHT & ASSOC.**
3240 SCHOOLHOUSE ROAD
MIDDLETOWN, PA 17057-3586

Mountain Water Authority of Joliett

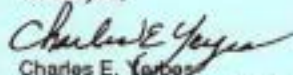
23 Joliett St.
Tremont, PA 17981

Dear Sir,

The Mountain Water Authority of Joliett would like to express our appreciation for all the assistance Penna. Rural Water Association has given us.

In addition to your training seminars, we have drawn on the extensive technical knowledge of Chris Shutt. Chris is always willing to help us with our operations problems and the ever growing DER regulations. He introduced us to Judy Muehl, who has been invaluable in assembling a wellhead protection package.

Thank you,



Charles E. Forbes
Mountain Water Authority of Joliett



TOWNSHIP OF SPRINGDALE

P.O. Box 177
Harwick, PA 15049
Phone: 274-4034

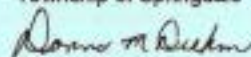
PA Rural Water Association
138 West Bishop St.
Bellefonte, PA 16823

June 8, 1993

Gentlemen,

On behalf of the Springdale Township Board of Commissioners, I am writing to thank Bill Keller for his help during the recent smoke testing of our sewer lines. His help was greatly appreciated.

Sincerely yours,
Township of Springdale



Donna M. Diehm
Secretary

MIDDLEBURG BORO COUNCIL

132 North Main St.
Middleburg, PA 17842
Phone (717) 837-2533

Stephen Krchnavy
PA Rural Water Association
138 W. Bishop St.
Bellefonte, PA 16823

August 9, 1993

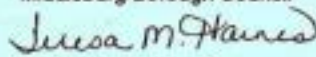
Dear Mr. Krchnavy:

On behalf of the Middleburg Municipal Authority and the Borough, we would like to thank Mr. Chris Shutt for examining the well at the reservoir.

The Borough appreciates the fact that Mr. Shutt devoted time out of his schedule to help the borough with the well problems.

Once again, sincere thanks to Mr. Shutt.

Sincerely,
Middleburg Borough Council



Teresa M. Haines, Sec.



South Carolina In-Service Time Out



LEGISLATIVE UPDATES

Summary of House and Senate Bills Affecting Water/Sewer Utilities and Authorities

Tucker Arensburg, P.C.

The following are brief summaries of House and Senate bills introduced which may be of interest to the members of the PRWA:

S.B. No. 1184

Printer's No. 1403

This bill amends the Public Utility Code to give property owners the right to construct, extend, and install sewer and water system extensions at their own expense where a municipality or public utility otherwise would construct the line extensions. Construction specifications must be in accordance with an agreement for extension of the public utility system and is subject to rules, regulations, and standards of construction governing such installations by a municipality or a public utility. Upon completion of construction, the property owner must convey, and the municipality/public utility must accept the extension of the public utility system.

H.B. No. 1966

Printer's No. 2391

This bill amends the Clean Streams law, specifically, the Clean Water Fund subsection to provide that all fines collected under the penal provisions of the Act, all civil penalties, all permit fees, subject to certain exceptions, and all bond forfeitures shall be paid into the Clean Water Fund. Fines and penalties collected in this Fund will be placed in a special dedicated escrow account, one account for each municipality. The amounts in this Fund will be used only to abate any nuisance or other violation of the Act caused by the respective municipality.

H.B. No. 1907

Printer's No. 2326

This bill amends the Pennsylvania Sewage Facilities Act to allow a local agency to exclude an individual sewer system from the permitting requirements of Section 7 of the Pennsylvania Sewage Facilities Act if the sewage system was installed under prior laws and regulations in effect at the time of the installation and the system is functional. This exclusion shall only apply to the original owner and shall terminate upon transfer of title to the property.

S.B. No. 1126

Printer's No. 1531

This bill amends the Economic Development Financing law to provide for issuance of bonds to the Pennsylvania Industrial Development Authority to, among other things, finance municipal compliance with air, water, solid, and liquid waste disposal, sewage disposal, and pollution control standards.

S.B. No. 737

Printer's No. 1484

This bill amends the Public Utility Code to vest in the Commission jurisdiction over transfers of watershed land. Any proposed sale, lease, or other transfer of an interest in watershed land must obtain PUC approval.

H.B. No. 1861

Printer's No. 2242

This bill amends Title 32 of Pennsylvania Consolidated Statutes and would, among other things, provide for water resources planning and emergency procedures; create a state water resources board and regional water resource boards, giving them appropriate powers and duties; provide for penalties for violations of regulations established by the respective boards; and make an appropriation for establishment of these entities.

H.B. No. 1725

Printer's No. 2003

This Act would provide for establishment of a state-wide committee and regional water resource advisory committees and provide for appropriate powers and duties. The bill would also provide for additional duties to be delegated to Department of Environmental Resources, Environmental Hearing Board, and the Environmental Quality Board. Additionally, the Act provides for establishment of a state water plan, conservation areas, permits for withdrawal or diversion of water, and for enforcement, and for civil and equitable remedies. The act establishes a water conservation account to be funded by collection of certain fees.

This legislative summary is provided by Tucker Arensburg, P.C. for the benefit of the PRWA members. If you have any questions regarding the status of these bills, please contact James P. Melia or Richard J. Gmerek at (717) 238-2900.



by Barb Judeich, Office Manager

- Do you have more than coffee "brewing" in your office?
- Do board "minutes" take "hours" of preparation?
- Is budget planning making you see red?
- Has your auditor ever commented on your "Double E Wing Tip Filing System"?
- When your computer says 'Hit any key to Continue', are you tempted to grab the big mallet in the back room?
- When your boss asks you what you've done all day, are you tempted to grab the big mallet in the back room?

Well, now it's YOUR turn! Have we got a training session for you! Coming February 16, 1994, PRWA and the Pennsylvania Local Governmental Secretaries Association is planning a day just for office staff at the Nittany Lion Inn, State College, PA, and we want to know what you'd like to see on the agenda. YES, we really do want to hear from you. We know your time is valuable, and February is a busy month, so we don't want to waste your time talking about the proper care and maintenance of a backhoe (not that some people might think that this isn't important). We have many possible topics, but we want to make this a demand and supply session as much as possible. Oh, and don't forget to bring your shovel! (Only kidding), however, we would like to have a really big stack of ideas to share with everyone—call it a brag book or whatever. If you have some ideas to share, time saving hints, sample bill stuffers, simplified steps or sample forms you've developed, we'd really like you to share these with everyone. So mark the day on your calendar . . . FEBRUARY 16, 1994 (use that bright red ink) . . . and send us your comments today* (phone, fax or mail but please NO post-a-notes). Plan to join us for the day. Hey, maybe we can even put bon bons on the dessert menu! What do you think?

*Note: Comments and suggestions need to be sent to the PRWA office at 138 West Bishop Street, Bellefonte, PA 16823 by December 31, 1993.

Count on Sensus

... for unmatched quality, value and service in flow measurement products!

Sensing The Future with advanced Automatic Meter Reading systems for meters in pits, vaults and inside sets.

RadioRead™

Available in handheld and vehicle versions — reads in both "blind" and geographic modes.



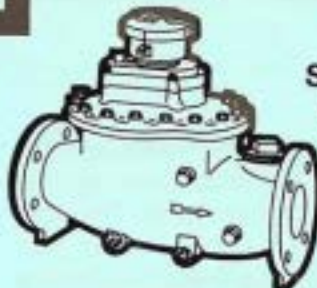
TouchRead® System

for fast, accurate on-site meter reading. Also available —

PhonRead™ Battery-free Call Inbound meter reading.

SR®II Water Meters

feature sealed registers and are guaranteed to meet AWWA new meter accuracy standards for 5 years — repaired meter standards for 15 years.

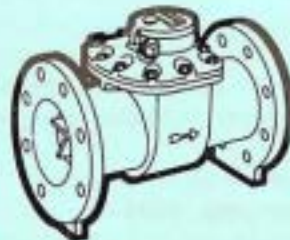


SRH Single Register Compound Meters

for measuring a wide range of flows and volume. Single billing register for fewer reading errors.

Series "W" Turbo-Meters

feature exclusive right-angle magnetic drive for accurate tracking and virtually trouble-free performance.



sensus
TECHNOLOGIES, INC.

P. O. Box 487
Uniontown, PA 15401
Phone: 1-800-METER-IT
FAX: (412) 430-4056

Surprise EQB Vote Adopts New Total Residual Chlorine Standard

Reprinted from CHAR, Capitol Hill Authority Reports

On Aug. 17 the Environmental Quality Board (EQB), in a split vote, approved a last minute change DER suggested to the final Triennial Review of Water Quality Standards (#7-246) adding a 0.5 mg/l statewide total residual chlorine standard without letting the EQB review the full record of public comments on the issue or a DER response to those comments.

By presenting the last minute change to the chlorine standard at the meeting, DER ignored its own written report to the Board just 2 weeks before which concluded there was no widespread chlorine problem in the state. The new chlorine language was approved by vote of 14 to 1 with all 4 legislators abstaining. The House and Senate members abstained because DER did not let the Board review the public comments on the chlorine issue submitted in response to an advance notice of final rulemaking so it was impossible to tell what negative or positive impacts the change would have. By some estimates the change in the chlorine standard would impose from \$20 to \$40 million in extra costs on municipal sewage systems and some industrial dischargers.

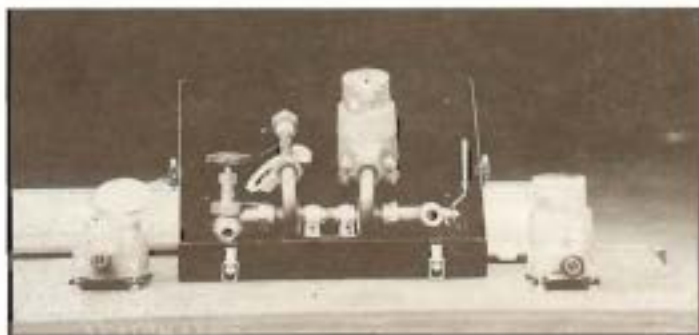
Apparently the move to the change the chlorine standard was an attempt to get EPA to approve the Triennial package, which is already a year late, although DER ignored EPA's

comments that the package should include a major revision of the state's special protection watershed program. The special protection watershed program is the subject of a lawsuit filed by the Raymond Proffit Foundation in May against EPA alleging DER's special protection watershed program is inadequate. EPA has been advising DER to revise its chlorine standard for the past 8 to 10 years, although EPA had no data that chlorine was a widespread problem in Pennsylvania. DER also did not give the EQB any response to or share comments made by the public on changes DER had earlier proposed to the Triennial package dealing with wetlands. A motion to table the entire package because of these major shortcomings and the unresolved controversies with EPA was made by Rep. George's alternate on the Board. The Board voted 8 to 11 not to table the package with Citizens Advisory Council members Bernard Hoffnar, Margaret Bunce and Paul Hess and William Hall for the Public Utility Commission joining the 4 Senate and House members supporting the motion. The final Triennial regulation was then approved by a 13 to 6 vote with the 4 Senate and House members and Citizens Advisory Council members Margaret Bunce and Paul Hess voting no.

(Reprinted in part from Environmental & Energy Issues Update)



Thanks to Avery Rose, Sensus Technologies and R.F. Schneider Pipe & Supply Company for donating the Sensus Meter Test Kit to Pennsylvania Rural Water Association.



Sensus Meter Test Kit available for use by Pennsylvania Rural Water Association system members.

“The Rash Limburger Show”



Rash: Hi everybody! Welcome to another session of the "Ask Rash Show"! Today we are broadcasting from the Tioga County Club in Wellsboro, PA., where I have just completed a very strenuous, intensive workout session, (climbing in and out of a tiny golf cart), and now I am ready to enlighten your minds and enrich your lives. Before we begin, I would like to share some correspondence I have received with you, my faithful listeners. I'll begin with a letter from someone who signs himself - *The Moodman*.

Dear Rash,

This is just a word of advice to anyone who ever needs to follow PRWA Program Manager Steve Krchnavy from Pittsburgh to Sharon as I and Tom Belk of USEPA recently had to. Either chain your car to his, or go to the Greyhound station and take a bus, otherwise he'll lose you within five minutes. It took us four hours to reach Sharon which is only, as we later found out, one hour away. To be honest, I don't think Mr. Krchnavy knows yet that we are no longer behind him!

See Ya,
Moodman

P.S. Love your Show!

Rash: Here is another letter I think might be related.

Dear Rash,

If anyone sees two distinguished, but slightly bewildered gentlemen circling Three Rivers Stadium, in what looks like a Federal Govt. vehicle, would you please have them stop and give me a call in Sharon, PA? I'm not sure, but I think I might have lost them about three weeks ago. Sorry it took so long to notice, but I am concerned.

Sincerely,
Steve

Rash: Knowing Mr. Krchnavy, I would strongly recommend heeding the Moodman's advice! O.K., let's go to the lines. Hello, caller, you're talking to Rash.

Caller: Yeah, Rash?

Rash: Go ahead.

Caller: Hey Rash, this is Shecky. Listen, my water system just exceeded the lead levels under the new Lead and Copper Rule, and I understand I have to do public notification. Is it okay if I just ride around town on the back of the authority pick-up truck with a megaphone next Saturday, and tell everyone to change the plumbing in their house. Will that satisfy EPA?

Rash: Sure, Shecky. But I would suggest wearing a flak jacket, after all, hunting season is coming up, and some more intelligent people might use you to sight their rifles in. No, seriously, this is what you need to do. Within 60 days you must:

- Distribute information notices in your water bills every 12 months.
- Enclose a special alert on the water bill itself every 12 months.
- Publish information notices in major local newspapers every 12 months.
- Deliver pamphlets or brochures every 12 months to the following facilities and programs located in your area:
 - public schools and/or the local school board
 - city or county health departments
 - Women, Infants and Children (WIC) and/or Head Start program
 - public and private hospitals or clinics
 - family planning clinics
 - local welfare agencies

Rash Limburger Show

- Release public service announcements every six months to at least five of the radio and television stations with the largest audiences that broadcast to the community served by your water system.
- By December 31 of each year, send a letter and copies of related documents to the state regulatory agency to demonstrate the system has delivered the public education materials that meet content and delivery requirements.

Individual state regulatory programs may vary, especially in the exact date required for completing the above requirements. Check with your state regulator for further information. By the way Shecky do you take drugs?

Caller: Uh, no I don't think so...??? Oh, well, hey thanks, Rash.

Rash: No problem. Alright, next?

Caller: Hey Rash, this is Ray.

Rash: Yeah Ray, what can I do for you?

Caller: Well Rash, someone told me recently that there's a strange ailment going around that affects only water and wastewater industry people called the Dicedo (pronounced Dik E Doo) syndrome. Do you know anything about it?

Rash: Well, Ray, I've heard about it, but I'm not very familiar with it. Other than I know it affects men from all walks of life and all ages, not just water and wastewater industry people, although I hear it is very prominent in our industry. I do know that there will be people at the PRWA Conference at State College's Nittany Lion Inn on March 27, 28, and 29, 1994 who are very familiar with this strange malady, so my advice to you, Ray, is "don't be a loser," be at the PRWA Technical Conference on March 27, 28 and 29, 1994, and you can find out all about Dicedo syndrome. O.K.?

Caller: Alright, Rash - by the way - I think you're a #*@!#!# Zero, I . . .

Rash: Sorry, people, I had to cut Ray off because we're out of time, so, see you next time. This is Rash Limburger saying goodbye and send money!

if you treat WATER...
 drinking water...sanitary sewage...
 process water...wastewater



**REGAL
 gas chlorinators***
 can mean • lower costs
 • less downtime • faster service

Call or write today for free brochure and full details!

*And sulphonators
 chlorinators inc

"Up to 60% fewer parts!"

RALPH L. STEMLER, INC.
 1116 Ridge Ave.
 Pittsburgh, PA 15233
 Phone (412) 322-6468
 FAX (412) 322-0904

Commonwealth Engineering & Technology, Inc.

Clear Solutions To Complex Problems



CET Engineering Services
 Environmental Engineering
 Harrisburg - (717) 541-0622
 Huntingdon - (814) 643-8260



GeoServices, Ltd.
 Geologic/Hydrogeologic
 Consulting Services
 (717) 541-0799
 FAX (717) 541-8930



Earth Information Services
 GIS - PC ARC/info
 (717) 541-0644
 FAX (717) 541-8004

Offices in Harrisburg and Huntingdon, PA

Walsh Valve and Specialty Inc.

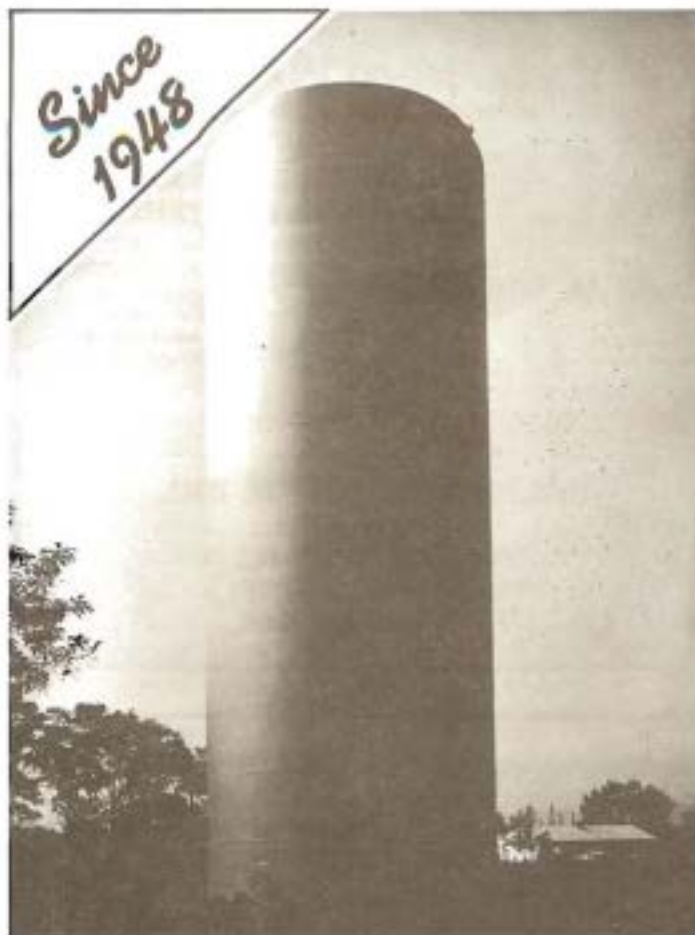
P.O. Box 8040
 Pittsburgh, Pennsylvania 15216
 Phone: (412) 561-3999
 FAX: (412) 344-8306

*Representatives and Distributors
 for:*

APCO Air Valves and Check Valves
 Ross Control Valves and
 Pressure Reading Valves
 Presco Venturis
 Data Industrial Flow Sensors
 Roto Hammer Valve Op
 Milliken Plug Valves
 Mason Industries Vibration Controls

Regis W. Walsh Joe Vogel
 Don Budd Nancy McLane

Since
1948



FIELD ERECTED STEEL STORAGE TANKS

FISHER TANK COMPANY

3131 WEST FOURTH STREET
CHESTER, PA 19013
215-494-7200

Computer Billing System

- Affordable ● Fast
- Easy to Operate

*Designed by a Rural Water
System's Comptroller*



P.O. Box 6045 • Waco, Texas 76706

Computerized Bookkeeping Will:

- Reduce Bookkeeping Time
- Give You Control Over System
- Improve Cash Flow
- Help Control Water Loss
- Provide Audit Trail
- Reduce Errors
- Save Auditing Time & Expense
- Provide Monthly Reports
- Save System Money
- Prepare You For Future

utility billing systems

For Complete Information Call
1-800-227-9195

TAABS™

Utility Billing Specialists, Inc.
P. O. Box 4369 • Tyler, TX 75712
(903) 535-8222 • (903) 535-9015 FAX

Totally Automated Accounting and Billing System

The Total Solution For System Automation

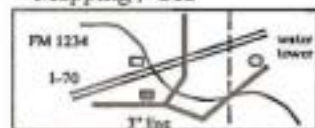
- Over 15 years experience in software design.
- Over 1000 users in U.S., Hawaii, & Canada.
- Listed in AWWA. A guide for selecting computer systems for utilities.
- On-site professional installation & training.
- The *only* software approved & sold by SENSUS™ for use with TouchRead meter reading systems.
- Dedicated support staff, with on-line modem communication & technical support.
- **Quality & Professionalism are PRIORITY!**

MultiPlus Utility Billing Features:

- Maintains *unlimited* billing history!
- In-depth Financial Rate Analysis built in!
- Popup windows for custom info, SS#, phone #, lot & block and notes on accounts.
- Allows customer lookup on *any* field.
- Developed *specifically* for utilities and rural water companies.
- Designed for Single *and* Multi-users.

TAABS Software Products:

- TAABS-II, TAABS-III
- Work Order/Inventory
- Hand Held Readers
- General Ledger
- Accounts Payable
- Active Payroll
- Integrated Cash Drawer
- Preventative Maintenance
- MultiPlus
- Mapping / GIS
- Bar Code Payment Reader



For the BEST! Call our Sales Hotline **800-259-8222**

“What's In This for My System?”

- Free access to Pennsylvania Rural Water Association's Technical Assistance Library, slide presentations, and videos
- Periodical discounts given to *members only*— offered through our Associate Members
- Free access to technical equipment
- Free yearly subscription to our magazine “The Keystone Tap”
- Free copy of Pennsylvania Rural Water Association “Industry Contact Book” or supplier information offered
- Information sent directly to you on all Pennsylvania Rural Water Association's Training Sessions
- Discount for *members only* given on Pennsylvania Rural Water Association's Annual Technical Conference
- Technical assistance provided by registered circuit riders at no charge to you
- Periodically mailing of all legislative updates pertaining to water/wastewater systems
- A quarterly “Members Only” Newsletter

Olander & Brophy, Inc.

“Providing New Pump Equipment & Servicing Since 1934.”

Representing:

- Peerless
- Worthington
- Grundfos
- Hydr-o-matic
- Reda
- Chem Tech
- Goulds
- F.E. Myers
- Berkley
- Vaughan
- Pleuger
- MTH Tool

2300 Eido Road
Monroeville, PA 15146
Phone: 412-372-7103

HOW I SPENT MY SUMMER VACATION

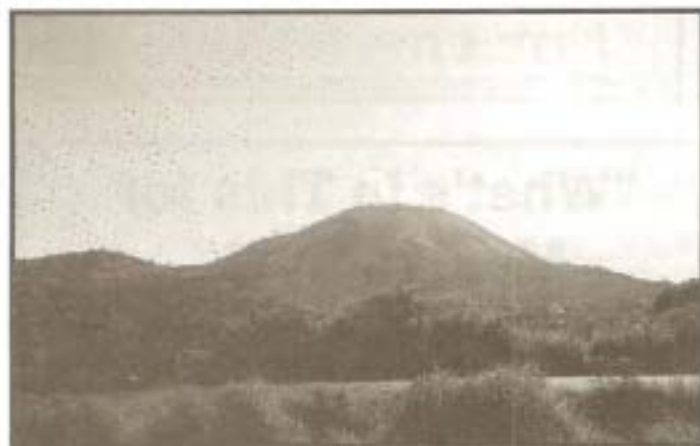
Bill Keller, Wastewater Circuit Rider

To most people, summer vacation means a trip to Disneyworld, a week or two at the beach, maybe getting caught up with some home improvement projects, but Noooo! Not Me! I had to do something different! So while you were all back in Pennsylvania, watching little league games, mowing the lawn, making hay, ripping up the fairways of the golf courses throughout Pennsylvania, and sometimes making your way to work, and maybe wondering where I've been, I was vacationing in wonderful Nueva Esperanza, El Salvador, Central America, Third World, Earth. Actually, vacationing isn't the proper term, I was working, actually getting dirty, in the daily 115 Fahrenheit, 90% humidity hell, they refer to as their "winter season". What was I doing in El Salvador you may ask? Well, I was asking myself the same question nearly every day I was there, and I still do not fully know why, but let me here reconstruct the events.

Sometime in the fall of 1992, I was sitting in the office of a friend of mine Joe Viehback, an assistant to State Representative Tom Murphy of Pittsburgh, as he told me of his summer trip to El Salvador as part of a Pittsburgh based nonprofit group known as the New Hope Brigade. As we spoke Joe stated the group, which included such people as Rep. Murphy, a few building contractors, a school teacher, a dancer, and a few college students, wanted to do a water project in the community, Nueva Esperanza, (New Hope in English), which they had come from. Being familiar with what we do at P.R.W.A., he asked if I could help in any way, and never being able to turn down an opportunity to help someone with a water problem, I quickly volunteered to do what I could. After speaking with the P.R.W.A. Board of Directors, they agreed it would be a worthwhile project, and the Association would support the endeavor. Soon, I was gathering as much information as I could about the current water source, and the availability of a new, better water source. Unfortunately, information was hard to get, therefore myself and a few other people from the group who were considered the technical committee, decided the only way to ensure good water would be to install a filtration system. After investigation, we contacted a gentleman from Nevada named Greg Hanson, who had been selling solar powered pump and filter technologies which had proven highly successful in rural, remote areas where standard technology would be impractical. Next, we began making plans for installation of a 5,000 gallon water tank which the community had somehow come into possession of. We then held a series of fund raising events in order to purchase the equipment. The cost of the project came to around \$8,000.00 (travel expenses were paid by each individual), which was for a filter system, cartridge type consisting of a sediment filter and a 5 micron carbon block filter, followed by a solar powered U.V. disinfection chamber capable of producing 1500 gallons a day at 30 p.s.i., and a solar powered submersible pump, capable of 250 ft. of head. In addition, money was sent to the community for the refurbishing of the water tank and purchase of supplies, pipe, concrete, sand and gravel, we would need

when we got there.

In order to understand the situation, maybe I should explain a little about the community itself. The people of Esperanza were, as many people were, expelled from the country during El Salvador's civil war, for sympathizing with the revolution. As a result, over 200 people, mostly women and children, fled to Nicaragua and lived there for eight years. In 1991, after the war, these people were allowed back into El Salvador and began their 100 mile trek on foot back to their homeland. When they arrived, they began clearing away an area of jungle to be their own. For the first year, they lived under trees, clearing land to farm, and living day to day. As they progressed, more people swelled their numbers to the current population of 350. About this time international help, mainly from Canada, Great Britain and Spain, began arriving to them and other similar communities in the area, until today, they have over 100 concrete block homes such as the one pictured here. Still they lacked clean water, to the point where 12 to 15 new cases of cholera or typhoid appeared every other week. This is where I put one foot in my mouth, and one on an airplane to Central America. Next Issue - The Trip!



View of old volcano - a chain of volcanos cut completely across the northern half of El Salvador.



Water tank was refurbished and installed as part of project.



Villagers and brigade members, under the direction of PRWA Circuit Rider Bill Keller, install a new waterline from well to water tank.



Local children of Nueva Esperanza watch as crazy gringos labor on water system.



Member of the New Hope Brigade, Paul Sorokach, helping to feed one of the local children.



Bill Keller waits on dirt road for an oxen-drawn wagon to take him back to paved road.



This was home for Bill Keller and four other members of the work brigade. In front of the four room dirt floor home is the washing basin, used to bathe, do dishes and laundry. The small room on the left is the kitchen.



Young woman filling water buckets from hand dug well just in front of new drilled well. This well was filled in and eliminated.



UNI-TEC CONSULTING ENGINEERS, INC.

WE UNDERSTAND SMALL SYSTEM NEEDS

**Engineering and Management Support for
Planning, Financing, Design, Construction, Operation**

o Water

Feasibility Studies
Source Development
Treatment
Pumping
Storage
Distribution

o Wastewater

Act 537 Plans
Inflow/Infiltration Studies
Collection
Pumping
Treatment
Sludge Management

2007 Cato Avenue, State College, PA 16801

Telephone: (814) 238-8223 FAX (814) 238-7808

SternPAC™

PRIMARY COAGULANT

THE BENEFITS ARE CLEAR



PERFORMANCE & VALUE

SternPAC provides value and performance that has been proven in water treatment plants around the world.

- Strong instantaneous coagulating ability provides for rapid, effective treatment.
- Dilution is not required before use resulting in simplicity of use and ease of handling, storage and feed.
- Creates dense, compact sludge, reducing sludge volumes and disposal costs by as much as 75%.

STERNSON
WATER TREATMENT CHEMICALS

— Increase water throughput by extending filter runs and reducing backwash requirements.

— Effective over wide pH range reducing the consumption, handling and cost of alkali aids and flocculant aids.

— Consistent performance over wide temperature range including low temperature effectiveness.

— Effective over a wide range of raw water turbidity (eg. 0.5 to 3,000+ NTU) enabling treatment of a complete variety of water sources and changing conditions.

— Stable chemistry provides consistent performance and long storage life.

SERVICE

Sternson Technical Services are unique in the industry. Water plant managers, operators and consulting engineers can benefit from the comprehensive field, laboratory and support services available. From initial investigation through start up to ongoing operations and optimization, the Sternson team is dedicated to supporting you to produce the highest quality drinking water.

For further information, contact our authorized distributors:

Chemply
412-384-5353

Mid-State Chemicals
814-944-2006

Or, call Sternson direct: 1-800-265-0712

CAN YOUR WATER SYSTEM MEET '95 EPA REQUIREMENTS?

KIMBALL CAN:

-  • Design / engineer your new EPA-approved plant
-  • Help you obtain PennVest / Farmers Home Administration funding
-  • Prepare permit applications
-  • Supervise construction
-  • Complete certification / inspection
-  • Produce operator / maintenance manuals
-  • Conduct operator training
-  • Assure smooth start-up operations

Call KIMBALL for small water system engineering and design capabilities.

L. ROBERT KIMBALL & ASSOCIATES

615 West Highland Avenue
P.O. Box 1000
Ebensburg, PA 15931
814 • 472-7700

415 Moon Clinton Road
Coraopolis, PA 15108
412 • 331-6868

460 Caradean Drive
Horsham, PA 19044
215 • 674-0545

PARKER BROTHERS

WELL DRILLING, INC.



"If you can pour it —
we can pump it!"

Rotary Well Drilling • Cable Tool Well Drilling
Monitoring and Test Holes • Pump Repair and Sales
Storage Tanks • Treatment Systems

*Let one reliable firm drill your well, install your pump,
tank and treatment systems!*

6075 E. STATE STREET
HERMITAGE, PA 16148

PHONE (412) 346-4141
ERNIE SMITH, PRESIDENT

WORD SEARCH

by David Coleson / NRWA Field Representative

AQUIFER
ARTESIAN
CASING
CHLORINATION
COLOR
DRAW DOWN
HARD
IRON
NITRATE
PRECIPITATION
PUMP
RECHARGE
SAND
WATER TABLE
WELL HEAD
WATER WELLS

W A W A T E R T A B L E C L P
D N O I T A N I R O L H C K P O
R R O P M O Q R T I H T P M N
A A D I F M T U O M P R S N N
W C C T T O W V I K C A W O I
D T K L P A D O E F L L E W T
O K E O L D T N R Q E J G N K
W U W R D N W I C P W R R K E
N W C D C A K R P K S E A P O
N A R T E S I A N I T C H O N I
C P T A S G N I S A C A C T I
D O U R O L O C R L R E E R R I
F R T T K O R T M D O N R G I
M S P O L S I A K B P M U P P
O O R C R N R W X Y T L M O B



Hold it!

***Things are looking up
in rural water storage.***

Rural water districts and municipalities depend on bolted tanks from Peabody TecTank. Our water/wastewater storage tanks and standpipes are custom designed and engineered for their individual applications. TecTank's certified, baked-on coatings and edge protection produce the lowest maintenance bolted steel tanks available. They do not leak, have no coating cracks and will not need constant repainting. Our sales professionals provide complete technical and budget assistance, with the best service in the industry. For wastewater treatment and potable water, TecTank holds the answers to your storage needs.




Peabody TecTank

P.O. Box 996, Parsons, Kansas 67357 USA
Phone 316-421-0200, FAX 316-421-9122



THE WASHINGTON REPORT

By John H. Montgomery

National Rural Water Association

HR 3392 Introduced by Congressman Slattery

Congressman Jim Slattery (D-KS) introduced HR 3392, the Rural Water sponsored bill to reauthorize the SDWA on Wednesday, October 27, 1993 — National Unfunded Mandates Day. Local government groups have started a nationwide grassroots attempt to reverse the unfunded mandates trend in Congress. The Mayors, Governors and Commissioners said congressional actions requiring cities and counties to implement programs without providing money for them is placing an intolerable strain on local taxes. The Safe Drinking Water Act will result in increased spending by local units of government across the nation by \$2 billion to \$3 billion annually according to the president of the League of Kansas Municipalities. Congressman Slattery said his proposal in Congress, "would give states and municipalities more flexibility in meeting the federal requirements. The present law requires all public water systems to test for the same 83 contaminants, even if those contaminants are not found in the area. It's basically a one-size-fits-all approach . . . causing excessive and unaffordable costs to state and local governments, which has led to widespread, unavoidable non-compliance."

Grassroots Calls and Letters Pay Off

Original cosponsors of HR 3392 included Bliley (R-VA), Rowland (D-GA), Hall (D-TX), Cooper (D-TN), Paxon (R-NY), Upton (D-MI), Lehman (D-CA), Tauzin (D-LA), Pomeroy (D-ND), Bereuter (R-NE), Canady (R-FL), Williams (D-MT), Frank (D-MA), Barrett (R-NE), Barlow (D-KY), McHugh (R-NY), Swett (D-NH), Vucanovich (R-NV), Jefferson (D-LA), Hunter (R-CA), Grandy (R-IA), Walsh (R-NY), Smith (D-IA), Yates (D-IL) and Hoekstra (R-MI). We need to continue to press our members of Congress to cosponsor the bill. Cosponsors give the legislation and its sponsors leverage in the House. In his statement to Congress, Congressman Pomeroy (D-ND) an original cosponsor of the bill said, "If we continue down this road, we will drive towns like these (small communities of ND) out of business in no time at all. Rather than allow communities to focus their resources on contaminants that pose as a real health threat, they force communities to monitor for chemicals which may never be used in the region, or the State for that matter. Our bill allows for flexibility in setting standards, provides for State-tailored programs which allow communities to focus resources on existing risks. Our bill does not undermine the importance of the current drinking water laws. Rather, our SDWA legislation includes provisions which will ensure safe drinking water without bankrupting our communities."

Senator Baucus Holds Hearing on S1547

Steve Levy of Maine Rural Water Association, testified before the Senate Environmental and Public Works Committee on S 1547. Senator Baucus introduced S 1547 on October 14, to reauthorize the SDWA. Much of the hearing focused on the differences between the Baucus and the Slattery bill.

Levy representing all the country's small systems to the Committee, explained the problems small systems face in complying with the SDWA. Other witnesses included AWWA, AMWA, ASDWA, RCAPs, NAWC, the Mayors, the Governors, NRDC and Friends of the Earth.

Any questions or comments please call (202) 298-5596 Fax (202) 333-6732

Comparison of Baucus Bill (S1547) with NRWA's Positions

NRWA Position Number	Does Baucus Bill Coincide
1. Practical and affordable regulations	No
2. Eliminate requirements to regulate arbitrary numbers of contaminants	No
3. Regulated contaminants of public health concern	No
4. Increase health effect research	No
5. Public notice only for violations of immediate public health threat	Yes
6. Consolidation should not be mandatory	No
7. Viability determined by state	No
8. Rewrite section on variances and exemptions	Yes/No Special provisions for systems <3300
9. Monitoring waivers deemed granted	No
10. Redetermine acceptable risk including costs, benefits, and affordability	No

Other NRWA concerns with the Baucus Bill

- Civil Suits Allow for civil suits for past violations and to seek penalties
- User Fees Provide for federal fees to U.S. Treasury if states not adequately funded
- Enforcement Provides for administrative penalties up to \$10,000 a day and adds criminal penalties
- Emergency Powers Allows EPA to take emergency action without consulting state and local authorities
- Mandated Consolidations

FOR WATER & WASTEWATER CHLORINATION

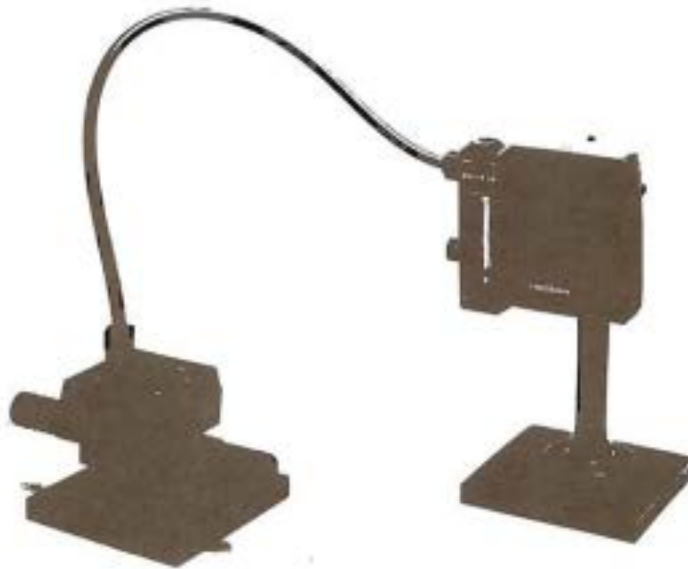
TRY THE **MODERN** GAS CHLORINATOR

- * Ranges from 1.5 to 500 PPD
- * Automatic Switchover
- * Single, Dual & Multi-Point Systems
- * Cylinder, Wall or Cabinet Mounted
- * Automatic Pacing
- * ★ MADE IN U.S.A. ★

MODERN PROCESS SYSTEMS, Inc.



8282 SIEGEN LANE
BATON ROUGE, LA 70810 U.S.A.
504/766-4080 . FAX: 504/769-4107



Western PA Representative

CONNER WATER & WASTE EQUIPMENT, Inc.
3295 Babcock Boulevard
Pittsburgh, PA 15237
(412) 366-2900
Fax: (412) 366-6212

Eastern PA Representative

MOYER INSTRUMENTS, Inc.
421 East Elm Street
Tamaqua, PA 18252
(717) 668-2607
Fax: (717) 668-4720

*CONTINUING IN OUR COMMITMENT TO PROVIDE
QUALITY SERVICES TO RURAL COMMUNITIES SINCE 1962*

Water Supply Planning
Water Source Development
Water Filtration Plants
Reservoirs and Standpipes
Water Distribution Systems
Emergency Response Plans
Drought Contingency Plans
Annual Water Supply Reports
Computerized Distribution System Analysis
Construction Administration

Act 537 Sewage Facilities Planning
Wastewater Treatment Plants
Pumping Stations
Sewers and Force Mains
Infiltration/Inflow Studies
Sludge Management
Operations Consultation
Regulatory Agency Assistance
Rate Studies
Budgets

369 East Park Drive • Harrisburg, PA 17111 • (717)564-1121

1846 Charter Lane • Lancaster, PA 17601 • (717)291-1783

366 Walker Drive • State College, PA 16801 • (814)238-7117

32 West Middle Street • Gettysburg, PA 17325 • (717)337-9684

Safe Drinking Water Act Reauthorization Proposal (HR3392)

1. Establishes standards (Maximum Contaminant Levels) for drinking water based on best technology, risk reduction benefits and cost.
 - Requires EPA to establish, in regulation, best available technology for systems of less than 1,000 people, for systems serving between 1,001 and 10,000 and systems serving greater than 10,000 people. Watershed protection and pollution prevention are specifically mentioned as appropriate technology.
2. Allows states to establish monitoring requirements that are practical and affordable.
3. Establishes a separate standard setting process for contaminants that by their nature should be given special consideration. Radon, disinfectant and disinfectant byproducts, sulfate and corrosion byproducts are listed as the contaminants to be given special consideration.
4. Retain goals (Maximum Contaminant Level Goals) but the goals do not drive the standards.
5. Require EPA, within 18 months of enactment, to eliminate monitoring, compliance and enforcement for contaminants that do not occur at levels of public health concern.
6. For contaminants in the pipeline, but not yet finalized, EPA would be required to use the new standard setting process.
7. Future contaminants for regulation, would be selected based on an occurrence data base.
8. Time frames for compliance with regulations would be established in regulation based on the time needed to plan, finance, design and construct treatment facilities.
9. Allow states to grant a variance from a regulation if a water system cannot afford to install the BAT and if it is not feasible for the water system to connect with another water source. If a state determines that a water system is unable to comply with a designated BAT, the system is required to comply with a "best available affordable technology (BAAT)." EPA, in consultation with the state, is required to identify BAAT.

Fact Sheet

Sinkholes and Your Water Supply

What Is A Sinkhole?

A sinkhole is a depression in the land surface formed by the dissolving of underlying limestone bedrock by water. The overlying soil is eroded away, or flushed down through the cracks in the limestone.

A Sinkhole Can Adversely Affect Water Quality

A sinkhole provides a direct channel to the groundwater. Because there is little or no soil to filter contaminants contained in surface waters flowing into a sinkhole, pollutants that come into contact with this surface water will enter the groundwater very quickly.

Landusers, Beware

In the limestone valleys of central and southeastern Pennsylvania, many sources of water supplies, such as wells, are susceptible to contamination from a sinkhole. These contaminants will show up in YOUR drinking supply.

- Do not dump trash into a sinkhole.
- Do not pour hazardous chemicals into a sinkhole.
- Do not rinse out containers that once held hazardous chemicals or mix hazardous chemicals near a sinkhole.
- Do not use sinkholes as outlets for drainage systems. The nutrients carried from cropfields in the drainage systems can be channelled directly into the groundwater.

Factors to Consider When Treating A Sinkhole

Land use
Size of sinkhole and its drainage area
Safe diversion of water from the sinkhole
Availability of materials to fill sinkholes
Sinkhole maintenance once treated
Proper disposal of trash and containers

How To Treat A Sinkhole

1. Clean out all the trash from the sinkhole. Dispose of the trash safely.
2. Get free technical help from federal and state agencies before you begin treatment
3. Fill the sinkhole with large rocks at the bottom and smaller rocks at the top.
4. Surround it with a grass filter strip, if needed. The rocks and grass help remove the pollutants from surface water entering the sinkhole.

Advantages of Treating A Sinkhole

You improve water quality by eliminating a direct channel for pollutants to enter your groundwater
You protect your drinking supply.

You will have more efficient use of your farmland since the area immediately around the sinkhole can be farmed once the sinkhole has been treated.

You will make the area look better. You will also eliminate a potential hazard to you and others.

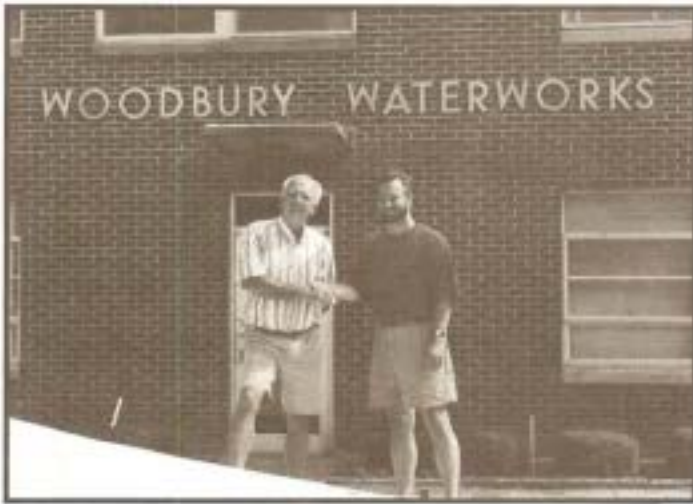
Assistance is Available

Technical assistance is necessary to treat a sinkhole properly. There are many agencies available to help the landowner correct this problem. For more information and assistance, contact:

- Your county Conservation District Office
- Cooperative Extension Office
- Soil Conservation Service Office. These telephone numbers can be found in the government section of your telephone book.

Prepared by Soil Conservation Service, United States Department of Agriculture and Bureau of Soil and Water Conservation, Department of Environmental Resources,
Assistance is available on a non-discriminatory basis, without regard to race, color, national origin, religion, sex, age, marital status or handicap.

Georgia Trip to Woodbury



PRWA Program Manager Steve Krchnavy made a special visit to Woodbury, Georgia, while attending the GRWA State Conference.



Robert and Steve tour Woodbury's plant facilities.



Woodbury is an honorary member of PRWA.



DRIPS & DROPS

Technical Advisory from NRWA

Vol. 5, No. 7

July 1993



Background

EPA's Lead and Copper Rule requires small systems (i.e., serving 3,300 people or less) to conduct their first round of monitoring between July 1 and December 31, 1993. The rule has specific requirements for sample site location and sample collection methods. Even with careful adherence to the specific requirements of the rule, large variations in both lead and copper results have been seen in the monitoring that has already been conducted by large and medium systems. These variations are due, in part, to the corrosivity of water but there are a number of other factors that can affect lead and copper. The following suggestions are made to help small systems reduce the variability of sampling results and the occurrence of abnormally high lead and copper concentrations that may result from these other factors. These comments in no way conflict with the requirements of the rule and require good training and the cooperation of homeowners who may do the actual sample collection to gain realistic sampling results that are characteristic of the distribution system.

Comment

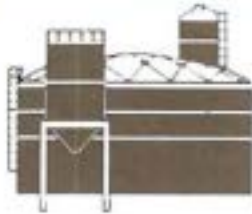
Small water systems must comply with all of the requirements of the lead and copper rule. With careful planning, however, there are a number of specific steps water systems can take where possible to minimize both the variability of lead and copper concentrations and abnormally high results.

Lead and Copper: Suggestions for Selecting Sites and Collecting Samples

Sampling Procedures

Following are comments from water industry professionals who have already begun monitoring. These comments were printed in a Lead and Copper Survey Report funded by the Water Industry Technical Action Fund (WITAF).

- "Write out the instructions, step by step for the homeowners."
- "Utilities should send a technician to each home to explain sampling procedures."
- "Be careful of swivel faucets. Try to mark cold water position."
- "Single arm faucets contain brass with high amounts of lead."
- "Instruct homeowners to clear the tap by flushing the night before the sample is taken."
- "The acid for preserving samples can be added by the water utility after the bottle is collected. This reduces liability to the utility."
- "Develop a 'chain-of-custody' from sample pick-up to delivery of shipper."
- "Several factors can bias the results:
 - do-it-yourself plumbers using lead solder,
 - faucets and fixtures, and
 - electrical grounding."
- "Use slow flow during sample collection."
- "Next time, we're only going to use kitchen faucets."
- "The person delivering the sample bottles should be able to converse knowledgeably about the Rule. He will be asked questions."
- "Never, ever, sample a home that has been vacant for any amount of time."
- "Be sure to avoid homes with water softeners."



MID *Atlantic* Storage Systems, Inc.

QUALITY ERECTORS OF Smith AQUASTORE® TANK SYSTEMS

Glass-Fused-To-Steel coating eliminates the need for repainting.

The factory applied, inert silica glass-fused-to-steel coating process provides long-life internal and external corrosion protection. The glass coating is fired onto the steel sheets at over 1500 deg. F. resulting in a coating that remains bright, glossy and color true regardless of weather and sunlight exposure. Six colors to choose from.

Aquastore tanks are NSF certified and meet AWWA D103-87 for potable water storage; Factory Mutual standards for fire suppression water storage; as well as wastewater treatment and storage applications. Capacities from 10,000 to 3,000,000 gallons.

Ask us about Leasing!



1551 Robinson Road
Washington Court House, Ohio 43160
Phone 614-335-2019 FAX 614-335-0584

Represented by
Kappe Associates
Pittsburgh, PA
Phone 412-824-0815 FAX 412-824-7397

**SOMPLE
SUPPLY, Inc.**

**STOCKING DISTRIBUTOR OF
WATER WORKS PRODUCTS**

- PIPE & FITTINGS
- HYDRANTS
- VALVES
- CURB BOXES
- VALVE BOXES
- SERVICE FITTINGS
- WATER METERS
- REPAIR CLAMPS
- COUPLINGS
- SERVICE SADDLES

WEST NEWTON RD. GREENSBURG, PA 15601 • (412) 836-5700

**UTILITY
SERVICES
ASSOCIATES**

WATER SYSTEMS SERVICES
R. 451 MARY ST.
SCRANTON, PA 18508
(717) 969-9500



**WATER SYSTEM
MANAGEMENT AND OPERATIONS
SERVICES**

**INDUSTRIAL & UTILITY
LEAK DETECTION & PIPELINE SERVICE**

CERTIFIED WATER OPERATIONS — PART TIME & BACK UP
MANAGEMENT AND OPERATIONS CONSULTATION
FINANCIAL PROCUREMENT CONSULTATION
WATER SAMPLING AND ANALYSIS • METER TESTING
PRE-ENGINEERING STUDIES

WATER LOSS STUDIES	CORROSION CONTROL
FLUID LEAK DETECTION	TRACER GAS STUDIES
GAS LEAK DETECTION	MAPPING SERVICES
UNDERGROUND LINE LOCATION	

CERTIFIED SEWERAGE PLANT OPERATORS,
ENGINEERING STUDIES, CERTIFIED WATER OPERATOR
"Certified Backflow Prevention Device Tester"

**"TECHNOLOGY IN BALANCE WITH EXPERIENCE
AND COMMON SENSE"**

AUS

**AUS Consultants
Utility Services Group**

Rate Applications & Accounting
Cost of Service Studies
Depreciation & Valuation Studies
Analysis of Customer Billings
Rate & Tariff Design

Contact:

Gary D. Shambaugh
Executive Vice President
1000 N. Front St., Suite 200
Wormleysburg, PA 17043
Phone (717) 763-9890
FAX (717) 763-9831

SUBSURFACE
TECHNOLOGIES CO.

**LOCATING • TESTING
PINPOINTING**

LEAK DETECTION SPECIALISTS

**COMPLETE
UTILITY AND PIPELINE
SERVICES**

**165 Stewart Avenue
East Rochester, PA 15074**

**24 Hours A Day
CALL: (412) 728-0460
Mike Carver, Consultant**



Lower lead and copper levels with a helping hand from the people at **ARM & HAMMER®**

Confidence at the tap. Now more than ever that's what you and the citizens of your town expect.

One of the things that can threaten that confidence is contamination by lead and copper. This is a particular problem in areas where soft, acidic surface waters pass through lead service pipes and copper household plumbing. Such was the case in Bennington, Vermont, and Fitchburg, Massachusetts.

These two New England municipalities tackled their problem by raising the pH and alkalinity of the water prior to distribution in an effort to render the water less corrosive and prevent lead leaching. Sodium hydroxide was used to boost pH and ARM & HAMMER® pure sodium bicarbonate was added to increase alkalinity.

The results were outstanding! A hard, impervious coating formed on the inside of the lead service pipes, effectively sealing the pipes from water and dramati-

cally reducing leaching. Bennington has experienced a 95% decline in point-of-use (POU) first draw lead levels, with current values consistently below 10 ppb. Fitchburg recorded a 75% decline in copper levels and a 60% decline in lead levels after only six months of treatment, with first draw lead levels less than 10 ppb.

The success of Bennington and Fitchburg can be yours. Call The Bicarbonate Experts™ at Church & Dwight today for a no-obligation assessment of your surface water situation.

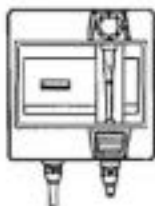


Church & Dwight Co., Inc.
Specialty Products Division
469 North Harrison Street
P.O. Box CN5297
Princeton, NJ 08543-5297
800-221-0453 (outside NJ)
609-683-5900

©1991 Church & Dwight Co., Inc.

Environmental Equipment and Service Co.

7 WEST 9TH ST. - MARCUS HOOK, PA 19061



- * Metering Pumps
- * Gas Chlorinators
- * Parts and Accessories
- * Service and Installation



**IN STOCK
COMPETITIVE PRICING**

WALLACE & TIERNAN - LMI - ENTERRA - NALGENE

PHONE: (215) 497-5900

FAX: (215) 497-3293

If You depend on water...
You can depend on CDS.



As part of the largest and most experienced water system service company in the nation, CDS provides professional services for industry, agriculture and municipalities. CDS, a division of Layne-Wescom Company, Inc., has the resources and trained personnel to handle all your water supply needs.

- Water Well Design and Construction
- Pump Sales, Installation, Repair
- Sonar-Jet and Aquastream
- Hydrological Services
- Water Treatment Services
- Test Drilling
- Downhole TV
- Monitoring Holes
- Well Redevelopment
- Chlorinator Service

24-hour emergency service, 7 days a week

CDS

A Division of Layne-Wescom Company, Inc.
279 Millers Run Rd.

Bridgeville, PA 15017
412/257-8310

When were your tanks last cleaned and inspected??

As a supplier of water to the public, many responsibilities rest squarely on your shoulders. As new legislation such as the Safe Drinking Water Act come into focus, the need to use more innovative and cost effective methods to perform these chores and maintain equipment *meeting the performance requirements of the 1990's becomes apparent.*

Marion Hill's Potable Water Dive Teams can make your life Easier using proven underwater technology.

**MARION HILL
ASSOCIATES, INC.**



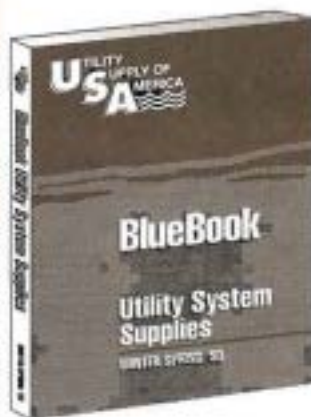
**Marion Hill Associates, Inc.
Diving and Marine Services
412/847-DIVE (3483)**

“What's In This for Me, an Associate Member?”

- The chance to offer Pennsylvania Rural Water Association's members a special discount to promote your product
- Free yearly subscription to our magazine “The Keystone Tap” and discounted advertising
- Free advertising in Pennsylvania Rural Water Association “Industry Contact Book”
- Information sent directly to you on all Pennsylvania Rural Water Association's Training Sessions
- Discount for *members only* given on Pennsylvania Rural Water Association's Annual Technical Conference registration and exhibiting
- Periodically mailing of all legislative updates pertaining to water/wastewater systems
- A quarterly “Members Only” Newsletter
- Annual Associate Members Luncheon

“YOU NEED THIS”

— William Richardson, past president
American Water Works Association and
International Water Supply Association



USA BlueBook™ is a 320 page catalog of supplies and parts for water and wastewater operators. The company is run by industry professionals with years of field experience in operations. Over 7,000 items are in stock ready for immediate delivery. The catalog includes prices, pictures and descriptions on everything from laboratory supplies to chemical feed pumps and from DO probes to confined space. Products from over 400 manufacturers are listed. Order your FREE copy today!

Call 1-800-548-1234

Name _____ Title _____

Address _____

Facility _____

City _____ State _____ Zip _____

Phone () _____

We need this to serve you better.

Engineer Operator Reseller Industrial

Mail to: USA BlueBook P.O. Box 1186, Northbrook, IL 60065



DRIPS & DROPS

Technical Advisory from NRWA



Vol. 5, No. 6

June 1993

Cryptosporidium

Background

The recent waterborne disease outbreak in Milwaukee, WI, involving *Cryptosporidium* (*Crypto*) caused an estimated 300,000 illnesses and is the latest and largest waterborne outbreak in the U.S. in the last five years. *Cryptosporidiosis* is the disease caused by the organism *Cryptosporidium parvum*. The most common symptoms associated with the disease are diarrhea, vomiting, abdominal cramps and fever. It may also be life-threatening to some AIDS patients. In normally healthy individuals the disease is self-limiting. The organism itself is similar to *Giardia* in that it is an intestinal parasite that can be excreted in large numbers by infected individuals. Like *Giardia* it is also likely that it is transmitted by animals. In the environment, the organism exists as a highly resistant oocyst which is the infectious stage in the life cycle of the organism. *Crypto* oocysts have been found in very high concentrations in sewage and in reservoirs, lakes, and rivers. It is unlikely that ground water would be contaminated except when under the direct influence of surface water.

Comment

Additional research needs to be done on the occurrence of *Cryptosporidium* in water and the effectiveness of treatment processes that include both filtration and disinfection. However, water system operators should take action now to assure that existing treatment facilities are operated to minimize the risk of *Crypto*.

Current Regulations

The current Surface Water Treatment Rule regulates *Giardia* and viruses but not *Crypto*. Since the rule was designed to remove *Giardia*, which is a slightly larger organism and less resistant to disinfection, a water system may be in full compliance but may not be totally removing *Crypto*. Future regulatory requirements will very likely be directed at its removal/inactivation since outbreaks of *Cryptosporidiosis* have occurred in systems in full compliance with the SWTR and total coliforms.

The role of watershed protection in minimizing *Crypto* at potable water intakes has not been investigated. Common sense would suggest that discharge from waste water plants, feedlots, slaughter houses, etc., should be controlled to the maximum extent possible to minimize the presence of oocysts.

Oocysts can be detected in water supplies by new methods and there are a number of labs throughout the U.S. that can perform the analysis. Unfortunately, failure to detect *Crypto* in a single sample does not guarantee it will not be present sporadically in any surface water source.

Water Treatment Recommendations

One key to controlling the transmission of *Crypto* by public water systems is optimal water treatment plant performance. Clearly, interruption in treatment, particularly disinfection, must be avoided at all times. Individual plant operational goals that are more restrictive than the SWTR should be practiced – for example, having a turbidity goal of less than 0.2 NTU. Other operational techniques should include filter to waste at the beginning of filter runs if possible and avoiding start-stop operations that may result in small slugs of turbid water passing through filters. Continuous monitoring of individual filters would enable them to be backwashed when effluent turbidity levels begin to rise.

Because the research has not yet been done to determine what disinfectant residual levels are needed to inactivate the organism, the only recommendation to be made at this time is to at least meet the current SWTR requirements for disinfectant concentration and contact time, while recognizing that *Crypto* is much more resistant than *Giardia*.

The Diffuser

A Technical Advisory from NRWA

Vol. 3, No. 3 Fall 1993

EPA to target minor NPDES permit violations, increase enforcement



Comment

Pre-treatment programs, if monitored and enforced, burden the expense of treating difficult waste to the contributor and not to the whole customer base. Pre-treatment programs can be the difference between utilizing the existing treatment process and financing a million-dollar-plus treatment plant project.

U.S. EPA has directed its regional offices to increase enforcement of minor and other violations of the NPDES permits. The scope of the agency enforcement actions is to include both current and past violations, as well as public and private dischargers.

The increased enforcement activities will include: a minimum \$500 administrative penalty for failure to submit discharge monitoring reports and for violations of daily maximum and other averages for toxics and metals. The increased enforcement activities of significant non-compliance will foster deterrence and avoid repeat violations.

Regional offices are requested to focus on particular watersheds where the cumulative impact of minor violations is considered significant and increase vigilance over publicly-owned treatment works (POTW) pre-treatment programs and industrial users to maintain the creditability of the pre-treatment programs.

The U.S. General Accounting Office (GAO), the oversight arm of Congress, has issued a report calling EPA to assess NPDES permits. These fees would be earmarked specifically to enhance NPDES program oversight.

The GAO report states that EPA has inadequate resources to ensure proper program oversight and recommends establishing a permit fee system. Currently, many states with the authority to issue NPDES permits charge permit fees while EPA does not.

Helping Water Systems Cope:

A Day in the Life of a Circuit Rider

by Beth Cahape, NDWC Staff Writer

Through its state affiliates, the National Rural Water Association (NRWA) administers the Circuit Rider Technical Assistance Program. For part two of our look at this program, Circuit Rider David Holt allowed On Tap staff to accompany him on a typical day of technical assistance rounds for the West Virginia Rural Water Association (WV-RWA).

David Holt starts his day early, usually in some place far from his home in Greenbrier County, West Virginia. On this December morning his route will be in and around the central part of the state.

He points to the boxes he'd just been rearranging in his van: "Junk Man is my CB handle," he laughs. "I always carry a lot of spare parts—condensers, resistors, transistors, pieces of turbidity meters, solder guns.... It's junk to some people, but not to me. You never know when you're going to want it for some repair work."

"If you're a circuit rider, there are a lot of things you should be. You ought to be a native, know your state, and you should know equipment and treatment . . . and you really need to be a junkman!"

Once inside the truck's cab, Holt scans his list of requests. There are four possible stops for the day, depending upon how long the earlier ones will take. The first is a water system with 500 hook-ups, and Holt needs to do a follow-up to see how the new chlorinator is working.

As Holt navigates his van along mountain back roads, he says, "I've been a farmer, logger, worked in heating and cooling, and finally, in 1979, I got certified as a water plant operator for the state prison in Pence Springs." Years later, he worked as an operator for the town of Alderson and neighboring White Sulphur Springs.

When I first started as a circuit rider in 1989, one of the WV-RWA board members told me: "You know what needs to be done. Just go out there and do it!" They were kind of worried about me, though. The last circuit rider got burnt out on the traveling in three years, and they thought I might, too. But I was made for this job. I'm totally on my own, my own boss, thanks to a good board of directors

"I have to do 35 on-site calls to systems every month, but the circuit rider program is very stable in this state. I usually do more than that.

"I telephone the office every day to find out if I have had any more requests, and then I hit the road. Mostly how I work now is through requests. Of course, if I pass by a system I haven't been to before, I'll make a howdy-doody contact. Let them know who I am. Anymore, I drive three to four thousand miles a month."

The Day's Work Begins

At the first stop, water operator Dan Riter greets us in his office, offering coffee and apologizing for his wrinkled appearance.

"I'm pretty worn out. We had a fire up in town and I've been

up all night fixing leaks around the hydrants," says Riter. "I got them pretty much taken care of." He sighs, "I can't teach these volunteer firemen to turn off the hydrant valves slowly."

Holt checks the chlorine pump, and quizzes Riter on its efficiency. Riter explains that he's having a problem keeping up chlorine levels in one distribution area. Holt replies, "You know that old line out there is eating up your chlorine."

Although this town has been able to install a much needed new plant, there aren't enough funds to replace ancient water mains that are leaching iron, and this depletes the chlorine treatment. Holt offers another alternative: ". . . it'd save you a lot of money to just put another chlorinator in the old plant over there."

Riter nods as he and Holt walk outside. "Yeah, I'll think about it," says Riter. "Of course, the two local chemical companies keep having these chlorine wars. The price is pretty cheap right now"

Once on the main road, Holt shakes his head. "Dan's a good operator. Works hard. I hope they don't loose him."

Keeping Good Operators

Montana's circuit rider, Harry Whalen, echoes this perspective on losing operators. "The local water boards can't understand that operator turnover is awfully, awfully expensive. They almost never give raises. They just don't understand that they gotta have somebody who will stay there."

"A lot of these systems will pay an operator four, maybe five dollars an hour," Holt explains. "As a rule, you generally get what you pay for."

Although the operator situation is difficult now, Holt worries more about the future. As the Safe Drinking Water Act (SDWA) requirements get stricter, he explains, keeping a system in compliance will require even more of qualified operators.

How Long Is a Piece of String?

Before arriving at the next water system, Holt shares some of its history. "I face emergencies pretty often: such as a water line that bursts and drains a tank. I usually get these kind of situations once or twice a month.

"The water system in this town had one the other day. Their filter blew up, and they were working with just one They couldn't supply enough water. It's a 30-year-old plant with the original I filter, and it was totally shot. They haven't maintained it or the place at all.

"So, last week I helped them put in a new filter. We're going to add a potassium feed this morning to eliminate the iron/manganese problem they're also having."

When asked how much this repair work would cost if done by a private firm, Holt replies, "How long is a piece of string? Any length you want, right? And putting in a new treatment system like this can be any price you want to pay."

Holt shares a frustrating story about a water system where he had just helped the operator choose and install a treat-

A Day in the Life

ment program. A salesman, arriving weeks later, offered to sell the management something "that'll beat what you just got, only cheaper." Holt explains that the salesman's solution wouldn't have worked and ultimately would have cost the system more, but "a lot of these operators and officials are vulnerable to this kind of thing."

A Troubled Small System

Nearing the system, Holt muses: "I've been to this system at least four times now. It started out with a water leak, then we helped clean up their water because it failed a coliform test and they had a "boil water advisory" slapped on them by the health department. I helped them replace the filter media next, and today we'll set up this treatment. The operator here is handling both the waste treatment plant and the water plant. He's a hard worker, but he's got his work cut out for him."

Once at the system, Holt is greeted by more people than just the operator, Carl Williams. Also on hand is a member of the local city council, a chemical salesman, and Larry Rader, program manager for WV-RWA. They expect the town's mayor to come by soon, along with a local public health department official. This system serves a community of 11,000 residents. With its recent problems, the health department has been monitoring the system's progress more often.

Today, Holt and Rader will work together. Rader explains that, although this community's water is now safe, there have been many complaints about its taste and color.

"Regulators can force you to make the water safe," says Rader, "but they can't force you to make it drinkable."

But What Will It Cost?

With a recently failed water supply, a "boil water advisory," and numerous complaints about the general quality of the water, the officials in this small community have decided, with some trepidation, to invest some funds in their troubled water system.

Not surprisingly, the first question the mayor asks when he arrives is "How much will it cost us?" Holt and Rader have calculated costs for the additive at around six cents per thousand gallons. The mayor grimaces.

"We're planning on raising our rates somewhat, but you just can't triple your water bills," the mayor says. "We've been applying for years for some grant money but haven't gotten anything."

Even with a community demanding a better water supply, Holt explains that water rate increases are difficult to push through in most small towns. "There's a problem in this state. Most of these systems are underfunded, and a lot of them are mismanaged or they lack a maintenance program. They can't afford better . . . or claim they can't afford it. But they won't go with a rate increase. You always hear 'Everybody's on a fixed income!'"

This is a dilemma described by circuit riders across the country. In Pennsylvania, Steve Krchnavy explains, "It's very hard for an elected official to go into a council meeting, slam

the gavel down, and announce 'We're raising water rates six dollars!'"

"You'd think paying 10 to 12 dollars a month for water was the end of the world," echoes Whalen in Montana, ". . . but customers never bat an eye about paying their \$35 monthly cable television fee."

Education is Key

Hours later, after assisting Williams in the installation of the treatment feed pump, figuring costs, and evaluating the water color in the detention tanks outside, Holt gives him some final instructions. Williams listens carefully as Holt explains how to evaluate the general treatment after the additive has spread throughout the distribution system.

With so many people at this second system today, Holt has taken a lot of time to answer questions and respond to the concerns of each of the visitors, putting him behind schedule. He loads up his van to head to his third—and last—stop of the day, some 60 miles west.

Speculating on what the second system still must do to comply with current SDWA regulations, Holt shakes his head. "I don't know if there's a solution to it. We've got lack of money, lack of management, and council members and mayors don't always listen.

"The Environmental Protection Agency [U.S. EPA] is going to start cracking down on these systems pretty hard. Then, these officials will probably start listening.

However, educating the public is another way to change things, says Holt. "How we do that is a good question. And I'm not really a teacher. It's the circuit rider's place to help, but we need more help.

"What's the public going to do about it? They should be educated as to what to expect, and make arrangements to see to it that their community gets somebody in there, an operator who's qualified to do it and knows what he's doing. But it's absolutely the operator's responsibility to produce clean, clear, pure water."

The Operator's Advocate

As for his role as a circuit rider, Holt says that the main thing is to show them how to do it, not do it for them. Anytime I've got a leak detection job, I'll usually find the leak then I'll let the operator have the leak detection device and tell them to go until he finds it himself. That way, he knows what it sounds like, and he knows how to find it. It's the best way to help them.

"They know circuit riders don't cost them anything. Know I'm not going to ride them. I'm just going to see to it that they do it right. I'm there to help them. I don't go in and boss anybody. I don't tell them what to do —

I suggest that they do this or that."

Often times water operators work in isolation, with little time or prospects for connecting with others in their field. Throughout the day Holt has served them in many roles: teacher, advisor, co-worker, and, most importantly, supporter.

This last role is obvious when he describes the man at the next system. Nominated as the "Small System Operator of

continued on page 58

A Day in the Life

continued from page 62

the Year" by the WVRWA, Holt describes Bill Long:

I'm proud of that boy. Not because of what I taught him as much as his *initiative* . . . With the drought last summer they had a bad water shortage. Almost ran out. He worked day and night to keep them supplied.

During that time he told me, "if it doesn't rain, we've got 30 days of water left. After that 30 days, I don't know what we're gonna do." Ultimately, Holt says, they pulled through the drought and water shortage when Long enlisted the help of a mining company. The system was able to collect water from a local mine reservoir.

Problems With Management and

Long works for a community of 4,000 people. Its water plant was built in 1923, and he keeps it clean and organized. Holt finds him in one of the pump houses, working on some equipment. After introductions, Long grimly states:

"I may not be here the next time you stop by, because I might get fired. Our water is running 2,000 parts per million of sodium, and the mayor wants me to use it anyway. I am not going to jeopardize the public's health just because the VFD wants the tanks full to fight fires."

Long is faced with a dilemma that many water system employees face when supervised by elected officials. Poor management may also add to the problem.

Holt points to the well heads scattered around the property. "This system had all the good water they needed with those wells, but they went to the creek for their water supply years ago, and they let these wells go. Now the plumbing is so corroded, they're worthless." Long nods.

The two of them then go in the mini lab Long has set up in his office, and Holt explains a procedure for testing—his purpose for the visit.

As Holt readies to leave, Long refers again to his predicament with the mayor and the water supply: "I don't know what's gonna happen . . ."

"Keep me posted, Bill," Holt replies, pulling up his collar. He looks up at the clouds. "It's gonna turn cold on us . . ."

"Let her snow," says Long. "We need the water."

For the number of your state Rural Water Association, call the National Drinking Water Clearinghouse at 1-800-624-8301.

Have you nominated your system, man of the year, woman of the year and decision maker of the year? Information is in the mail to all members. Don't miss your chance for Conference 1994 awards!

Good Morning!

I am the office manager.

by Jearl Ramsey

There are basically four types of mornings for a water system office manager. There are the Monday blues, beginning with attempts to serve a balanced breakfast from a multitude of package goods featuring cartoon characters; getting the kids off to school and having a quick cup of coffee with your spouse before both must get to work.

Traveling to the office resembles an Olympic obstacle course, of beeping cars, fluorescent orange construction barrels, and balancing yet another cup of coffee! Upon arrival, mercifully minus any coffee stains or burns, the office is exactly like you left it Friday evening plus a few unwashed cups, a full trash can, and several notes of things to do from the boss over the weekend. To top off the first hour in the office, an irascible and irate Mr. Smith comes in demanding "Why is my water bill so high? My family could not possibly have used that much! The meter must have something wrong or you people messed up somewhere." Calmly and efficiently, using skills only experience can teach, the already harried office manager takes care of the problem with a logical explanation after looking up Mr. Smith's file. Good morning to you too, Mr. Smith. This is just the start to a typical day at the office.

As the week progresses the office manager has been able to do the monthly bills, collections, entering payments in the computer, write up complaints, and prepare the minutes of the last utility board meeting. Also, they handle several other people resembling this morning's Mr. Smith. The office manager takes all the above from any customers because they are the most accessible to the public. But instead of meeting their complaints with a growl of "I only work here", they take the time and energy to satisfy the customer and in the process boost the image of the water system. Most of your high standings or success in the community can be traced back to this diligent office manager.

At last it's Friday evening, time to lock up shop, empty the trash cans, clean up any coffee cups and go home. Go home to a busy weekend of baseball games, cheerleading practice, parent/teacher conference, dinner at the in-laws, and of course, a few calls from the boss asking "How do you call up the billing list on the computer?" or "Where is that file on the new proposed water system?" The work of an office manager never ends. One only wonders if they change into their super-hero costume in a nearby telephone booth before coming to work!

So take time out of your day to say 'Thank you' to your office manager, and let them know you appreciate all their hard work.

1st Quarter Training — 1994

February 8, 1994 — Gas Chlorinators — Williamsport
Ed Akus, speaker

February 10, 1994 — Gas Chlorinators — Brookville
Ed Akus, speaker

February 16, 1994 — Administrative/Management Workshop — Nittany Lion Inn, State College



Conference 1994 March 27-29, 1994 "Putting the Pieces Together"



SUNDAY, MARCH 27, 1994

12:00 Noon - 4:00 pm Welcome Center	NITTANY LION INN — Registration
3:00 pm - 5:30 pm	"PRWA BOWLING PARTY" — Food, Fun & Bowling — Last year was the first, this year it's getting "serious"
7:00 pm - 8:00 pm	"PRWA Committee Meetings"
9:00 pm - 11:00 pm	"PRWA Hospitality Room" sponsored by the Associate Members

MONDAY, MARCH 28, 1994

7:30 am	REGISTRATION — Continental Breakfast			
8:30 am - 10:00 am	<p>1 Hydraulics of a Distribution System</p> <p>George Hart, Bankson Engineers</p>	<p>2 Financing Your System: A Hands On Approach</p> <p>- Penny Eddy</p>	<p>3 Developing an O & M Plan for Your Wastewater System</p> <p>- BCM Engineers, Inc.</p>	<p>4 Public Utilities Commission and the Small Systems: An Overview</p> <p>-PUC Commissioner, Lisa Crutchfield</p>
10:00 am - 10:15 am	BREAK			
10:15 am - 12:00 noon	<p>OPENING CEREMONIES: Welcome by PRWA Board President Featured Speaker: Dr. Michael G. Skinner, Ph.D. and Consultant "STRESS MANAGEMENT: TAKING CONTROL OF YOUR PERSONAL LIFE"</p>			
12:00 noon - 1:00 pm	LUNCH			
1:00 pm - 2:15 pm	<p>5 Hydrant Maintenance: -Flow Testing; - Fire Protection Rating; - ISO; Mueller, American Waterous, Kennedy</p>	<p>6 Personal Development</p> <p>- Helen Ferri Mallin</p>	<p>7 Meeting Stricter Ammonia/Nitrogen Limits at Your Wastewater Plant</p> <p>- Geri Ramsler</p>	<p>8 Public Utilities Commission: Regulations - Jim Melia, Tucker Arensberg, P.C.</p>
2:15 pm - 2:30 pm	BREAK			
2:30 pm - 3:30 pm	<p>5a Hydrant Maintenance: continued</p>	<p>6a Personal Development continued</p>	<p>7a Wastewater Session continued</p>	<p>8a PUC: Regulations continued</p>

MONDAY, MARCH 28, 1994 continued

3:30 pm	ANNUAL ASSOCIATION BUSINESS MEETING
4:00 pm - 6:00 pm	"MARDI GRAS: Celebrate New Orleans Style!" Board I & II - Food, Entertainment and Fun . . . we guar-an-tee! -Ugly Lunch Box Contest — Bring in your 'ol favorite lunch box for judging.
7:00 pm - 9:00 pm	"EXHIBIT HALL EXTRAVAGANZA" "Putting the Pieces Together" Ballroom A, B & C - Exhibit Hall Opens with 60 Exhibitors, Door Prize Drawings, Refreshments sponsored by the PRWA Associate Members "Pride of PA" Water Testing - At the PRWA Booth
9:00 pm - 11:00 pm	"PRWA Hospitality Room" sponsored by PRWA Associate Members

TUESDAY, MARCH 29, 1994

8:00 am	REGISTRATION - Continental Breakfast			
8:00 am - 9:00 am	EXHIBIT HALL OPENS - Door Prizes			
9:00 am - 10:00 am	<p align="center">9 Where in the Well Is Your Water?</p> <p align="center">- Bill Gough Moody & Associates</p>	<p align="center">10 SDWA Update: PA Chapter 109</p> <p align="center">- PA DER Representatives</p>	<p align="center">11 Trouble Shooting Wastewater Systems</p> <p align="center">- Dr. David Long, PSU</p>	<p align="center">12 Requesting Rate Increases</p> <p align="center">- Gary Shabmaugh, AUS Consultants</p>
10:00 am - 11:00 am	BREAK - EXHIBIT HALL OPEN - Door Prizes			
11:00 am - 12:00 noon	<p align="center">13 Protecting Your Well</p> <p align="center">- Paul Evans, PSC Environmental, Inc.</p>	<p align="center">14 "What are we ordering . . . and what is its purpose?"</p> <p align="center">- Don Kuhns, R.F. Schneider Pipe & Supply Co., Inc.</p>	<p align="center">11a Trouble Shooting Wastewater Systems . . . continued</p>	<p align="center">12a Requesting Rate Increase . . . continued</p>
12:00 noon - 1:15 pm	LUNCH			
1:15 pm - 2:00 pm	EXHIBIT HALL FINALE - Door Prizes			
2:00 pm - 3:30 pm	"LEGISLATIVE INITIATIVE" - Open Forum - Mike Keegan, Legislative Committee, National Rural Water Association			
5:00 pm - 6:00 pm	SOCIAL HOUR - sponsored by Associate Members			
6:00 pm - 9:00 pm	BANQUET			



Conference 1994
March 27-29, 1994
"Putting the Pieces Together"



Call PRWA today for your registration packet or more information, 1-800-653-PRWA.



Gannett Fleming
ENGINEERS AND PLANNERS

75 Years

WATER AND SEWER PIPELINE SERVICES

- WATER LINE LEAK LOCATION
- INTERNAL PIPELINE GROUTING
- PIPELINE TRACING AND MAPPING
- HYDROSTATIC AND AIR TESTING EQUIPMENT
- FLOW METERING AND SAMPLING EQUIPMENT
- TANK CLEANING AND TESTING SERVICES
- INFILTRATION / INFLOW ANALYSIS AND SURVEYS
- INTERNAL PIPELINE TELEVISION INSPECTION
- HYDRAULIC AND MECHANICAL PIPELINE CLEANING
- MANHOLE AND WETWELL REHABILITATION
- WET OR DRY MATERIAL VACUUM SERVICES
- DECONTAMINATION AND CLOSURE PLANS

P.O. BOX 67100
HARRISBURG, PA 17106-7100
800-233-1055



(3) Locations To Serve You

CONNEAUT LAKE, PA
Phone (814) 382-8196

NEW DERRY, PA
Phone (412) 694-2900

ORMSBY, PA
Phone (814) 465-3520

Service In Motion



Give yourself a boost . . .

- On-Site Assistance regarding problems with your water/wastewater system,
- Keeping water/wastewater system operators informed on water and wastewater related subjects;
- Support of projects to funding agencies;
- Information and Technical Assistance in setting up maintenance programs, budgets, billing rates, finding needed supplies, access to the PRWA Library, etc.,
- Offering training for operators, managers, and local officials throughout the year;
- Presenting unbiased information to your council or board, by our staff, at your meetings.
- Mailing of our quarterly magazine, "The Keystone Tap,"

PRWA and YOU  Joining HANDS TOGETHER

to do things we cannot do alone.

PRWA — your ASSOCIATION — become a member . . . TODAY!

YES, (I) (WE) want to support PRWA:

Please print or type

SYSTEM/COMPANY NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

CONTACT PERSON _____

PHONE NUMBER _____ COUNTY _____

NUMBER OF METERS IN SERVICE _____ DATE _____

Mail To: Pennsylvania Rural Water Association
138 West Bishop Street, Bellefonte, PA 16823

(814) 353-9302

Water System
Membership _____

(\$175.00 per year)

Waste Water System
Membership _____

(\$175.00 per year)

Joint Water/Waste Water
System Membership _____

(\$225.00 per year)

Individual Membership _____

(\$50.00 per year)

Associate Membership _____

(\$200.00 per year)

Pennsylvania Rural Water

138 West Bishop Street
Bellefonte, PA 16823

Bulk Rate
U.S. Postage
PAID
Permit No. 12
Indiana, PA 15701

Address Correction Requested

THIRD CLASS

ATTENTION: WATER/W.W. DEPT.

When finished reading, please route to:

- Operators/Managers
- Clerk/Treasurer
- Board