



ARKANSAS DRINKING WATER UPDATE



Program Director Seifert Retiring at Year's End

Harold R. Seifert, P.E., Director of the Engineering Section which oversees the drinking water program and the Safe Drinking Water Act in Arkansas, has announced his intention to retire at the end of 2006. Seifert has been employed by the state for over 33 years, all of it with the drinking water program in the Division of Health (formerly the Department of Health).

Seifert has served as Director of the Engineering Section since 1986 and also served in the positions of District Engineer, Engineer Supervisor, and Assistant Director in the program since his hire in 1973.

In announcing his retirement to the Engineering Staff, Seifert stated he has thoroughly enjoyed working in the program and is proud to have been part of a truly important public health program. He thanked current and past staff for the excellent service and dedication provided by them to the program and to the state's citizens.

As the Engineering Section Director, Seifert oversaw a substantial expansion of the program in response to the numerous federal regulations promulgated under the Safe Drinking Water Act. He also spearheaded through the Arkansas Legislature in 1991 and 1993 the first fees based on a flat rate per connection, currently set at 25 cents per meter per month (Act 1053 of 1991 and Act 903 of 1993). The fees

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Public Health Lab Building to Open in October

Randy Owens, PhD, Director
Clinical & Biological Sciences, Public Health Laboratory

Colleagues of the Arkansas Public Health Laboratory anticipate moving into a new state-of-the-art laboratory facility in October of this year. It has been two years since the ground-breaking ceremony was held on land adjacent to the old laboratory building on West Markham Street. The old laboratory, considered by many to be a "dinosaur" as far as public health labs are concerned, is limited with regard to space and the types of testing that can be performed. The new building, which cost approximately \$23 million dollars to construct, has 80,000 square feet of laboratory and administrative space for 140 laboratory employees, and will have the capacity to culture and identify dangerous bacteria and viruses that may emerge naturally or be released intentionally, placing Arkansas at the forefront in the fight against threatening new infectious diseases and potential bioterroristic agents.

During the ground-breaking ceremony, Governor Mike Huckabee stressed the need for the new lab facility and how completion of the facility will strengthen the safety measures needed to protect the health of Arkansans. "The aftermath of the terrorist attacks on our country helped us to understand that a laboratory building, designed to allow testing for agents such as anthrax and smallpox, is urgently needed. We're also seeing an onslaught of newly discovered infectious diseases such as SARS, West Nile virus, avian influenza and monkey pox. The Centers for Disease Control and Prevention says 30 new infectious diseases have been identified during the past 20 years. It's clear a state-of-the-art laboratory is necessary for Arkansas."

It's important to recognize that the Public Health Laboratory protects the health of Arkansas citizens every day by insuring that our food and drinking water are safe to eat and drink, that highly infectious diseases are promptly recognized and controlled, and that all newborn babies are tested for serious genetic

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allowed the program to maintain primacy with EPA and to meet the regulatory and analytical requirements of the National Primary Drinking Water Regulations.

Seifert has also been active in several industry organizations as part of his work with the drinking water program including the American Water Works Association and the Association of State Drinking Water Administrators. He currently serves as Treasurer for the Southwest Section of the American Water Works Association and has served in other positions in that organization including Chair in 2001. He was recognized for his contributions to the organization and the water industry with the George Warren Fuller Award, also in 2001.

With a well known fondness for computers, Seifert oversaw the establishment of the Engineering Section's internet website (www.healthyarkansas.com/eng/).

Arkansas was one of the first drinking water programs in the nation with its own webpage. The webpage also allows water systems to check the status of bacteriological results from the state's laboratory as well as the status of the review for an engineering plan submittal. Seifert has served as the webmaster since 1997.

Seifert said he did not intend to retire to a rocking chair but planned to pursue other work in areas of interest to him.

ARKANSAS DRINKING WATER

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Arkansas Water Systems Receive Notices from EPA on UCMR2

Bob Makin, P.E., Assistant Director

A number of water systems in the state have received letters from EPA's Technical Support Center in Cincinnati, OH advising them of their upcoming responsibilities under the second Unregulated Contaminant Monitoring Rule (UCMR2).

The 1996 amendments to the Safe Drinking Water Act amendments require the EPA to publish a list of unregulated contaminants for monitoring every five years. The goal is to obtain reliable data concerning the occurrence of unregulated contaminants in drinking water as one step in determining whether or not to regulate them in the future. The first round of UCMR monitoring occurred during the period 2001-2003. Many water system personnel, especially with the larger water systems, will remember participating in this.

In August 2005, the EPA published its proposed second list of unregulated contaminants, referred to as the UCMR2 (See <http://www.epa.gov/fedrgstr/EPA-WATER/2005/August/Day-22/w16385.htm>). This rule is scheduled to be finalized before the end of 2006 with monitoring anticipated to start in January 2008. This rule will apply to community water systems and non-transient non-community water systems. Transient systems are not affected, nor are water systems that purchase all of their water from another system. EPA has developed a statistically representative sample of 800 small water systems nationwide for monitoring, while all large water system (those serving greater than 10,000 population) will be required to monitor under the regulation. In Arkansas there are 19 small systems that will be affected and 50 large systems.

As a part of EPA's notification efforts for this rule, those systems in the State that will be monitored have received, or soon will receive, a letter from the EPA regarding registration for use of its Central Data Exchange (CDX). This is the database that analytical laboratories will use to submit the results of the UCMR2 testing. Under the rule, from the date that data is entered into the database, the water system has 30 days to access and approve the data. If this option is not exercised, then the data will be deemed to be approved after that time period. Each water system should register in anticipation of the new rule by closely following the directions in the letter.

The Engineering Section is planning to implement the UCMR2 in the same way it did the UCMR1; that is, all samples would be collected by Engineering Section staff and submitted to a laboratory for analysis. Unlike under the UCMR1, the Division of Health laboratory will not be able to perform analyses for these chemicals, which means the Engineering Section will have to contract with a private laboratory for the analyses. This will create an additional stress on the available Public Water System Supervision Fee monies.

As most of you are probably aware by now, the Division of Health is intending to introduce a bill in the 2007 Arkansas legislative session to increase the monthly fee from the current 25 cents to 30 cents per connection per month. The outcome of this effort will have a direct bearing on how the Section will be able to handle the UCMR2 monitoring effort.

Once the UCMR2 is finalized, we will keep you updated on the progress towards implementing the rule in future newsletters. If you have any questions, please call Susan Corder or Bob Makin at 501-661-2623.

Engineering Staff Participate in Field Exercise for Groundwater Optimization Pilot Project

Craig Corder, P.E., Engineer Supervisor

The Engineering Section of ADHHS has had an optimization program for surface water treatment plants since 1997. Utilizing a process called Area Wide Optimization, which involves a comprehensive performance evaluation (CPE) and performance based training (PBT), all aspects of a surface water plant – design, operational, managerial, and financial – are examined in an attempt to identify those limiting a particular plant's performance. The goal of the program is for the plant staff and management to adopt a problem solving approach toward the plant's operation and toward the finished water quality, and to implement low cost modifications that improve the plant's performance and better protect public health. The program is voluntary for water systems, and has been well received by most systems where a CPE has been conducted. In several cases, the techniques learned have motivated water system personnel to measurably improve water quality and to more frequently meet or even exceed the drinking water standards.

Arkansas has approximately 750 public groundwater systems using approximately 1200 wells. While Engineering Section staff saw the need for an optimization program for

groundwater systems, the resources necessary to implement a technical assistance program similar to that for surface water plants were too great.

In 2004, staff from EPA Region 6 in Dallas, TX and from EPA's Technical Support Center in Cincinnati, OH approached Engineering staff about starting a joint Groundwater Optimization Pilot Project. The Section agreed to participate and an initial meeting was conducted in May of 2005.

One of the first steps in the program was to develop a priority list to use as a guide on deciding where to use technical assistance resources. Engineering staff looked at its existing databases and developed a ranking system for all of the approximately 1200 wells in the state. The wells were rated from low to high risk depending on a number of factors including geological sensitivity of the well, potential sources of contamination, raw water and distribution system coliform results, and chlorine residual levels.

The next step in the process was to verify if the ranking system bore any resemblance to actual field conditions. EPA staff from Region 6 had

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Groundwater Optimization Involves Distribution Checks

The groundwater optimization pilot program involves a much closer examination of the distribution system than that found in the AWOP program for surface water treatment plants. That emphasis is the result of research and data indicating water quality can suffer significantly as the result of poor distribution hydraulics and operational practices.

The initial work in groundwater optimization has included special studies such as extensive distribution system monitoring for a period of time to locate critical locations for long term monitoring.

An example of a special study for a small distribution system would be to review the distribution maps and select a number of sites to monitor one or more times per week for free and total chlorine residuals. For example, in a small groundwater system, 15 sample sites might be selected and monitored Monday, Wednesday, and Friday for a month. The data is reviewed to identify key sites that serve as indicators of the adequacy of chlorine residuals for the entire distribution system. The system operators would then monitor those key sites long term to ensure adequate chlorine residual is being maintained through out the

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Photos from the groundwater optimization field exercise show (left) a well with a rusted casing likely allowing surface infiltration, and (right) an inadequate seal and poor security measures on a manway hatch for a water storage tank.

Groundwater *cont'd from page 3*

previously developed a ranking system using a 2 to 3 hour long field evaluation of each water system in order to assign a risk value. After some discussion, it was decided to use the EPA R6 field evaluation to evaluate and rate a number of groundwater systems in Arkansas, and compare those to the ratings based on the Arkansas system.

Last June, Engineering staff and EPA representatives evaluated 17 groundwater systems in the vicinity of Mountain Home and compared the results of the two ranking systems. The group came to a consensus that the EPA R6 field evaluation method did accurately rank the relative risk of water systems. Engineering's system ranked 11 of the 17 groundwater systems (66%) at the same risk as that of EPA's ranking.

As a result of the field work, Engineering staff are re-evaluating its ranking system so that it more closely matches the results of EPA's without having to first conduct a field evaluation. In the future, Engineering staff will be working on the development of optimization goals for groundwater systems, and will begin providing technical assistance to those groundwater systems rated at a high risk. Like the Area Wide Optimization Program for surface water treatment plants, participation by the groundwater systems will be voluntary.

If you have questions or would like more information on Groundwater System Optimization, please contact Craig Corder, Craig Burger, or Mark McIntosh at 501-661-2623.

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disorders. In addition, the Public Health Lab serves as a resource for other laboratories throughout the state, and in some cases neighboring states, for training and technical support. For example, the Arkansas Public Health Lab is currently assisting the Louisiana Department of Health with drinking water analysis since their Public Health Laboratory was destroyed during Hurricane Katrina. The Arkansas laboratory performs over 800,000 tests per year on over one-half million individual specimens collected from a wide variety of environmental, food, and clinical sources.

With regard to water testing for the state, the Public Health Lab has four separate laboratory units with over 35 scientists who conduct a broad array of analyses on raw and purified water specimens. The laboratory units include Inorganic Chemistry, Organic Chemistry, Radiochemistry, and Environmental Microbiology. Together, these laboratories examine over 160 separate analytes in water, from fluoride to radium to coliform bacteria, and process approximately 100,000 specimens per year. As the population of Arkansas continues to increase, the need for expanded water testing capabilities will naturally follow. The new laboratory was designed and built with this critical public health concern in mind, and should provide the basis for enhanced protection of the State's water resources for many years to come.

Designing and constructing the complex public health laboratory has required a team of diverse professionals with special skills. Architectural services were provided by the Wilcox Group of Little Rock, and the Lord, Aeck and Sargent firm of Atlanta, Georgia. Engineering services were provided by the TME Firm, I.C.E Engineers and McClelland Consulting Engineers, all of Little Rock. The general contractor for the project was Nabholz Construction Company. An increase in the fee for birth and death certificates was pledged to pay for the bonds issued to construct the building.

Once opened, water utility personnel will be able to drop off bacteriological samples in the lobby of the new building. This will avoid the necessity of having to obtain a visitor's pass and finding one's way to the lab's offices in the old lab building.

Information on any possible interruption in laboratory services due to the lab move will be forwarded to water systems when those move-in dates are finalized.

Distribution *continued from page 3*

distribution system. It may be necessary to repeat this study once every 3 months for a year to see what the seasonal effects on the distribution system are.

Another major focus in groundwater optimization is storage tank management. From the limited amount of work done in this area with surface water systems, it appears that significant operational problems with storage tanks in water systems may be common in Arkansas. There are many different tank sizes, locations, configurations, and operating parameters so it is difficult to predict what effect any particular tank is having on water quality. However, indications are that tanks with less than 4 feet of variation in the water surface during fill and draw cycles tend to have problems with the development of stagnant water in the top of the tank. Tanks with more than 10 feet of variation in the water surface tend to not have problems with the development of stagnant water in the top of the tank. While there is a wide variation in the setting of tank control levels, it is common for tanks in Arkansas to have from 2 to 4 feet of variation in the fill and draw cycle.

With Some Help, Sparkman Solves Water Quality Problems The Bottom Line... COOPERATION

Lonnea Shirey, District Engineer

In 2005 and again in early 2006, the Engineering Section was made aware of "red water" problems in the City of Sparkman in western Dallas County. Sparkman's waterworks is a consecutive system of River Valley Water Association, which purchases wholesale water from Arkadelphia Waterworks. Sparkman believed its red water problems were due to excessive iron precipitating out in their systems because of a change of chemicals at Arkadelphia's water treatment plant to better control turbidity, a position with which Arkadelphia Waterworks disagreed. According to Arkadelphia, the change of chemicals (from liquid alum to a polymer blended with alum) decreased the turbidity of the finished water but all other parameters including pH and alkalinity were unchanged.

Sam May, Water Operator for Sparkman, contacted Dorinda Suitor, Manager of Arkadelphia Water Utilities, about the red water problem. After several weeks of sampling and testing, they could not reach an agreement on a remedy, so it became apparent that they needed to bring in a third party.

To study the matter as objectively as possible and at the urging of

Senator Percy Malone of Arkadelphia, an ad-hoc committee was formed consisting of representatives from the city governments of Sparkman and Arkadelphia, Arkansas Department of Health and Human Services (ADHHS), Arkansas Rural Water Association (ARWA), Arkadelphia Water, Sparkman Water, ECOTECH, and Summerford Engineering.

Following an initial meeting on May 4, a water flushing and sampling plan was agreed upon and successive samples collected for analysis to determine what was causing Sparkman's red water problem and what could be done about it.

After several rounds of data collection and analysis, which showed high iron levels, it was theorized that the water was becoming corrosive during its transit to Sparkman and was picking up iron from the older pipes or tuberculation inside of those pipes. The iron level in the water supplied from Arkadelphia was negligible.

To address the problem, Jeff Ford with ARWA and May installed equipment loaned by the ADHHS to feed soda ash and an orthophosphate at the altitude valve leading into Sparkman in an attempt to stabilize the water. Arkadelphia credited

Sparkman with sufficient wholesale water to flush their system at no charge. Ford and May subsequently monitored pH and phosphate levels within the town and adjusted the chemical feeders accordingly. The ADHHS collected samples for analysis by the state laboratory over a two month period, and provided interpretation and technical assistance on the results.

Within only a few weeks of the start of the chemical feed, the water's clarity improved, and customer complaints were reduced and then eliminated. Subsequent sampling confirmed lower iron levels, implying the water was being made less corrosive by the addition of soda ash and/or the orthophosphate was laying down an insulating film on the inside of the pipes, which was the desired effect. Short of pipe replacement, which would be a very expensive and time consuming project, Sparkman is now faced with the prospect of feeding soda ash and/or phosphate on a long term basis in order to maintain the protective coating on their pipes to preserve water quality. However, that is a solution that Sam May feels the town can live with.

The bottom line to this success story was COOPERATION, which Webster's Dictionary defines as, "The association of persons or businesses for common benefit." Sparkman's red water problem did not happen overnight and will not be fixed overnight. But cooperation among the parties named above enabled the City to solve a water quality problem, restore its customers' confidence in the water, and build some bridges among water systems and organizations that can benefit all of them in the future.

Dorinda Suitor summarized her view of this success story this way:

"Known truths:

1. All water operators welcome a challenge (we believe we can "fix" anything).
2. We also recognize when we come to a certain point when we need to ask for help.
3. We know that we can always call on other systems, ARWA, ADHHS, or others to help us and they will come to our aid."



Three samples from Sparkman before the addition of soda ash and orthophosphate. The left sample is from the line supplying wholesale water to the town. The next two discolored samples were from the midtown area.

NATIONAL

* EPA has revised a 2008 target of having 95 percent of people served by community water systems meet all health based standards with a "more realistic level" of 91 percent by 2011. A mid-year review by the Office of Water noted that the current national performance of 88 percent, while high, would fall short of the 2006 goal of 91 percent. The review cited violations by New York City and Puerto Rico's largest utility, as well as bacteriological violations in a number of systems, as reasons for not meeting the goal. The performance of the nation's water systems in meeting the goal has risen from a level of 79% since 1993. This is in spite of a number of additional health based regulations having been issued since that time. The EPA methodology for calculating the target does not consider temporal variations in water quality. For example, a system may be in violation for only one month but the population for that system is considered by EPA as having been supplied noncompliant water for the entire year.

* In preparation for a possible Clean Water Act rule to regulate residuals discharges from drinking water treatment plant, the EPA is planning to survey a number of water utilities across the US that serve more than 10,000 people. The survey will require a characterization of the utility's treatment plant, three years of discharge monitoring reports, and the results of any studies on in-stream impacts from residual discharges. The agency estimates an effluent guideline for drinking water treatment plants would affect 9,000 plants in the U.S.

* EPA has published several new best practices guides and references to assist small water systems. The brochures are two to four pages in length and are intended as tools to help owners and operators of small systems. New titles available are: The Multiple Barrier Approach to Public Health Protection; Water System Owner Roles and Responsibilities; Talking to Your Decision Makers; Water System Operator Roles and Responsibilities; Distribution Systems Cross

Connection Control; and Record Keeping Rules. Both the new and existing best practices guidance can be downloaded from EPA's website: <http://www.epa.gov/safewater/smallsys/ssinfo.htm>.

News of Note

ARKANSAS

* Alan Fortenberry, P.E., Chief Executive Officer of Beaver Water District, was named in July as the 2006 Manager of the Year by the Arkansas Water & Wastewater Managers Association during the organization's annual meeting. Fortenberry has worked for the District since 1991 and overseen the expansion of its treatment facilities to its current capacity of 100 MGD with another 40 MGD of capacity to be added by 2009. He currently serves as a member of the State Board of Health and has been active in many industry, professional, and civic organizations.

* An Environmental Assessment of a request by the Mid Arkansas Water Alliance to reallocate 15 MGD from Greers Ferry Lake and 20 MGD from Lake Ouachita has resulted in a finding of no significant impact. The Alliance is a consortium of 27 cities and water utilities in the central area of the state, and is seeking supplemental water supplies from the Corps lakes to supply members through the year 2025. The Corps planned to hold public hearings on the finding this fall and then forward it to the Corps' headquarters in Washington, D.C. for approval.

* A federal judge ordered the Corps of Engineers in July to stop work on the construction of the pump station supplying the \$319 million Grand Prairie Irrigation Project until the Corps makes a more thorough study of the possible impact of the project on the ivory-billed woodpecker. The irrigation project, which will take water from the White River, is designed to reduce the strain on east Arkansas aquifers which in some areas have been designated

as critically low by the Arkansas Natural Resource Commission. The Commission, which has provided some loan funds for the project, has requested clarification from the judge on his order and has sought permission to continue work with on-farm reservoirs not associated with the pump station's construction.

ENGINEERING SECTION

Sharon Bourgeois, Engineer, has



joined the Section to assist in providing sanitary surveys, plan review, and technical assistance for transient public water systems. She holds a Mechanical Engineering

Degree from the University of New Orleans and an MBA from Averett University, and previously worked in the power industry for 20 years.

* The Arkansas Department of Health & Human Services, Division of Health, will hold a public hearing on October 25, 2006, at 9:00 AM, in the Division of Health Room L137, 4815 West Markham Street, Little Rock, Arkansas, to allow interested persons to comment on the proposed adoption of "Rules & Regulations Pertaining to Public Water Systems", pursuant to Act 96 of 1913 (ACA 20-7-109). Copies of the proposed Rules & Regulations will be available for public inspection and copying at the Division of Engineering, Arkansas Department of Health, 4815 West Markham Street, Little Rock, Arkansas. The document is also available on the internet at <http://www.healtharkansas.com/eng/proposed2.htm>. The public may submit written comments to: Harold R. Seifert, P.E., Director, Engineering Section, P. O. Box 1437, Slot H-37, Little Rock, AR 72203-1437, so that the comments are received no later than 10:00 AM on October 25, 2006. (The proposed changes to the regulations were summarized in the Summer 2006 issue of the *Update*. See <http://www.healtharkansas.com/eng/news.htm>.)

CAW Hopes to Finalize Watershed Management Proposal before End of Year

Central Arkansas Water (CAW), which furnishes drinking water to over 380,000 persons in the Little Rock metropolitan area, hopes to finalize a watershed management proposal for its principal drinking water supply – Lake Maumelle, by the end of the year. The desire for a plan was borne out of efforts by the utility to address proposed and future urban development in the lake's watershed that could adversely affect water quality. The watershed for Maumelle includes land in three counties – Pulaski, Perry, and Saline.

CAW has sought to protect the lake for a number of years, primarily through the acquisition of a buffer zone around the lake which extends as far as one-quarter mile from the water's edge. In 2004, a task group appointed by CAW to examine watershed issues recommended the utility prepare a comprehensive watershed management plan and hire a staff person to oversee its implementation.

Following a previously announced strategy to acquire properties near the water intake which the utility viewed as critical for protecting water quality, a bill was introduced in the 2005 Legislature that would have limited CAW's power of eminent domain. While the bill did not pass, watershed protection and property rights became and continue to be controversial items

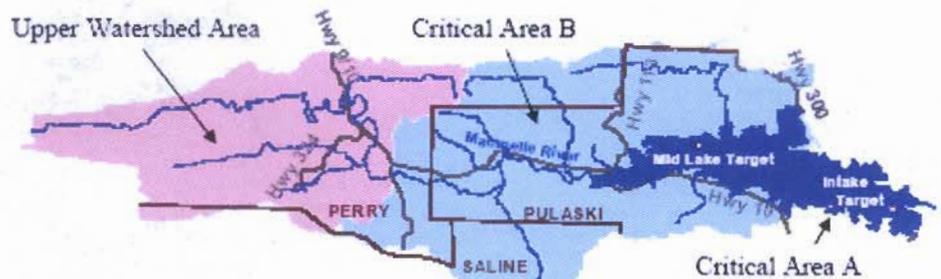
both in central Arkansas and elsewhere around the state.

In 2005, CAW hired the consulting firm of Tetra Tech, Inc. to prepare a watershed management plan for Lake Maumelle. The firm examined past studies of the lake as well as conducting its own research. Two advisory panels were also formed, one for input on the technical issues related to watershed evaluation and modelling, and one made up of watershed stakeholders who would provide input on policy matters.

Tetra Tech divided the watershed into three areas: Critical Area A, the

land conservation, best management practices, and performance standards. The plan proposes that existing land owners be exempted with some limitations.

The proposal has numerous management alternatives and variables which are currently being commented on by the public and reviewed by the utility's policy advisory panel. Whichever alternatives are selected will require greater administrative oversight on CAW's part in addition to the cooperation of watershed stakeholders and government agencies. The greater the flexibility afforded a developer within any alternative, the greater the administrative costs for implementing the plan and, potentially, the greater the mitigation costs.



Lake Maumelle's watershed showing the three zones utilized in the proposed management plan.

area encompassing the withdrawal point for water and extending to about mid-lake; Critical Area B, which includes the western half of the lake as well as the watershed roughly east of the Pulaski – Perry county line; and the Upper Watershed Area, all of which is located in Perry County (See graphic above).

Using models which considered terrain, soil types, and other factors, Tetra Tech evaluated different development scenarios within the watershed and the impact of those scenarios on Lake Maumelle. The firm concluded that while water quality in the lake is excellent, that quality was dependent on limiting the inflow of nutrients, sediment, and pathogens into the lake. To achieve that goal, the firm is seeking input from the public and its advisory panels on several possible approaches for future developments which combine

Because research is limited on the effectiveness of best management practices on the types of soils and slopes found in the Maumelle watershed, CAW has proposed that pilot studies be conducted outside the watershed before developments are considered in Critical Area A. Property owners in that zone who desire to develop residential subdivisions, including Deltic Timber Corporation, have argued best management practices would provide protection equivalent to the permanent removal of the property from development by condemnation. Deltic is currently in litigation with CAW on the legality of the condemnation of its property and its fair market price.

Details on the management plan can be found at CAW's website: <http://www.carkw.com/watershed/future.asp>

Management Schemes Under Consideration for New Developments

- Minimum undisturbed areas
- Minimum lot sizes
- Cluster developments
- Offsite mitigation acreage
- Best management practices
- No wastewater discharges
- Impervious surfaces cap
- Proven engineering practices

Consumer pollution: Pharmaceuticals and personal care products

by Dennis Nelson, Geologist

This article is reprinted from the Fall 2005 issue of Oregon's *Pipeline* newsletter.

When most of us think about pollution, we generally think of factories, fuel depots and other commercial activities of one sort or the other. A newly recognized class of chemicals, pharmaceutical and personal care products (PPCPs), are being recognized in surface water and groundwater worldwide.

The source of these chemicals is not big industry or big business, but rather, their presence reflects the largely unintentional activities of individual consumers. The relative risk that these chemicals pose to the environment and human health is unclear at this point. Although individually at trace quantities, the additive or synergistic effects of the near continuous exposure to these chemicals may result in significant long-term impacts. This article summarizes information regarding the origin, occurrence and treatment of PPCPs provided by a 2005 AWWA Webcast along with several of the

additives and many, many others. PPCPs include any product that people use for personal health or cosmetic reasons (Daughton, 2003). The intended targets for these compounds include not only people, but pets and livestock as well.

What is the occurrence of PPCPs?

A recent AWWA Webcast program (AWWA Webcast, 2005) reported the occurrence of 158 PPCP compounds in water. The list included 45 antibiotics, 12 prescription drugs, 8 nonprescription drugs, 14 hormones and steroids, and 79 household and industrial compounds. Many more of these chemicals exist than were actually looked for, implying that others may be detected in the future as analytical methods become available. National reconnaissance studies of streams, groundwater and sources of drinking water in the period 1999- 2000 yielded the results listed in the table below. Every site sampled

to municipal sewers and septic systems as well as the intentional disposal of expired or unwanted PPCPs to sewers or landfills. Other potential sources include leaching from municipal landfills or from applied municipal biosolids, runoff from confined animal feeding operations, medicated pet excreta and direct discharge of raw sewage. Also as a category is the disposal of illicit drugs either by the ingestion/excretion pathway or by releases associated with illegal drug labs. (A summary of pathways of PPCPs in the environment is provided in the diagram: Origins and Fate of PPCPs in the Environment (see <http://epa.gov/nerlesd1/chemistry/pharma/images/drawing.pdf>).

Much discussion has recently been centered on the proper disposal of outdated or unwanted prescription drugs. Rightly so, individuals have wanted to safeguard family members, especially children and the elderly, from exposure to medications not intended for them. Past practices have included disposal of drugs by flushing them down the toilet. A recent survey indicates approximately 35 percent of consumers still use this practice (Boebringer, 2004). While this does ensure that family members or pets will not accidentally ingest these medications, it also provides a direct pathway to the environment.

Many pharmacies will accept these medicines for proper disposal, e.g., incineration, as will some local waste management facilities. Although not a preferred method, getting rid of drugs through trash pickup and landfill disposal is a better alternative than releasing them to the environment via sewage disposal.

Personal care products such as shampoo, cosmetics, etc. differ from pharmaceuticals in three major aspects: (1) the design of the packaging discourages disposal of the contents via the sewage, (2) the ingredients are not designed to interact biologically to influence cellular functions, and (3) personal care products are used primarily external to the body (EPA NERL). These products are generally used in higher concentrations, however, and organisms in the aquatic environment may be exposed to sustained and

	Surface Water 139 samples	Groundwater 47 samples	Sources of drinking water 74 samples
Non drugs	81%	15%	64%
Antibiotics	48%	26%	25%
Pharmaceuticals	32%	6%	23%
Metabolites	69%	43%	19%
DEET	74%	35%	19%
Caffeine	71%	11%	54%

Summary of PPCP occurrences, as a percentage of samples collected, in streams, groundwater and drinking water sources based on a national reconnaissance study in 1999-2000 (Koplan, 2005).

many articles that exist concerning these chemicals.

What are PPCPs?

Pharmaceuticals and Personal Care Products (PPCPs) consist of thousands of diverse chemical compounds, such as prescription drugs, (including antibiotics, steroids and synthetic hormones), as well as over-the-counter therapeutic drugs, herbal remedies, cosmetics, fragrances, shampoos, sun screen additives, veterinary drugs, feed

contained at least some PPCP chemicals.

The concentrations of PPCPs detected thus far are in trace quantities, ranging from 100's of part per billion (ug/L) to sub-part per trillion (ng/L).

What is the source of PPCPs?

The primary origin of PPCPs in the environment is the worldwide, continual usage by humans and domestic animals. These pollutants occur as a result of ingestion/excretion

substantial concentrations. Certain of these compounds can be absorbed through the skin, e.g., phthalates (plastics), UV screens and fragrances.

What are the concerns associated with PPCPs?

Most medicines tend to resist break-down by bacteria and will therefore find their way to surface and groundwater. Because of the trace concentrations of these chemicals, it would take a significant period of time, consuming approximately a gallon of water a day, to achieve a single therapeutic dose of most of these chemicals: consuming the equivalent of one tablet of Valium or Ritalin would take 3.5 years; a capsule of Benadryl 14.5 years; and one tablet of Childrens Tylenol 58 years (Seiler, 2003). While these concentrations are very low, they are entering the aquatic environment on a continuous basis. This leads to a situation that exposure to these chemicals, particularly for aquatic life, is constant and may accumulate over many generations. The rapid development of new PPCPs and the growing tendency of drug prescription in the United States will, of course, result in an increase in the environmental occurrence of PPCPs.

An additional area of concern exists with respect to PPCPs. Although individual concentrations are low, the long-term affect of the near continuous presence of multiple chemicals at the same time may prove problematic. What are the additive effects of minute individual quantities of many chemicals of the same class? Are there synergistic effects, where the combined presence of more than one chemical leads to an enhanced effect greater than the sum of the chemicals individually? We know that the concentrations are unlikely to produce an acute response to exposure, however, the long-term effects are as yet largely unknown. Because of the lack of health effects data, regulation of PPCPs through the Safe Drinking Water Act is unlikely in the near future, although a screening and testing program for endocrine disrupters is provided for in the 1996 Food Quality Protection Act (Roberson, 2005)

Two aspects of PPCPs in the environment have received the bulk of the attention so far: hormone

Chemical	Raw Water		Finished Water	
	Avg Level (ng/l)	Percent Detected	Avg Level (ng/l)	Percent Detected
DEET (1)	10.8	100%	10.9	94.4%
TCEP (2)	21.9	94.4%	9.9	88.9%
Caffeine (3)	26.6	94.4%	27.7	83.3%
Ibuprofen (4)	7.3	83.3%	10.4	77.8%
Atrazine (5)	153.8	77.8%	117.8	72.2%
Meprobromate (6)	6.8	66.7%	5.7	66.7%
Dilantin (7)	4.1	88.9%	3.3	61.1%
Iopromide (8)	13.8	61.1%	9.0	55.6%
Carbamazapine (7)	5.7	88.9%	4.1	44.4%
Gemfibrozil (9)	6.1	61.1%	5.2	22.2%
Estrone (10)	1.4	5.6%	1.2	11.1%
Acetaminophen (4)	3.6	22.2%	1.1	5.6%
Ethromycin-H ₂ O (11)	2.7	44.4%	2.6	5.6%
Sulfamethoxazole (11)	17.8	83.3%	2.1	5.6%
Naproxen (12)	5.6	61.1%	1.0	5.6%

PPCPs in raw and finished water from 18 utilities located across the U.S.

(1) insect repellent; (2) flame retardant; (3) coffee; (4) analgesic; (5) pesticide; (6) tranquilizer; (7) antiepileptic drug; (8) radiographic contrast agent; (9) cholesterol medication; (10) hormone; (11) antibiotic; (12) pain reliever, anti-inflammatory.

disruption in fish by natural and pharmaceutical estrogens, and the mis(over)use of antibiotics, leading to the evolution of resistant pathogens in the environment. The issue of hormone disruption involves steroidal chemicals such as the sex steroids, including oral contraceptives, that have the effect of interfering with the endocrine system of organisms. As defined by the USEPA, the endocrine system consists of glands and hormones that control or regulate many biological processes within the body. Some of the effects of these agents include the feminization of male fish and the alteration of the behaviors of either sex at the part-per-trillion concentration level (Daughton, 2003). Effects include adverse impacts on reproduction, development, neurological behavior and carcinogenicity (AWWA Webcast Program, 2005).

With respect to pathogen resistance, the World Health Organization warns that increasing drug resistance could significantly reduce our ability to cure illnesses and stop epidemics. Curable diseases, varying from sore throats to TB and malaria, may become incurable as our once-effective medicines become increasingly ineffective.

Treatment for PPCPs

It is understood that the conventional treatment of surface water, i.e., coagulation/flocculation, is not effective at removing most of the PPCP chemicals (Snyder, 2005). The reason for this is that most PPCPs will not bind during the flocculation process. Other processes such as chlorination, activated carbon, reverse osmosis, etc. are effective for some, but not all, PPCPs. Snyder (2005) states that the least effective treatment method is ultraviolet light while the most effective is reverse osmosis. He provides a relative ranking of treatment removal of PPCPs as follows: reverse osmosis > advanced oxidation > granular activated carbon > ozone > chlorine > chloramines > ultraviolet light. The table above provides a list of PPCPs in raw versus finished drinking water from 18 utilities using various treatment processes across the United States.

Summary

- A wide range of pharmaceuticals and personal care products (PPCPs) have been detected in surface and groundwater worldwide.
- The PPCPs include antibiotics, hormones, prescription drugs, over-

See PPCPs on page 10

EMAIL CHANGES

If you have not been able to contact the Engineering staff by email, it's probably because all email addresses have been changed.

All addresses, including the Safewater account are now located in the Arkansas.Gov domain. Most employees will use the first and last name separated by a period followed by @Arkansas.Gov. (Example: John Smith would be John.Smith@Arkansas.gov.) The few exceptions we have are staff using a middle name versus their first name or shortened versions of names (i.e. Gregg versus Gregory, Bob versus Robert). A listing of all Engineering staff can be found at <http://www.healthyarkansas.com/eng/autoupdates/staff.htm>.

The Safewater@Arkansas.gov account will be the account used to email all water systems on Statewide or Emergency Notifications. For those of you with Internet Service Providers that block or filter certain email addresses from getting through, please have them modify the former Healthyarkansas.com domain to the Arkansas.Gov domain as an approved sender.

If any questions, contact Karen Howard with the Engineering Section at 501-661-2623 or at Karen.Howard@Arkansas.Gov.

PPCPs continued from page 9

the-counter drugs, household chemicals, feed supplements and veterinary medications.

- Concentrations of these compounds are in the microgram to nanogram range.
- The primary source of these chemicals is waste from individual consumers through wastewater treatment plants and septic systems.
- Conventional treatment of surface water is not an effective mechanism for the removal of PPCPs.
- With respect to the ability of other treatment methods to remove PPCPs: RO > AOP > GAC > Ozone > Chlorine > UV.

Online Payments for Fees Coming Soon

For the many of you who've asked over the years if we could accept electronic payments or credit card transactions for the payment of the Public Water System Supervision Fees, we will finally be able to say yes! The Information Network of Arkansas (INA) at www.HealthyArkansas.com (click on "Renew Permits Online") will be the web site where your secure transactions are handled in a process very similar to the renewal of automobile licenses.

Starting with the invoices for the fees that went out to water systems in July of this year, a 'Renewal ID' and 'Verification Code' were printed on the renewal notice. The renewal ID is the owner/employer (Customer Number), and the verification code simply makes sure the renewal ID is typed in correctly. That is all the information needed to log on. Since the owner/employer number is the renewal ID, it brings up a list of all balances due that have the same owner/employer. This has worked well with food service since one outfit might own multiple restaurants. For many Non-Transient and Transient Water Systems, one main billing office or corporate headquarters pays for multiple systems. All unpaid invoices for your license type(s) will appear in a list. You simply check off the one(s) to pay, enter the credit card or checking account and check number and your payment is submitted.

A small fee is incurred for each transaction using the online payment method. A credit card is \$2.00 + 2%, and the fee for electronic checks are: \$3.00 for a check from \$0 thru \$500, \$4.00 for a check from \$501 thru \$1000, and \$5.00 for a check from \$1000 and up.

Currently the system operates from invoices that are generated. In the future we will be able to add the Water Operator Licensees at renewal time. Also, plan review fees that are billed when not included with the project submission will also have an invoice generated for posting to the web site for payment.

If you have any questions, call or send an email to Karen.Howard@Arkansas.Gov. I am interested in hearing from you if you would like to immediately start using this service.

- Impacts by hormones and steroids on aquatic organisms, e.g., fish, have been recorded as has the development of resistant pathogens as a result of antibiotics in water.
- Regulation of PPCPs through the Safe Drinking Water Act in the near future is not likely because of the largely unknown long-term health effects.

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WATER OPERATOR LICENSES ISSUED

July 1 through August 31, 2006

<u>NAME</u>	<u>TYPE/GRADE</u>	<u>PUBLIC WATER SYSTEM NAME</u>
ANDERSON WILLIAM BRIAN	D - II & T - II	DOVER WATERWORKS
BLANTON TERRY WAYNE	D - IV	NORTH WHITE CO RURAL WATER PFB
BUSH SHERMAN ROBERT	D - I & T - II	ODEN-PENCIL BLUFF WATER ASSOC
CAMPBELL JOSHUA STEVEN	D - II	DELIGHT WATERWORKS
CODY JOHN ANTHONY	D - III	GARFIELD WATERWORKS
COVERT JOHN C	T - II	GEORGIA PACIFIC TRI-LAKE PLANT
DURHAM CHARLES	D - VSS	JACKSONPORT WATERWORKS
FREEMAN LINDA SUE	D - I & T - I	LURTON-PELSOR WATER ASSOC
FRIDDLE AUDIS JOE	D - II	RIVERSOUTH RURAL WATER DIST
HARP BILLY JOE	D - III	BERRYVILLE WATERWORKS
HARRIS CHRISTOPHER THOMAS	T - II	MARSHALL WATERWORKS
HESTER PAUL DEAN	D - I	FCMTC WATERWORKS
JOHNSON CARL W	T - IV	HEBER SPRINGS WATER SYSTEM
LONGINO WILLIAM C	T - II	STEPHENS WATERWORKS
LUTHER THAD LOGAN	T - IV	CENTRAL ARKANSAS WATER
MYERS NATHAN D	T - I	OZARK WATERWORKS
PAYTON TERRY LEE	D - III	TRI-COUNTY WATER DISTBR DIST
REYNOLDS AMANDA DAWN	D - I & T - II	ENGLAND WATERWORKS
THOMPSON DONALD JR	D - II & T - II	JEFFERSON-SAMPLES-DEXTER WATER
TUBERVILLE KEVIN B	D - IV	MOUNTAIN HOME WATERWORKS
WARREN JODY PHILLIP	D - III	WEST HELENA WATER WORKS
WHITE CHARLES EDWARD	D - I	THORNTON WATERWORKS

Water License Exam Pass Rates				
License Type & Grade	Percent Passing Before Mandatory Training	Percent Passing After Mandatory Training	Jan. – July 2006	
			# Exams	Percent Passing
Distribution – VSS	61%	90%	3	67%
Distribution – 1	57%	83%	24	83%
Distribution – 2	46%	77%	19	84%
Distribution – 3	35%	53%	22	55%
Distribution – 4	41%	66%	17	71%
Treatment – 1	64%	81%	6	50%
Treatment – 2	46%	74%	23	74%
Treatment – 3	44%	74%	11	64%
Treatment – 4	35%	66%	15	40%

Major Monitoring, MCL, Treatment Technique, & Licensing Violations

Community & Nontransient Noncommunity Public Water Systems – April through June, 2006

AIRPORT ROAD WATER ASSOC	BMCL 5	NE YELL CO WATER	DMCL 4,5,6
AIRPORT ROAD WATER ASSOC	Bmon 6	OAK GROVE	BMCL 4,5
ALL SEASONS MHP	TMCL 6	OAK GROVE	DMCL 5
ALLPORT WATER	Bmon 6	ODEN PENCIL BLUFF WATER	TMCL 4,5,6
ALMYRA WATER	BMCL 5	OLA WATER	BMCL 5
BALD KNOB WATER	Bmon 4	PALESTINE WATER	Dmon 5
BERRYVILLE WATER	Bmon 6	PARKDALE WATER	Bmon 6
BIRDSON WHITTEN WATER ASSOC	Dmon 4	PATTERSON WATER	Dmon 4
BIRDSON WHITTEN WATER ASSOC	OperLic 4,5,6	PIKE CITY WATER	DMCL 4,5,6
BOONEVILLE DEVELOPMENT CTR	DMCL 4,5,6	PLAINVIEW WATER	DMCL 4,5,6
BRINKLEY WATER	DMCL 4,5,6	PORTIA WATER	Dmon 4
BUENA VISTA – OGEMAW WATER	DMCL 4,5,6	PRESCOTT WATER	4,5,6
CAMDEN WATER	DMCL 4,5,6	RUSSELL WATER	OperLic 4,5,6
CASA WATER	Bmon 5	SDM WATER	RMCL 4,5,6
CASH WATER	Dmon 4	SDM WATER	FMCL 4,5,6
CHARLESTON WATER	DMCL 4,5,6	SEBASTIAN LAKE UTILITY	BMCL 5
CHERRY VALLEY WATER	OperLic 6	SEDGWICK WATER	BMCL 4
CHICOT JUNCTION WATER	DMCL 4,5,6	SOUTH MOUNTAIN WATER ASSOC	RMCL 4,5,6
DENNING WATER	Bmon 4	ST FRANCIS REGIONAL WATER	Bmon 6
EARLE WATER	OperLic 4	ST FRANCIS REGIONAL WATER	Dmon 6
EARLE WATER	Bmon 5	STRAWBERRY WATER	BMCL 5
EAST MONROE CO WATER	DMCL 4,5,6	STRAWBERRY WATER	Bmon 6
EASTSIDE HOMEOWNERS ASSOC	BMCL 6	SUBIACO ACADEMY WATER	DMCL 4,5,6
FORT CHAFFEE MTC	BMCL 5,6	SYLVAN SHORES SD WATER	Dmon 6
FOUNTAIN HILL WATER	DMCL 4,5,6	TOLLETTE WATER	Bmon 6
GEORGIA PACIFIC LAB	BMCL 5	UNITED WATER ASSOC	DMCL 4,5,6
GREENWAY	Dmon 6	VANDERVOORT WATER	Tmon 6
GREENWOOD WATER	DMCL 4,5,6	VANDERVOORT WATER	Bmon 6
HAVANA WATER	Bmon 5,6	WEST WOODRUFF WATER	Dmon 4
HAVANA WATER	Tmon 5,6	WHEATLEY WATER	DMCL 4,5,6
HORSHOE LAKE WATER	BMCL 4	WIEDERKEHR VILLAGE WATER	Bmon 5
HUMNOKE WATER	Bmon 6	WIEDERKEHR VILLAGE WATER	Tmon 5
HWY 4-24 WATER	DMCL 4,5,6	WIRE ROAD WATER	DMCL 4
KINGSLAND WATER	OperLic 4,5,6		
KINGSLAND WATER	Bmon 6		
LAKE FOREST SUB DISTRICT	Bmon 6		
LAKE LUCERNE WATER	Dmon 6		
LEAD HILL WATER	OperLic 4,5,6		
MAGNET BUTTERFIELD WATER	DMCL 4,5,6		
MARION CO REG WATER	DMCL 4,5,6		
MAUMELLE WATER	BMCL 6		
MOUNT IDA WATER	DMCL 4,5,6		
MOUNTAIN PINE WATER	Bmon 4		

KEY: Bmon = Bacti Monitoring; BMCL = Bacti MCL; Dmon = Disinfection By Product Rule Monitoring; DMCL=Disinfection By Product Rule MCL or Treatment Technique; Tmon = SWTR Major Monitoring; TMCL = SWTR Treatment Technique; SWTR= Failure to Filter; RMCL = Radiochemical MCL; FMCL = Fluoride MCL; SMCL = Synthetic Chemical MCL; OperLic = Operator Licensing; 4=April, 5=May, 6=June.

WATER SYSTEM IMPROVEMENTS

BRUNER HILL WATER ASSOCIATION: addition of a second well, booster pump station and a 0.17 MG distribution standpipe.

GREENWOOD: booster pump station and 0.13 MG standpipe to serve the distribution system north of the city.

SEARCY: booster pump station and 0.48 MG standpipe to serve the Backbone Ridge area of the distribution system.

SOUTH PIKE COUNTY PUBLIC FACILITIES BOARD: 105,000 LF of 2 - 8 inch mains, two booster pump stations, and two 0.11 MG standpipes to supply water to approximately 270 customers north of Murfreesboro to Lake Greeson and south of Murfreesboro along Hwy 301. Water supplied by the City of Murfreesboro.

RUSSELLVILLE CITY CORPORATION: water treatment plant chemical feed improvements including new building, bulk storage facilities, and feeders

WALDENBURG: construction of a 0.05 MG elevated storage tank.

Mandatory Training Course Schedule

MANDATORY COURSE NAME	START DATE	END DATE	OPCERT GRANT ELIGIBLE COURSE	CITY	LOCATION All courses begin at 8 a.m.	SPONSOR
Intermediate Water Distribution	10/02/06	10/13/06	No	Internet	Contact AEA for registration information	AEA
Intermediate Water Treatment	10/02/06	10/13/06	No	Internet	Contact AEA for registration information	AEA
Intermediate Water Distribution	10/03/06	10/05/06	Yes	Lonoke	ARWA Training Facility	ARWA
Basic Water Math	10/03/06	10/03/05	No	Jonesboro	Contact AEA for location information	AEA
Advanced Water Distribution	10/03/06	10/08/06	No	Clarksville	Clarksville Water & Light Ops Bldg	ARWA
Applied Water Math	10/04/06	10/04/06	No	Jonesboro	Contact AEA for course location	AEA
ADHHS Water Compliance	10/05/06	10/05/06	Yes	Jonesboro	Contact AEA for course location	AEA
Intermediate Water Treatment	10/10/06	10/12/06	Yes	Monticello	University of Arkansas-Monticello	AEA
Advanced Water Distribution	10/23/06	10/25/06	No	Hot Springs	Wastewater Treatment Plant	AEA
Basic Water Distribution	10/24/06	10/26/06	No	Lonoke	ARWA Training Facility	ARWA
Intermediate Water Distribution	10/31/06	11/02/06	No	Lonoke	ARWA Training Facility	ARWA
Basic Water Distribution	11/06/06	11/08/06	Yes	Camden	AR Environmental Academy	AEA
Applied Water Math	11/06/06	11/10/06	No	Internet	Contact AEA for registration information	AEA
Basic Water Math	11/06/06	11/10/06	No	Internet	Contact AEA for registration information	AEA
Basic Water Treatment	11/13/06	11/24/06	No	Internet	Contact AEA for registration information	AEA
Basic Water Distribution	11/13/06	11/24/06	No	Internet	Contact AEA for registration information	AEA
Advanced Water Treatment	11/14/06	11/16/06	No	Ft. Smith	Contact AEA for course location	AEA
Intermediate Water Treatment	11/14/06	11/16/06	Yes	Malvern	Ouachita Technical College	ARWA
ADHHS Water Compliance	11/21/06	11/21/06	No	Little Rock	DOH, 4815 W. Markham, L137	ADHHS
Basic Water Treatment	11/27/06	11/29/06	No	Paragould	Wastewater Treatment Plant	AEA
Basic Water Math	12/04/06	12/04/06	Yes	Forrest City	Wastewater Treatment Plant	AEA
Basic Water Distribution	12/05/06	12/07/06	Yes	Lonoke	ARWA Training Facility	ARWA
Applied Water Math	12/05/06	12/05/06	Yes	Forrest City	Wastewater Treatment Plant	AEA
ADHHS Water Compliance	12/06/06	12/06/06	Yes	Forrest City	Wastewater Treatment Plant	AEA
Advanced Water Treatment	12/12/06	12/14/06	No	Camden	AR Environmental Academy	AEA
Advanced Water Distribution	12/12/06	12/14/06	No	Lonoke	ARWA Training Facility	ARWA

*Opcert Grant Eligible Course – Meal and lodging expenses may be reimbursed for operators from Grant Eligible Public Water Systems. Grant eligible systems must be a Community or Non-Transient Non Community Public Water System serving a population of 3300 or less. The course is space limited, with eligible system operators given preference.

All courses require pre-registration. The course sponsor must be contacted to register for each course and to confirm course information that is subject to change or cancellation. Contact information for the sponsors is shown below.

ADHHS – Arkansas Department of Health & Human Services – Contact Jeremy Rowe or Martin Nutt – (501) 661-2623 – Jeremy.Rowe@arkansas.gov

AEA – Arkansas Environmental Academy – Contact Letitia Rusch – (870) 574-4550 – lrusch@sautech.edu

ARWA – Arkansas Rural Water Association – Contact Carol Shaw – (501) 676-2255 – arkrwa@sbcglobal.net

Additional courses are shown on the internet at: <http://www.healthyarizona.com/eng/autoupdates/oper/opcert/opcertmg.htm>

REPORT OF THE
Arkansas Drinking Water Advisory and Operator Licensing Committee

A. Martin Nutt, Training and Certification Officer

The Committee held its quarterly meeting July 11, 2006 at the offices of Arkansas Rural Water Association in Lonoke, Arkansas. Members present were: Les Patterson, P.E., Charles Nickles, P.E., Rodney Williams, P.E., Steve DiCicco, Scott Borman, and Harold Seifert, P.E., Executive Secretary. Gary Hum was absent. ADHHS staff members present were Robert Hart, Martin Nutt and Debbie Beatty. Guests present were Dennis Sternberg, Terry Fortenberry, Gary Oden, Jon Simmons and Janice Fildes.

Standing Business

The Committee welcomed Scott Borman, Benton Washington Regional Public Water Authority, as the new member of the Committee, and elected Gary Hum as Chair and Les Patterson as Vice-Chair. The Committee approved one high school education waiver and reviewed progress on their 2006 fiscal year goals.

Seifert reported on the Section's efforts to address its funding needs and legislative plans, and reviewed operator education efforts the Section could take on the service fee. Sternberg stressed the need to begin working with the Arkansas Municipal League in an effort to get their legislative support. The Committee asked not to be left out of legislative and Municipal League efforts by passing a motion to draft a letter to ADHHS management requesting the Committee be included in those efforts.

Nutt reported on the goals of the license program including the image capture process for the program's paper files, the revision of the Compliance Summary, and a beta version of the CD-ROM of exam preparation materials.

Seifert stated that changes in the OpCert Grant work plan needed to be made and approved by EPA to get the OpCert Grant monies spent before they expire in 2010. The Committee discussed possible changes. Williams made a motion to modify the grant

work plan to allow reimbursement of allowable expenses for OpCert eligible operators' registration and travel expenses for ARWA and AWW&WEA annual conferences, mandatory courses not presently provided under the grant, other specialty training courses approved by the Section, and to authorize additional OpCert funded mandatory training courses under the two present contracts. The motion carried. Seifert stated that the desired changes would require some investigation into their feasibility and may require an additional position due to the increase in ADHHS administrative tasks. The position, if needed, would be funded from the grant.

Old Business

Seifert stated that he expected no significant changes in the 2007 budget. He mentioned that Linda Kendrick, a 30 plus year employee of the Section, had recently died. He noted in refilling the position the job duties may be significantly modified to address Section needs, in particular the handling of fees.

Patterson reported that AWW&WEA at this year's annual conference had tracked which attendees picked up their registration packets by having them initial beside their name creating a master attendance list that was provided to the state certification programs. He provided an update of AWW&WEA's Outreach Committee efforts to create an electronic attendance tracking process to be used at the 2007 annual conference. The process will also be used by the individual AWW&WEA districts and possibly by other training providers. He stated the Outreach Committee had agreed to table efforts to create one unified ID card for all licensing programs and to focus their initial efforts on the attendance tracking.

Nutt then discussed the Section's progress on its training database accessible on the internet. He passed out a beta version of the actual internet web pages and noted that the

next effort, which ties into AWW&WEA's attendance tracking, was to get the database electronically populated with training data from the major training providers.

Hart reviewed the revised guidelines for Underwater Storage Tank Inspection and Cleaning - Maintaining Water Quality. He stated the guidelines had been modified to accommodate Committee members' comments from the April meeting. The revisions included separating the policy for two areas - one for when the tank is off-line and the other when the tank is on-line; revised water quality monitoring requirements; advance notice to the Section that the work is being performed; and a requirement that a representative of the Section be present during the work. Discussion followed on the need to notify the public when the work is being performed, and the Committee accepted the guideline with the provision that language be included for the water system to notify its customers in advance of such work.

Nutt requested a formal workgroup be appointed by the Committee to address revising the exam formula sheet. He suggested the workgroup consist of AEA staff, ARWA staff, Section staff and one or two Committee members. Patterson, acting Chair, agreed with the recommendation and asked that Borman represent the Committee on the workgroup and received confirmation of participation for the other named groups.

Nutt stated that a subcommittee on the licensing of ADHHS Engineering Section staff, consisting of Hum, Patterson and DiCicco, with Nutt ex-officio, had not met to his knowledge. Patterson requested that Nutt contact Hum to get the subcommittee to possibly meet before the next Committee meeting. Discussion followed about the need for ADHHS staff to be licensed and what experience should count.

Continued next page

WATER OPERATOR LICENSE EXAMINATIONS

Listed below are the dates and locations of examination sessions as scheduled, as of mid-July. All Treatment and Distribution exam grades will be available at the sessions. Acceptable photo identification (Drivers License or equivalent) will be required to sit for an Exam. Cell phones and other electronic communication devices are not allowed in exam sessions. Non-programmable calculators are allowed

DATE	CITY	LOCATION	TIME
9/22/2006	Camden	AR Environmental Academy	9:00 AM
9/29/2006	Siloam Springs	Water Treatment Plant	9:00 AM
10/6/2006	Lonoke	ARWA Training Facility	9:00 AM
10/6/2006	Clarksville	Clarksville Water & Light Operations Building	9:00 AM
10/13/2006	Monticello	University of Arkansas-Monticello	9:00 AM
10/26/2006	Hot Springs	Wastewater Treatment Plant	9:00 AM
10/27/2006	Lonoke	ARWA Training Facility	9:00 AM
11/3/2006	Lonoke	ARWA Training Facility	9:00 AM
11/9/2006	Camden	AR Environmental Academy	9:00 AM
11/17/2006	Malvern	Ouachita Technical College	9:00 AM
11/17/2006	Fort Smith	Contact AEA for location information	9:00 AM
11/30/2006	Paragould	Wastewater Treatment Plant	9:00 AM
12/8/2006	Lonoke	ARWA Training Facility	9:00 AM
12/15/2006	Lonoke	ARWA Training Facility	9:00 AM
12/15/2006	Camden	AR Environmental Academy	9:00 AM

The above exam session information is subject to change. You should confirm this information just prior to the scheduled examination period or see our website: <http://www.healthylarkansas.com/eng/autoupdates/oper/operexam.htm>.

Please verify that your license application has been filed with this office and that the required exam fee for each exam has been paid. The license exams require significant preparation prior to sitting for the exam. The preparation must include extensive study utilizing the study guide and recommended reference materials. Credit for the mandatory Certification Training Courses must be obtained prior to sitting for an exam.

PREPARATION = SUCCESS

New Business

The Committee addressed setting 2007 Committee and Program goals. Nutt stated he had prepared Program goals for consideration and had recommended goals for the Committee's consideration. The members agreed to hear the goals but requested Hum be allowed to set the Committee goals. Nutt's suggested Program goals were to continue the CD-ROM and Compliance Summary goals, and to modify the Image Capture goal to include the actual capture and filing of documents.

Nutt noted the Committee already had a goal of electronically tracking training. He suggested other Committee goals could be to continue the funding goal, to expand the OpCert Grant program, to develop a revised formula sheet, and to develop a policy on licensing ADHHS staff. He felt converting several present Committee action items into goals with a

subcommittee heading up each goal would help ensure progress was made on those items. Seifert motioned that these suggested goals be recommended to Hum, Williams seconded the motion and the motion passed.

Nutt provided a chart that compared the New York water license program to the Arkansas program. The chart included Nutt's reciprocity determinations. He stated that New York had a more than acceptable license program but the two programs' classifications of licenses did not match. The only New York license he determined could be reciprocated was the New York Grade C to an Arkansas Grade 2 Distribution License. The Committee concurred with the determination.

Reports to the Committee

Seifert, reported in his Executive Secretary and Section's report, that

Charles McGrew, Director, Center for Local Public Health, had been named the Division of Health's Deputy Director and Chief Operating Officer. Randy Lee had been named the Center Director and Terry Paul had been named Acting Environmental Health Branch Chief.

Nutt, in his Training and Certification Officer's report reviewed exam passage rates with the Committee. Discussion followed about ways to improve exam scores with Borman suggesting that plant tours be incorporated into the treatment curriculum. Nutt also reviewed the types of revised reports being provided to the trainers and examinees in response to discussion at the last Committee meeting on how the reports could be improved. Nutt's enforcement report showed that most water systems continued to spend 3-4 months on the list and then returned to compliance. He felt the enforcement plan was performing as desired. In Nutt's general license program report he stated that critical items were getting done but the changes in ADHHS's fee receipting and its increased workload on the program had slowed the turn around time for exams and applications. He said he doubted that it would improve in the near future.

Oden reported for the Arkansas Environmental Academy, and stated that Randy Harper had been named Director of the Environmental Academy and Jim Phillip had resigned as Water Instructor Coordinator. He stated the Academy would do its best to meet all training commitments.

Sternberg, reporting for the Arkansas Rural Water Association, passed out a training report for courses this calendar year. He stated that ARWA had over 100 participants at its first Operator Expo and invited all Committee members to their Annual Conference. He announced that ARWA had retired their debt on the training facility and would celebrate the occasion at a luncheon during the Annual Conference.

The next Committee meeting was scheduled for October 3, 2006.

AWW&WEA District Meetings

See also the Division's web site www.healthylarkansas.com/eng/ for updates.

DATE	TIME	CITY	LOCATION	SPONSOR
October 2006				
5	5:00PM	Benton	Senior Center	Central District, AWW&WEA
12	5:30PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
12	5:30PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
12	5:00PM	West Memphis	Southland Greyhound Park	Eastern District, AWW&WEA
17	6:30PM	Hamburg	Catfish Inn	Southeast District, AWW&WEA
18	9:00AM	Eureka Springs	Inn of the Ozarks	Northwest District, AWW&WEA
19	6:30PM	Fort Smith	Columbus Acres	Western District, AWW&WEA
19	1:00PM	Paragould	City Light & Water Bldg	Northeast District, AWW&WEA
26	6:30PM	Waldo	The Rails Restaurant	Southwest District, AWW&WEA
November 2006				
2	5:00PM	Benton	Senior Center	Central District, AWW&WEA
2	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
2	5:00PM	Marianna	Fire Station	Eastern District, AWW&WEA
9	5:30PM	Clarksville	Western Sizzlin	AR Valley District, AWW&WEA
9	5:30PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
15	9:00AM	Berryville	Community Center	Northwest District, AWW&WEA
16	1:00PM	Jonesboro	Ron's Catfish	Northeast District, AWW&WEA
16	6:30PM	Hope	Western Sizzlin	Southwest District, AWW&WEA
21	6:30PM	Crossett	Western Sizzlin	Southeast District, AWW&WEA
December 2006				
7	5:00PM	to be announced	to be announced	Central District, AWW&WEA
7	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
14	5:30PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
14	5:45PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
19	6:30PM	Star City	FUMC	Southeast District, AWW&WEA
21	1:00PM	Jonesboro	Western Sizzlin	Northeast District, AWW&WEA
January 2007				
4	5:00PM	to be announced	to be announced	Central District, AWW&WEA
4	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
11	5:30PM	Clarksville	Western Sizzlin	AR Valley District, AWW&WEA
11	5:45PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
16	6:30PM	Hamburg	Catfish Inn	Southeast District, AWW&WEA
17	9:00PM	to be announced	to be announced	Northwest District, AWW&WEA
18	tba	to be announced	to be announced	Northeast District, AWW&WEA
25	6:30PM	Texarkana	The Old Feed House	Southwest District, AWW&WEA

DIVISION OF HEALTH / ENGINEERING SECTION
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