"We'll Help Anybody That Needs Help"
A Look At The Circuit Rider Technical Assistance Program

by Beth Cahapen
NDWC Staff Writer

If you talk to small system operators who have received the assistance of a circuit rider, you will find that few—if any—have anything but praise for circuit riders or the program that makes their services possible. In fact, the only complaint we heard is that there aren't enough circuit riders to go around!

What follows is the first of a two-part report that looks at the circuit rider program today—the types of services offered; how small water systems can and do benefit from it; and what this program may emphasize in the years ahead.

“I like being called a circuit rider,” says Steve Krchnavy, circuit rider for the Pennsylvania Rural Water Association. “It's not too technical a name, or bureaucratic. Lord knows small town people don't like bureaucracy! . . . I like to compare my circuit riding to those judges and preachers from the days of the old West. My job is to just travel from town to town, helping people out.”

This modest summary of the good works accomplished by the Circuit Rider Technical Assistance Program is typical of both the program and the individuals involved. It is amazing that—in these days of ever increasing regulation and financial burden—this program gets so little praise or recognition. Often the only person a small community can turn to for help with its water system problems is a circuit rider.

Established and funded by the Farmers Home Administration (FMHFA) in 1980, the Circuit Rider Technical Assistance Program is managed by the National Rural Water Association (NRWA) via state Rural Water Association (RWA) chapter affiliates. Circuit riders offer a wide variety of technical assistance to any small public water system in the United States and Puerto Rico. The major requirement is that the communities they serve must have a population of no more than 10,000.

Nearly 200 farm labor camps, which supply water to more than 8,500 people in 20 California counties, have been cited by the U.S. Environmental Protection Agency (EPA) for violating the Safe Drinking Water Act (SDWA). According to an article in the Sacramento Bee last fall, it is the first time EPA has enforced the law for farm labor camps, which must meet the minimum regulatory standards of the SDWA if they provide water at least 60 days a year to at least 25 people or 15 service connections.

According to an EPA press release, most of the 191 camps violating the law were not sufficiently sampling for contaminants or had exceeded limits for coliform bacteria and nitrates.

“The presence of coliform bacteria in drinking water indicates that organisms may be present that can cause diseases such as typhoid, cholera, infectious hepatitis, and dysentery,” says the release. “Coliform bacteria also can indicate that various parasites may be present. Nitrate, which derives from sewage, fertilizers, and feedlots, poses a threat of ‘blue baby syndrome,’ a potentially life-threatening anemic condition in babies up to six months of age.”

The citations were in the form of a notice of violation issued to the individual counties involved and the California Department of Health Services, which has primacy over the citations.

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Drinking Water Clearinghouse Is Here for You

Our goal is to make information on drinking water issues easily accessible: through our toll-free telephone number, our educational products, our contacts with other agencies and organizations, our databases currently under development, and, of course, through our free newsletter. If you did not receive the survey and would like to provide input, call us at 1-800-624-8301 and we'll send one to you.

Our goal is to make information on drinking water issues easily accessible: through our toll-free telephone number, our educational products, our contacts with other agencies and organizations, our databases currently under development, and, of course, through our free newsletter. We encourage you to take the time to write to us with your responses to the newsletter; we hope a letters to the editor column can become a regular part of the publication. We also welcome relevant articles by guest columnists. Just send your letters or articles to our editor, Diana Knott, at the address listed in the staff box on this page.

Some of you may remember me from my previous role as outreach coordinator with our sister organization, the National Small Flows Clearinghouse (NSFC), which has been disseminating information about the Clean Water Act and small community wastewater issues since 1979. Although the service delivery model for the NDWC is very similar to that of the NSFC, we are in our early stages of formation and growth. Still, in the coming months you can expect us to offer more from our service areas. David Pask, an engineer with many years' experience as a public health engineer in Canada, has joined our team to provide support on technical issues. Through our developing databases, we will be able to provide referrals; our resource center will allow us to offer more drinking water documents and products, as well as an electronic bulletin board system.

Meanwhile, our staff looks forward to the opportunity of serving the information and assistance needs of small communities in the area of drinking water, and we hope we’ll hear from you.

Welcome to the premier issue of On Tap. Through this quarterly newsletter, we will attempt to keep community leaders, water industry professionals, and others involved in environmental issues informed about drinking water assistance programs, regulations, products, technologies, and health, finance, and management issues relevant to America’s small communities. We hope you find this first issue informative and that On Tap will be a publication you look forward to receiving.

Funded by Farmers Home Administration, the National Drinking Water Clearinghouse is a brand new organization, and we hope you will take the time to contact us with your suggestions and concerns. We recently distributed surveys to a number of people involved in the drinking water field and are currently reviewing and tabulating them. We’ll include the results in a future issue of On Tap.
23rd Annual Earth Day Nears

Earth Day is Wednesday, April 22. This annual celebration was started in 1970, when citizens around the country gathered to demonstrate their concerns about the environment. Later that year the U.S. Environmental Protection Agency was established, leading to such legislation as the Safe Drinking Water Act, the Clean Water Act, and the Clean Air Act. Check your local newspaper or with your local officials to learn what Earth Day activities are planned in your area.

California Labor Camps Cited for SDWA Violations

Continued from page 1

program implementation and enforcement of the SDWA, said Mona Ellison, EPA environmental protection specialist in San Francisco. The notice gave the counties 30 days to take steps to bring the camps into compliance or further enforcement action by EPA would be initiated, she said.

Since receiving the notice of violation, the counties have been responding to EPA with information concerning their enforcement strategy and the compliance status of camps within their jurisdiction. “The counties have been cooperative,” Ellison said. “Our goal is to have them all in compliance or entered into a bilateral compliance agreement—or schedule—by the end of May 1992.”

WPCF, NWWA Have New Names

Two water organizations recently changed their names to better reflect today’s environmental issues.

The Water Pollution Control Federation (WPCF) and the National Water Well Association (NWWA) changed their names last fall. WPCF’s new name, Water Environment Federation (WEF), was approved by its Board of Control in October. WEF’s president, Roger Dolan, said, “...the word ‘control’ just isn’t good enough. We don’t control pollution anymore, we eliminate it. A not-for-profit technical and education organization, WEF’s members represent water quality specialists from a variety of backgrounds.

NWWA’s new name, National Ground Water Association (NGWA), was approved by its Board of Delegates in October. “We have a new name, a new executive director, and a new beginning,” said NGWA President Ron Hiddleston.

A nonprofit, professional membership society and trade association, NGWA represents all segments of the groundwater industry.

Both organizations’ phone numbers and addresses remain the same.

Wildfires Affect Drinking Water Systems

The effects of widespread wildfires that destroyed more than 350,000 acres of land in nine Appalachian states last fall have drinking water officials concerned, according to a November Associated Press article.

Officials in cities that use surface water have had to remove mud from their water lines and are watching for silt build-up due to the extensive soil erosion caused by the fires. In West Virginia, where more than 300,000 acres were charred, normal annual erosion runs about 200 pounds per acre, but this year soil losses nearing 100 tons per acre are expected to be common, said District Conservationist Larry Sturm in the article.

The wildfires, 95 percent of which were blamed on arsonists, also destroyed land in Georgia, Kentucky, Maryland, North Carolina, Ohio, South Carolina, Tennessee and Virginia.
Various Services Are Provided  
Some of the free services offered by the circuit rider program (see box on this page) might otherwise be unaffordable, especially for systems that have as few as 25 hook-ups. In the words of West Virginia Circuit Rider David Holt, "As far as I'm concerned, the primary purpose of this program is to take some of the financial burden off of these small systems."

But the circuit rider program offers something more valuable than just free technical information. "The primary focus of this program all along has been one-on-one technical training and education," says NRWA Project Manager Bill Parnell.

"Sometimes training a person is showing them how to do it . . . getting down in the ditch with them to fix a leak together." System operators are not the only people who can benefit from this technical assistance. Oftentimes, a circuit rider will work with a variety of small system managers. "I work with them all—clerks, operators, mayors, town councils, utility boards . . .", says Georgia's circuit rider, Earl Cunningham. Some of that work can include, among other items, informal local training sessions in financing a new system, implementing rate increases, educating a community about water conservation, or upgrading an existing system. "I see water system management as a team effort," Cunningham concludes. "A major thing is to have unity within a system."

That "team effort" ideal has not been easy to come by in recent years, with increasing federal regulation and the economic hardships many small system managers. "I work with them all—clerks, operators, mayors, town councils, utility boards . . .", says Georgia's circuit rider, Earl Cunningham. Some of that work can include, among other items, informal local training sessions in financing a new system, implementing rate increases, educating a community about water conservation, or upgrading an existing system. "I see water system management as a team effort," Cunningham concludes. "A major thing is to have unity within a system."

Typically, internal system struggles are common. Parnell suggests that circuit riders can help here too. "Lots of times small systems don't have paid management, and they really just need information or personal assistance from a circuit rider."

"Back when most of these systems were first starting up, they weren't concerned with what Washington said. These people were just proud to have water," says Parnell of the early days. Now small communities must pay attention to Washington and work together.

Who Are These Circuit Riders?  
Who exactly are the individuals that become circuit riders? How many are there, and who employs them? Technically, circuit riders are hired by their state Rural Water Association, although NRWA sometimes provides additional circuit rider positions in certain states. Each state has a different number of circuit riders. Some states have just one circuit rider, while others have several.

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"I had a call over in Sage Creek a while back," continues Whalen, "and that means I had to drive 430 miles to get there. I left on a Tuesday, made several stops along the way, and got in late that night. The next morning I was up bright and early to work with the operator there on regulating his [pressure reducing] valves. We've got a big challenge out here with the elevation drops and pressure on the lines. The Sage Creek system has lines blowing up all over the place. Anyway, we got finished up that night late, and I left the next day. I also made some more calls on my way home. All totaled, I was on the road four days to mainly get that one job done out in Sage Creek."

How do circuit riders keep from getting worn out with all this travelling and time away from home? Cunningham, Georgia's veteran circuit rider (with eight years in the program), sums it up best: "I've always been one who likes a challenge, and this job is challenging every day that you go out. There's always something new out there to work on. . . . Plus, I really enjoy being with people. Talking to them. You've got to enjoy that, to do this job."

**Which Side Are You On?**

Holt believes that developing trust is one of the most important parts of his job as a circuit rider. Concerning the early days of the West Virginia Rural Water Association circuit rider program, he says, "Some of these system operators were worried that we'd turn them over to regulators. Some of them even thought we were regulators."

"I'm not saying that they didn't trust me, they just didn't know anything about me. As a matter of fact, back when I was an operator and Larry Rader (West Virginia's first circuit rider) came into my plant, I was a little leery of him. I knew absolutely nothing about West Virginia Rural Water Association or its circuit rider program. But Larry turned out to be a lot of help. . . ."

That help can extend to assistance in complying with regulations. Depending upon the violation, a circuit rider may accompany a system's operator and/or management to the primacy agency to discuss the problem. Parnell says that "it's our desire to get these systems comfortable with the regulations, and to help them establish a working relationship with agency officials."

"The only time a circuit rider might report a system's non-compliance," he adds, "is if the system is referred to the circuit rider program by the state primacy agency." In these cases, the circuit rider keeps in close contact with both the primacy agency and the system.

Florida's RWA executive director, Gary Williams, says that their association has a very good relationship with the state regulatory agency. Their state regulators will oftentimes call in a circuit rider to help a troubled system. Such arrangements are not uncommon. Once they are on the scene, many of the country's regulators will refer system operators or officials to that state's circuit rider. A visit with a circuit rider is encouraged as the first place to begin working on the system's problem.

As a testament to the quality of this relationship, in states where the budget is tight and the primacy agency is understaffed, a regulator might ask a circuit rider to visit a system first. When this happens, says Krcrnvay, "they welcome me with open arms. . . ."

"Back when most of these systems were first starting up, they weren't concerned with what Washington said. These people were just proud to have water."

— Bill Parnell, NRWA Project Manager

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**The Numbers: How the Program Shapes Up**

Each state circuit rider program is required to make 420 technical assistance calls annually, but the actual numbers clearly exceed this. According to the National Rural Water Association, from October 1, 1990, to September 30, 1991, circuit riders made 25,216 technical assistance calls. That's about 500 calls per state in just one year.

Here's a breakdown of the types of assistance provided:

- Operation and Maintenance: 14,403
- Management and Finance: 5,879
- Treatment: 2,328
- Potential Compliance Problems: 1,752
- Actual Compliance Problems: 854

In the next issue of On Tap, we will look at the challenges small water systems face, as well as possible areas where this program will expand, via a tour with West Virginia Circuit Rider David Holt.
Questions Small Water Systems Are Asking

By Beth Cahape
NDWC Staff Writer

In May 1991, the U.S. Environmental Protection Agency (EPA) set new nationwide standards for reducing the levels of lead and copper in drinking water. This action was a result of recent scientific studies that indicate even "very low" levels of lead and copper in the blood can cause serious harm. This first article of a two-part series examines why EPA believes lead in drinking water is a serious issue, and with assistance from George Rizzo of EPA Region 3, looks at what monitoring and treatment procedures small- and medium-sized drinking water systems will have to perform.

The federal government's new regulations on lead content in drinking water—contained within the National Primary Drinking Water Regulations (NPDWR) of the Safe Drinking Water Act (SDWA)—will require all of the nation's water systems, regardless of size, to comply. Although the start-up dates for monitoring and treatment have been extended for systems that do not serve major metropolitan areas (see box on this page), complying with these rules will still present some challenges for small water systems. There will be four major aspects to the ruling:

• Corrosion Control
• Source Water Treatment
• Public Education
• Lead Service Line Replacement

Within each aspect, system operators and managers will need to be well versed in specific requirements and procedures. This may make this new regulation more complicated than most. In fact, according to George Rizzo, EPA's Region 3 lead and copper rule manager, the agency has had more questions about this than any other drinking water rule in its history.

What's so different about this ruling?

What is unusual about these new regulations is that EPA has, for the first time in its history, chosen to require a treatment technique—if lead levels exceed EPA's "lead action level"—rather than establishing a maximum contaminant level (MCL). This rule will also address the unusual source of lead contamination from drinking water—which is most often lead pipes and soldered joints within the private plumbing of individual homes and buildings—by requiring systems to collect water samples from customers' taps.

"We're trying to regulate a contaminant that the water systems in this country don't have a lot of control over," says Rizzo. "It's occurring beyond [the water system's] scope. So we do the next best thing: we take advantage of the treatment techniques provided under the SDWA, and have public water systems do what they can at their end."

Essentially, EPA knows that water systems cannot require their customers to replace all of their internal lead-based private plumbing. However, they have decided that a system's treatment techniques can change the water's corrosiveness or, with additives, create protective coatings on pipes. With the implementation of these regulations, EPA hopes that this lead leaching will, in the best of scenarios, then be reduced to a minimum. "We need to do as much as possible to keep water system customers from poisoning themselves," continues Rizzo.

Officials are very optimistic that this rule will accomplish this feat. In fact, EPA has estimated that 95 percent of all lead contamination in drinking water will be corrected by this corrosion control.

Why so much concern?

Since the days of the Romans, it has been known that lead poisoning can be quite serious, even life-threatening. Contemporary research suggests that lead poisoning can affect nearly every system in the body. Toxic levels of lead—typically measured in blood tests—can result in damage to the brain, central nervous system, kidneys, and liver. Even at low levels, it can cause high blood pressure in adults. But the bottom line, in the issue of lead contamination, is that those who are most seriously harmed are our children and women of childbearing age.

Officials with the U.S. Public Health Service have stated that "millions of children in the United States" have blood lead levels in ranges that could cause "significant impairment." The populations most at risk are children under six years old as well as developing fetuses. These findings are based upon actual studies of children, not just scientific theories or tests on lab animals. Experts at the Centers for Disease Control (CDC) say that lead—in levels much lower than were originally believed to be harmful—is being connected with "decreased intelligence and impaired neurobehavioral development."

What does this mean in plain English? Essentially, that high lead levels can hurt children's learning abilities, hinder their reading skills, cause hearing loss, and even create behavioral problems. An October 1991 statement published by the CDC says that a child with high lead levels will have a "seven-fold risk of not graduating from high school." All of these conditions are permanent and irreversible. Of this situation, one expert has stated that "there is no excuse for it. It is damaging to our children and our nation. . . ."

Tap Water Monitoring Start-Up Dates for the Lead and Copper Rule

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<th>Start Dates For Monitoring</th>
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<td>January 1992</td>
<td>Large Systems (&gt;50,000)</td>
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<tr>
<td>July 1992</td>
<td>Medium-size systems (5,000 to &lt;50,000)</td>
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<tr>
<td>July 1993</td>
<td>Small Systems (&lt;5,000)</td>
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Source: United States Environmental Protection Agency
About The New Lead Regulations

What about other lead sources?

It is a well known fact that the most substantial source of lead contamination comes from lead-based paint. Even the soil may contain dangerous levels of leaded paint many years after a home or building has been torn down. The CDC emphasizes alleviating this source, especially, and one of their documents suggests that "developing an effective, long-term lead-based paint abatement effort is probably the most critical factor in eliminating childhood lead poisoning."

Lead poisoning can also come from certain pesticides, industrial pollution, landfills, and residuals of vehicle exhaust. Fortunately, the vehicle exhaust threat has substantially decreased since the advent of unleaded gasoline. Lastly, there is the lead contamination from drinking water represents one of the few areas that we can do something about in the immediate future.

Officials estimate that 20 percent of all public water systems—typically those serving large metropolitan areas—have lead service lines. Individuals face the most serious lead poisoning threat from drinking water if a home or water system has lead pipes, if a home has copper pipes with lead solder, or if a home is less than five years old (when plumbing has very little protective minerals built up on the pipes). Soft or acidic water—both highly corrosive—pose similar threats, no matter what the plumbing's age.

Nancy Tips, CDC lead poisoning expert, maintains that lead in drinking water "adds to a child's lead burden, and that's important to pay attention to." We must look at all possible contaminant sources, she emphasizes, as "all sources add up."

How much is too much?

Over the last 20 years the federal government's health agencies have consistently lowered the "acceptable" blood lead levels—the levels they believe to be safe and that do not result in lead toxicity.

In 1970, a child's "blood lead level" measured below 60 parts per billion (ppb) was considered safe. (Another way to express this is 0.060 milligrams per liter, or mg/l.) Now, the CDC suggests that those blood lead levels should not be over 10 ppb. "The threshold for some of lead's health effects may be close to zero," states one government document, and this zero level is what EPA has listed as a maximum contaminant level goal (MCLG).

What's the toughest small system challenge?

The bottom line with this regulation is that if a system's water samples go above acceptable EPA levels, operators of small and medium systems are going to have to do treatment for corrosion control. What percentage of small- and medium-sized water systems will end up treating their water? "At this point," says Rizzo, "we don't know how many are going to exceed lead action levels."

Under these rules, the system that exceeds the lead action level will be required to submit a "recommendation for optimal corrosion control treatment" to their state regulatory agency. If an operator or the system's management is unfamiliar with treatment techniques entirely, this can be a real challenge. Treatment techniques will vary, depending upon that particular system's water content, physical set-up, and current operating practices. Essentially, there is no "one way" to fix a corrosivity problem.

Rizzo explains that "under these rules, the states have the option of telling a system what to do." But the likelihood of this happening is slim. "Lots of states are hoping to develop guides that say, 'do this, then this,' but these may be difficult for operators to get right away, if they become available at all."

A better way to cope with setting up a treatment program might be for several small systems (who are each facing this situation) to jointly hire one consultant, suggests Rizzo. Although every system in that group may have a different corrosivity challenge, the consultant can recommend a treatment technique appropriate to each system. This, he says, will be much more economical.

"Ultimately, what we're saying is that it's gonna take a little bit of patience and lots of dedication—particularly for the water systems and states. I think that people have just got to look at [this challenge] and say, 'I can do this.'"

What do systems do first?

To begin complying with this regulation, water systems must complete what EPA calls an "Initial Base Monitoring Round." The base monitoring round consists of two consecutive six-month monitoring periods. An EPA fact sheet on the Lead and Copper Rule says that because lead contamination generally occurs after water has left the public water system, systems must obtain tap water samples from a variety of sites around the water district.

During the initial base monitoring round, each site must be sampled twice (one sample from each six-month monitoring period). Collection times for the required number of samples should be spread out over each six-month period so that the water system will get a better overall picture of how lead concentrations vary with changes of season and weather patterns.

There has been some surprise expressed by operators over the required size of the sample drawn; each

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Teaching Small Communities to Meet the Challenge

by Beth Cahape
NDWC Staff Writer

Solving an environmental problem is not always an easy task. Indeed, it can sometimes seem impossible. Economies, alone, can be a big challenge, but even more difficult might be simply knowing where to begin the process of compliance. Sometimes, small community officials and operators may feel as if engineers or regulators are speaking in a foreign language. How can a small system’s management wade through technical jargon and budget choices to arrive at a final choice that satisfies everyone? For many individuals, teaching small community officials basic environmental information has resulted in realizing that “local officials simply lack information.” Another challenge is when these officials must deal with multimillion dollar decisions. This is not an everyday task. “The magnitude of such projects can be overwhelming,” says Mancl. Again, training and gathering as much information as possible is the key. In wastewater treatment, for example, the most expensive part of installing a system is not the plant, but the pipe. With this in mind, Mancl says that “there’s a whole spectrum of options available for these communities. But if these people go to an engineering firm, the firm may design a very expensive system, with little inclination to cut corners if the firm gets a percentage of the final installation!” For this kind of situation, Mancl urges officials to insist on looking for cost-saving alternatives “and use less pipe!” An unfortunate but typical situation, she says, is for management to make up for that expensive system by adding more hook-ups. This puts the community in a catch-22 situation, because, here again, the most expensive cost is pipe.

What are the most important areas to cover when teaching small community officials about this decision-making? Mancl says the instruction should be in several key areas. Primarily, they need: • to learn basic treatment principles; • to obtain information about available alternatives; • to know the future requirements and costs for operation and maintenance of their system; • to be shown a way to assess their specific needs. (Mancl stresses instruction in how to assess needs, no matter how well officials know their community.) According to Mancl, the most common mistake that small communities make when they are dealing with environmental compliance is that “they put too much faith in a consultant. The officials don’t just want to consult with them, they want the consultant to make the decision for them. This means that results are based almost entirely on luck. If you get a good consultant, you get good results, and with a poor consultant, well . . .”

As an associate professor in agricultural engineering, Mancl has worked with small community outreach in Pennsylvania, Iowa, and, presently, Ohio. A typical community with which she works has 100–200 homes. Workshops for these communities are held in five sessions—totalling 14 hours—over a two-month period. Included in these sessions are lectures, field trips, and instruction in areas specific to that community’s needs. Her main message? “You don’t have to be a sanitary engineer to be an intelligent shopper in buying the services you need!”

While a technical background isn’t usually necessary, small community officials do have some handicaps. Mancl says that oftentimes, a mayor or council member will have “limited knowledge of alternative solutions or systems, along with a limited vocabulary” when dealing with technical information. She says that when a community is working with the regulatory agency and an engineering firm, often “these folks don’t work together. They’re each doing their individual jobs and the local officials have no idea how to even talk to them. It’s not the individuals involved who are flawed; the process is flawed.” Of this situation, she says that “local officials simply lack information.”

This is not an everyday task. “The magnitude of such projects can be overwhelming,” says Mancl. Again, training and gathering as much information as possible is the key. In wastewater treatment, for example, the most expensive part of installing a system is not the plant, but the pipe. With this in mind, Mancl says that “there’s a whole spectrum of options available for these communities. But if these people go to an engineering firm, the firm may design a very expensive system, with little inclination to cut corners if the firm gets a percentage of the final installation!” For this kind of situation, Mancl urges officials to insist on looking for cost-saving alternatives “and use less pipe!” An unfortunate but typical situation, she says, is for management to make up for that expensive system by adding more hook-ups. This puts the community in a catch-22 situation, because, here again, the most expensive cost is pipe.

You don’t have to be a sanitary engineer to be an intelligent shopper in buying the services you need!

—Karen Mancl
OSU Cooperative Extension Specialist
A toll-free telephone number is available to help people get answers to drinking water questions. A service of the U.S. Environmental Protection Agency (EPA), the Safe Drinking Water Hotline is staffed by information specialists, who must possess a technical degree and complete a comprehensive training program.

Started in 1987 to help public water systems, state regulatory agencies, outreach workers, environmental organizations, consultants, and the public understand federal drinking water regulations and programs, the Safe Drinking Water Hotline is operated by Geo/Resource Consultants, Inc., under contract to EPA’s Office of Ground Water and Drinking Water. Callers from anywhere in the United States, Puerto Rico, and the Virgin Islands can use the service by calling 1-800-426-4791 Monday through Friday, 8:30 a.m. to 5:00 p.m. Eastern Standard Time, except on federal holidays. According to Judy Lebowich, EPA project officer for the hotline, the questions asked "run the gamut" and peak around major implementation dates and after a proposed or final drinking water regulation is published. Recently, the hotline has received a lot of calls about lead in drinking water, she said.

In addition to answering regulatory questions, information specialists also answer questions on such topics as drinking water health effects, tap water testing, home water treatment units, and bottled water, and provide referral to other federal, state, and local organizations as appropriate. The hotline also provides information about the availability of EPA’s drinking water publications, public education materials, and other documents. A toll-free telephone number is available to help people get answers to drinking water questions. A service of the U.S. Environmental Protection Agency (EPA), the Safe Drinking Water Hotline is staffed by information specialists, who must possess a technical degree and complete a comprehensive training program.

A new handbook for very small communities (under 1,000 people) has been created to provide an overview of the U.S. Environmental Protection Agency’s (EPA) regulatory and non-regulatory programs. Everything You Wanted To Know About Environmental Regulations . . . But Were Afraid To Ask was created by the EPA Region VIII Small Community Workgroup, which consists of representatives from 16 organizations. The 1991 publication has sections dealing with:

- water programs, including drinking water, wellhead protection, wastewater, and water and wetlands protection;
- the air program, specifically the Clean Air Act Amendments;
- land programs, including hazardous waste, solid waste landfill criteria, and underground storage tanks;
- cross-media programs, including information about pollution prevention, public-private partnerships, asbestos, and indoor radon;
- definitions; and
- Region VIII contacts.

Each section describes regulations, lists actions a community should be taking, and provides references for more information. More than 40 pages are dedicated to drinking water issues, including information about inorganic, synthetic organic, and volatile organic chemicals; coliform monitoring; the Surface Water Treatment Rule; radionuclides; public notification; and disinfection and its byproducts.

The handbook is available for $6.00 plus shipping charges. See back page to order.

Four educational videotapes to teach students or groups about the importance of water conservation are now available for loan from the U.S. Environmental Protection Agency. The videotapes are targeted at fifth- through ninth-grade students and contain contemporary graphics and animation, as well as live action characters. An animated dinosaur helps children understand the environment, explaining how water is recycled through the atmosphere, how we can conserve it, and how pollution ruins water supplies.

These tapes are titled “The Surface Water Video,” “The Ground Water Video Adventure,” and “Saving Water—The Conservation Video.” Specifically designed to introduce junior high school students to careers available in the water quality field, the fourth videotape, “Careers in Water Quality,” discusses the rewards of helping to preserve limited water resources. The videotapes range from eight to 17 minutes and were produced by the Water Environment Federation (WEF), previously called the Water Pollution Control Federation, in cooperation with EPA. They can be purchased from the WEF by calling (703) 684-2400 or borrowed for up to two weeks by calling 1-800-624-8301. (See back page for more information.)
## CALENDAR OF EVENTS

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<td>Microbial Processes in the Degradation of Ground Water Contaminants</td>
<td>March 10–12: St. Louis, Missouri</td>
<td>(614) 761-1711 National Ground Water Association</td>
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<td>Treatment Technology for Contaminated Ground Water</td>
<td>March 10–12: St. Louis, Missouri</td>
<td>(614) 761-1711 National Ground Water Association</td>
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<td>April 27–29: Anchorage, Alaska</td>
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<td>Managing Your Utility’s Money</td>
<td>March 18: Nashville, Tennessee</td>
<td>(615) 974-0411 Joseph Walsh, University of Tennessee Conducted by the Municipal Assistance Branch of the U.S. EPA Office of Wastewater Enforcement and Compliance</td>
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<td>April 8: Denver, Colorado</td>
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<td>April 22: Hartford, Connecticut</td>
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<td>Analysis and Design of Aquifer Tests</td>
<td>March 24–27: Columbus, Ohio</td>
<td>(614) 761-1711 National Ground Water Association</td>
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<td>No-Dig ’92 Conference and Exposition</td>
<td>April 5–8: Washington, DC</td>
<td>(703) 684-2400 Water Environment Federation, Cosponsored by the North American Society for Trenchless Technology and the International Society for Trenchless Technology</td>
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<td>5th National Citizens Ground Water Conference</td>
<td>April 10–12: Memphis, Tennessee</td>
<td>(202) 544-2600 Friends of the Earth</td>
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<td>International Conference on Ground Water Ecology</td>
<td>April 27–29: Tampa, Florida</td>
<td>(301) 493-8600 Michael Fink, American Water Resources Association (AWRA), Sponsored by U.S. EPA in conjunction with the AWRA and the Ecological Society of America</td>
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<td>Theory and Practice of Ground Water Monitoring and Sampling</td>
<td>April 28–30: Newark, New Jersey</td>
<td>(614) 761-1711 National Ground Water Association</td>
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<td>New England Environmental Expo ’92</td>
<td>April 28–30: Boston, Massachusetts</td>
<td>(800) 543-5259 Industrial Shows Northeast</td>
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<td>Fundamentals of Ground Water Contamination Management: A Short Course for Environmental Professionals</td>
<td>April 29–May 1: Newark, New Jersey</td>
<td>(614) 761-1711 National Ground Water Association</td>
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<td>Corrective Action for Containing and Controlling Ground Water Contamination</td>
<td>May 12–14: Durham, North Carolina</td>
<td>(614) 761-1711 National Ground Water Association</td>
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must be one liter in volume. This unusually large sample size will give a more accurate reading about a house or building's plumbing system, rather than just a particular outlet.

EPA's required number of sampling sites is based on the size of the population served in that water district. For this initial base monitoring period, small systems will need to collect from 5 to 40 samples. (See box on this page.)

Says Rizzo: "The rule states that this sample must be a 'first flush' sample. Really, it's the 'first draw' of household water that a customer takes after the water has been sitting in the lines for six hours." That time period might not necessarily mean customers take a sample in the morning, first thing. In actuality, overnight samples may be inaccurate because people are in the house, and the bathroom plumbing may be used. This sample must be from water sitting in every line of that house or building, and it has to be in the lines long enough for leaching to take place. Rizzo recommends that a better sample can be taken at the end of the work day, following a period of time when no one has been in the house.

How do systems choose sites and take samples?

EPA is asking water systems to pick their sampling sites from what they call "high risk homes." These are, by definition, places having lead solder installed after 1982, or places having lead pipe or lead service lines.

Ideally—if a system has, or can obtain, the information necessary to properly identify sampling sites—site selection should be broken down into two categories: half from homes or buildings with lead service lines, and half from locations that have lead pipes and/or lead solder. "If this is not possible," says Rizzo, "the water system should modify this ratio and document it to their state primacy agency."

For example, a water system might not be able to obtain plumbing permit information that would identify sites where plumbing work—with the potential use of lead solder—has been done since 1982. On the other hand, that same system can identify sites where lead service lines are in place. The solution would be for them to take more samples from the sites with lead service lines than with lead solder. If this is what they want to do, the system operator must prepare a written justification for modifying its sampling plans and submit that to the state primacy agency.

In determining where to choose service line sample sites, it's important to note that water systems installed since 1950 probably don't have lead service lines.

One helpful aspect of these sampling requirements is that water systems can ask customers from their community to take samples. While the system management must be very specific about how samples are taken, the people taking the samples may simply draw them from their own home taps. Again, essential to all of this is that the water drawn must have been sitting in the home or building's lines for at least six undisturbed hours. Rizzo emphasizes that if homeowners cannot draw a proper sample on any given day, they should wait and try it another time. "Water systems should give their customers a sufficient amount of time to obtain samples. And it's important for systems to provide for this time in their sampling schedules," he says.

What happens next?

EPA has set a "lead action level" for systems to target their lead levels. In the regulations, EPA has prescribed that levels below 15 ppb in 90 percent of the samples in a community's water service district are acceptable. (A more detailed explanation of this will be included in part two.) If a system does not exceed this acceptable level, it will be allowed to reduce the number of samples they collect by half. Water systems serving less than 100 customers are the only exception. (See box on this page.) The frequency of collection will also be reduced to just once per year.

Essentially, this reduced procedure holds true for any system at any point in the monitoring process. Even if a water district initially fails to meet acceptable lead levels, a successful treatment process will put it in the same category as the earlier, approved water systems. An EPA fact sheet states that "all public water systems that meet the lead and copper action levels or main-tain optimal corrosion control treatment for two consecutive six month monitor-ing periods may reduce the number of tap water sampling sites and their collection frequency to once per year."

What if samples exceed action levels?

A number of things will happen should a water district's lead levels be too high. Small- and medium-sized systems will be required to monitor for "water quality parameters," work with the state primacy agency to establish a corrosion control treatment program, and establish an extensive public education program in their district. If these measures are unsuccessful, a lead service line replacement program must be implemented. We will take a closer look at these aspects—along with information about enforcement procedures, liability issues, and the potential costs of complying with these lead regulations—in the next edition of On Tap.
Free and Low-Cost Educational Products are Available

Lead and Your Drinking Water
Item #: DWBLGN08
This free booklet presents facts about lead as a contaminant in drinking water. It discusses the health effects of lead, how lead gets into drinking water, and how to test for lead. Immediate steps that must be taken when lead is detected also are discussed.

Everything You Wanted To Know About Environmental Regulations . . . But Were Afraid To Ask
Item #: P000353
Price: $6.00
This handbook was prepared with very small local units of government in mind (see article on page 9). Information presented in the handbook is meant only as a summary of basic federal environmental requirements and/or agency guidance criteria in place in mid-1991.

The following videos are available for loan for up to two weeks. (Please ask for Paula Thorn when ordering.) Borrower is responsible for return postage. See article on page 9 for more information.

The Surface Water Video
Item #: WWVTPE22
Aimed at children in the fifth through ninth grades, this nine-minute video explores the world of streams, lakes, oceans, and rivers and teaches kids how to help conserve surface water, clean up water pollution, and prevent future pollution.

The Ground Water Video Adventure
Item #: WWVTPE23
This nine-minute video teaches children about the source of most of our fresh water supply—fresh water below the earth's surface—and shows how we can begin at home to stop polluting ground water.

Saving Water—The Conservation Video
Item #: WWVTPE24
In this eight-minute animated video adventure, an exhibit called "The Lost Treasures of Earth" houses the last remaining drops of clean water. Easy methods to conserve water are then portrayed.

Careers in Water Quality
Item #: WWVTPE25
In this 16-minute video aimed at junior high school students, water quality careers are explored with a teacher and his students as they work on a class project. Professions discussed include scientist, computer specialist, engineer, attorney, and government official.

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

In the next issue . . .
• National Drinking Water Week is highlighted
• The circuit rider article continues
• League of Women Voters’ drinking water survey is examined
• More information is provided about the new lead regulations
• FmHA loans and grants are discussed