



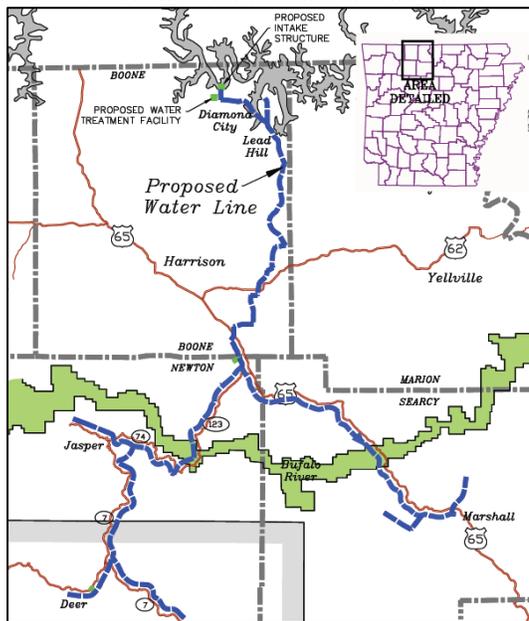
# ARKANSAS DRINKING WATER UPDATE

## Proposed Ozark regional water supplier scores big with stimulus funding

Members of the Ozark Mountain Regional Public Water Authority learned in October that completion of a plan to solve water quantity and quality problems for 22,000 persons in three north-central Arkansas counties will be moved from decades to as little as three to four years as a result of announced federal and state funding.

The US Department of Agriculture announced that it has committed \$55.7 million in loan and grant funds to the project from the federal American Recovery and Reinvestment Act. That money, combined with state grants from the Arkansas Natural Resources Commission, will fund the \$64 million dollar project. The water authority will treat water from Bull Shoals Lake, a U.S. Army Corps of Engineers reservoir, and distribute it as a wholesale supplier to 20 communities in Boone, Newton and Searcy counties through more than 100 miles of transmission lines.

Communities which will be served by the project have been hampered for years by water shortages, brackish water, and water which exceeded the federal standards for radium and fluoride.



Courtesy of Engineering Services, Inc.

Andy Anderson, chairman of the authority, was quoted to say that the project had been expected to be built in phases over 10 to 20 years as funding became available. That time frame has now been moved up to only a few years depending on how quickly a water reallocation from Bull Shoals Lake can be accomplished through the Corps, engineering designs for the project completed and approved, right-of-ways obtained, and construction begun. Anderson said the authority was formed in 2004 but the effort to find safe water for the region began decades ago.

A previous proposal to serve the area through an impoundment on Bear Creek, a tributary of the Buffalo National River, was opposed by a number of environmental groups and government agencies.

The project will serve the cities of Diamond City, Lead Hill and Valley Springs in Boone County. In Newton County, the water authority will supply Western Grove, Deer, Jasper, Nail, Swain, Mount Sherman, Lurton and Pelsor. In Searcy County, water will be supplied to Marshall, Leslie, Gilbert, Morning Star and Snowball. Water contracts call for the wholesale price of water to vary between \$2.75 and \$3.25 per 1000 gallons.

The project was the largest of 27 water and wastewater projects amounting to \$190 million in aid announced by U.S. Agriculture Secretary Tom Vilsack. The announcement was shared by Arkansas Senators Blanche Lincoln and Mark Pryor, and by U.S. Representative Marion Berry, all of whom Anderson credited with working very hard to support the project.

## House bill puts chemical security under EPA

The U.S. House of Representatives passed in November and sent to the Senate a bill which places oversight of chemical security at water and wastewater treatment plants under the Environmental Protection Agency. That oversight currently resides under the Department of Homeland Security. The bill also proposes possible restrictions on the types of chemicals that can be used at water and wastewater utilities.

The legislation, H.R. 2868 titled the Chemical and Water Security Act of 2009, is a combination of three separate bills on chemical security which were under consideration by the House.

For drinking water, the bill is applicable to systems serving more than 3,300 person with the provision that any sized system can be included if the EPA Administrator determines it to be a security risk.

A key component of the bill is for EPA to establish risk-based performance standards based on the type and amount of chemicals onsite, the treatment plant's proximity to human population, site security plans, vulnerability assessments, emergency response plans, and other factors. Water systems would then be placed into tiers based on their risk assessment.

Under the bill, water systems in the top two tiers which possess chemical

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## Chemical security

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substances above threshold limits must institute methods to reduce the consequences of a chemical release, referred to as "inherently safer technology" (IST).

Failure by the water system to implement IST would trigger a review and a timeline to mandate such methods. However, rather than EPA making that determination, the bill states the responsibility would fall on the state drinking water primacy agency.

Methods to achieve IST include improved chemical security, handling, and emergency response procedures, but they can also require that the utility switch the form of chemical on which its treatment scheme has been based.

Some critics view the legislation as an attempt to bar or drastically limit the use of chlorine gas in water and wastewater utilities. Utilities are concerned that the legislation could take away from local officials the choice of chemicals or processes that can best treat their water.

The American Water Works Association has alerted its members about this issue as well as the need for the bill to provide stronger penalties for the release of utility security information.

A comparable bill has yet to be introduced in the Senate although Frank Lautenberg (D-NJ) has indicated his intent to do so. Other senators have signaled their intent to introduce chemical security legislation but without the IST provisions.

The House bill can be found at <http://www.house.gov/>.

**ARKANSAS DRINKING WATER UPDATE** is published quarterly by the Engineering Section, Arkansas Department of Health to inform readers of issues and activities affecting this industry. Articles and information in the newsletter can be reproduced without restriction if credit is given for the source. Potential contributors of articles for the **UPDATE** and persons wishing to be added to the mailing list should contact Robert Hart, P.E. at the return address listed on the last page.

## Report issued on CO Salmonella outbreak

The Colorado Department of Public Health and Environment issued in November a final report on a waterborne Salmonella outbreak that struck the town of Alamosa in March and April of 2008. Four-hundred and forty-two cases of illness and one death were associated with the outbreak. Because the number of cases in such outbreaks are typically under-reported, health officials estimate that as many as 1300 persons in the town of 8900 were ill.

Alamosa's source of water is wells and the town's drinking water aquifer is considered adequately protected. However, the city's water was not disinfected prior to the outbreak. The city petitioned the state and received a waiver from disinfection in 1974. During the outbreak residents were advised to drink bottled water and the entire system was flushed and disinfected with high doses of chlorine. Permanent disinfection facilities utilizing chlorine have since been installed in the water system.

The report did not conclusively identify the source of the outbreak but the sequence of water flow through the distribution system and bacteriological analyses during the outbreak indicate that a concrete reservoir which had fallen into disrepair was the origin of the Salmonella bacteria. Investigators theorized that animals or runoff from their droppings had entered the reservoir through cracks in the walls and roof of the storage tank.

Also cited in the report as a factor possibly contributing to the outbreak was a lack of resources for the state drinking water program. Due to frequent waterborne disease outbreaks in the state in the 1980s and in response to mandatory EPA drinking water regulations, the state program had focused its resources on establishing and enforcing adequate treatment requirements, and had put less emphasis on the integrity of distribution system components, such as storage tanks. Lessons learned from the outbreak include a renewed focus on water systems that do not disinfect and on assessing water distribution infrastructure. Since the outbreak, the state has undertaken a review of all its disinfection waivers and has withdrawn 72 of them. A copy of the report can be found at [www.cdphe.state.co.us/wq/drinkingwater/AlamosaOutbreak.html](http://www.cdphe.state.co.us/wq/drinkingwater/AlamosaOutbreak.html).



*Droppings from animals or birds which entered cracks in this below grade concrete tank were believed to be the likely source of bacteria resulting in a waterborne disease outbreak in Alamosa, CO in 2008.*

# Alternative utility structures for water associations & cities

David F. Menz, Williams & Anderson PLC

Most of the rural water systems which have received construction funding from the federal government through the USDA Rural Development and its predecessor, Farmers Home Administration, were organized as water associations. These associations were formed using a template for governance and by-laws that has been around, in one form or another, for decades.

A water association is a private, nonprofit corporation formed under the regulations of the Secretary of State. While this model has served rural customers well for many years, it also has its limitations. Among them are the inability to tax land within its service area, the inability to exercise eminent domain, and the inability to access certain government funding programs whose assistance can only be provided to a public entity. The General Obligation Bond Program of the Arkansas Natural Resources Commission is an example of such a program. Any water or wastewater utility borrowing money from the program must be a legally defined public body.

A number of water associations, as well as municipal water systems, in recent years have looked into other models that can better fit their needs as a water utility.

The following list is not meant to be a definitive directory but only a broad overview of possible options. Each type of utility is considered a public body and eligible for applicable state funding programs. However, there are strengths and weaknesses with each type of entity, as well as long term considerations that should be taken into consideration.

## Public Facilities Board

Public facilities boards are authorized under Arkansas statutes §14-137-101, *et seq* and are created by an ordinance of either a municipality or a county depending on the service area of the facilities board.

The ordinance gives the board a name and specifies the powers granted to the board. The board is governed by five members who are appointed by the creating mayor or county judge subject to confirmation by the city council or quorum court.

## Regional Water Distribution District

Regional Water Distribution Districts are public, nonprofit entities formed under Arkansas Code Annotated § 14-116-101, *et seq* and established by a Circuit Court. A petition containing a description of the district's territory and purpose, and signed by at least 100 qualified voters who reside and own lands within the district is filed with the circuit clerk.

The clerk then forwards the petition to the Arkansas Natural Resources Commission which investigates and reports its findings to the clerk. After a public hearing, if the court finds the petition to be in the best interest of the residents an order is entered establishing the district. The district board is governed by three or more directors elected from the voters in the area.

Regional water districts have the power to levy taxes in order to finance an improvement plan. They are also given authority to enter into joint cooperation agreements with municipalities and other regional water districts.

Examples of such districts in the state include Beaver Water District, Conway County Regional Water Distribution District, and Clay County Regional Water Distribution District.

## Consolidated Water Authority

This water body permits any two or more public agencies to enter into an interlocal agreement for the purpose of consolidating their waterworks systems. Authority for this type of entity was created in 2001 in Arkansas Code Annotated §25-20-301 and was the mechanism by which Little Rock and North Little Rock merged their water systems.

To form a consolidated water authority, the governing body of each public agency wanting to create a new entity enacts an ordinance or resolution approving the filing of an application with the Secretary of State. The filing identifies the participating

public agencies; the number, residence requirements and voting rights of commissioners of the new entity; and whether the commissioners will be appointed or elected.

The newly created authority is given ten year under the statutes to equalize rates among its class of customers and to be immune from legal suits and claims over differential rates during that ten year period.

## Public Water Authority

The Public Water Authority Act was passed by the 2001 General Assembly and modified in 2003. The Act enables non-profit water associations to be recognized as a public entity by the state but, unlike a public facilities board, not be affiliated with a particular city or county.

A water authority is created by filing articles of constitution with the Arkansas Natural Resource Commission by two or more persons, cities, counties, or other public bodies. The articles are to include the proposed geographic service area for the water authority, a copy of the authority's proposed by-laws, and information on the water authority's directors which must number at least five members.

## Improvement Districts

An improvement district is created for the specific purpose of constructing and maintaining a local public improvement. They can be difficult to form since they require the signatures by a majority of the landowners within the district by number, by acreage, and by land value.

Improvement districts have the power to assess benefits and levy taxes on property owners. Improvement district are most often used to construct utility improvements within a municipality. In return, the city agrees to provide services to the district and take responsibility for ownership and maintenance of the improvements. ♦

*David Menz is an attorney with the law firm of Williams & Anderson, PLC. He can be contacted at 501-372-6453 or at [dmenz@williamsanderson.com](mailto:dmenz@williamsanderson.com).*

# Ground Water Rule Requirements For Triggered Source Water Monitoring

Greg Alexander, Environmental Specialist

The purpose of triggered source water monitoring is to evaluate whether the presence of total coliform in the distribution system is due to fecal contamination in the ground water source.

Triggered source water monitoring is required for any Public Ground Water System (GWS) that is not conducting GWR compliance monitoring for 4-log treatment of viruses.

## Triggered Monitoring

Source water monitoring is "Triggered" by a positive coliform sample collected from the distribution system in response to the "routine" monitoring requirements of the Total Coliform Rule.

- ❖ Groundwater source systems that do not provide 4-log treatment for viruses must conduct "Triggered" Sources Water Monitoring.
- ❖ A GWS conducting triggered source water monitoring is required to:
  - a) Assist ADH, if requested, in developing a triggered Source Water Monitoring Plan.
  - b) Conduct triggered monitoring in accordance with the Triggered Source Water Monitoring Plan.
- ❖ Triggered source monitoring:
  - a) **GW source systems** must sample raw water representative of each source (well) that was in operation at the time the positive routine TCR sample(s) was collected.
    - i) Either collect a raw water sample from each well or;
    - ii) Collect a raw water sample from the combined raw water line prior to treatment.
 (Please refer to the adjacent diagram for possible monitoring locations.)

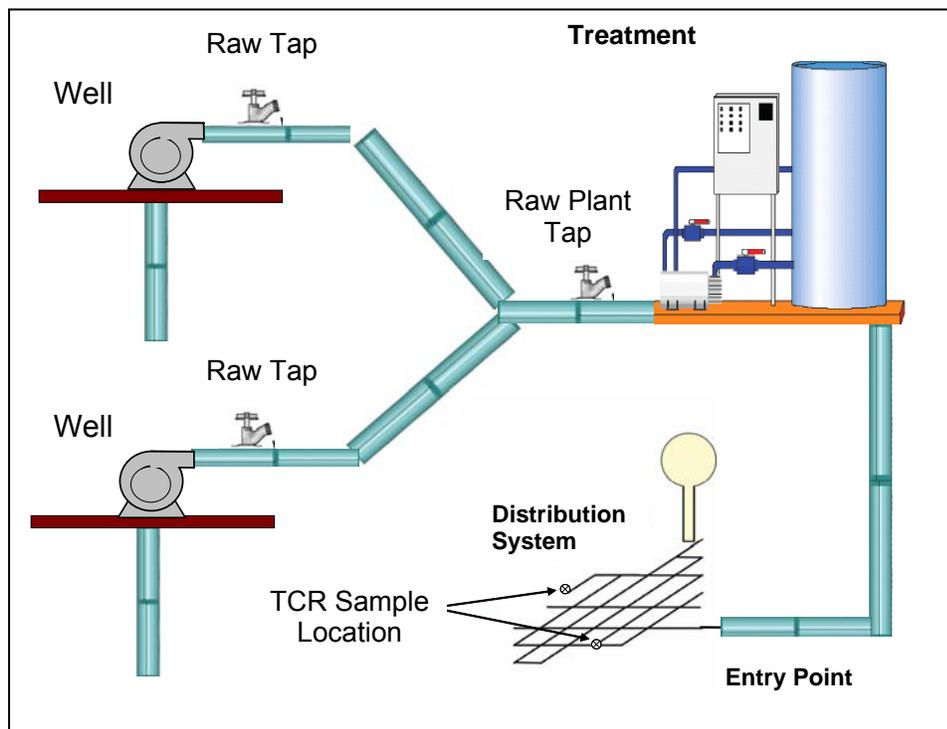
- b) Monitoring must be conducted within 24 hours of receiving notification of a positive routine Total Coliform Rule (TCR) distribution sample, or as otherwise directed by the State.
- c) Positive routine TCR samples collected by any of the systems that receive water from your system, either directly or indirectly through another system, will also trigger source water monitoring for your system. The consecutive system(s) with the positive distribution sample must in turn notify your system within 24 hours.

### ❖ Response to a Positive Source Sample

- a) Provide Tier 1 Public Notification within 24 hours of receiving the results. Provide notification to all systems receiving water from your system, either directly or

- b) indirectly.
- c) If a triggered source water sample is positive for E. coli, the state will require the system to:
  - i) If the E. coli positive sample is from a raw water sample collected at an individual well, then collect 5 additional raw water samples from that same well within 24 hours of receiving notification of the positive result.
  - ii) If the E. coli positive sample is from the combined raw water line prior to treatment, then collect 5 additional raw water samples from each well that was in service at the time the TCR monitoring was conducted.
- d) If any one of the additional samples is E. coli positive, then the system must consult with the State within 30 days and take corrective actions.
  - i) (Note: Deficiencies identified during sanitary surveys or other investigation may also trigger corrective actions.)

Continued next page



Sample Schematic

- ❖ Corrective actions
  - a) Corrective actions may include one or more of the following actions.
    - i) Correct any significant deficiencies.
    - ii) Provide an alternate source of water.
    - iii) Eliminate the source of contamination.
    - iv) Provide treatment that reliably achieves at least 4-log treatment of viruses.
      - (1) If 4-log treatment is installed, the system must begin compliance

**PWS Reporting Requirements:**

- ❖ A GWS is required to notify the State:
  - a) Within 30 days after completing any corrective action for significant deficiencies or source water fecal contamination.

**PWS Record Keeping:**

- ❖ A GWS is required to maintain the following information in its records:
  - a) Documentation of corrective actions must be kept for 10 years.

- b) Documentation of notice to the public of any uncorrected significant deficiency.

**Notification Requirements:**

- ❖ Community Ground Water Systems
  - a) Community GWSs that receive notice of an E. coli source water sample must:
    - i) Provide Tier 1 Public Notice within 24 hours of receiving the sample results.
    - ii) Notify within 24 hours all their consecutive Public Water Systems.

- v) The system must complete the corrective actions, or be in compliance with a State approved corrective action plan within 120 days.

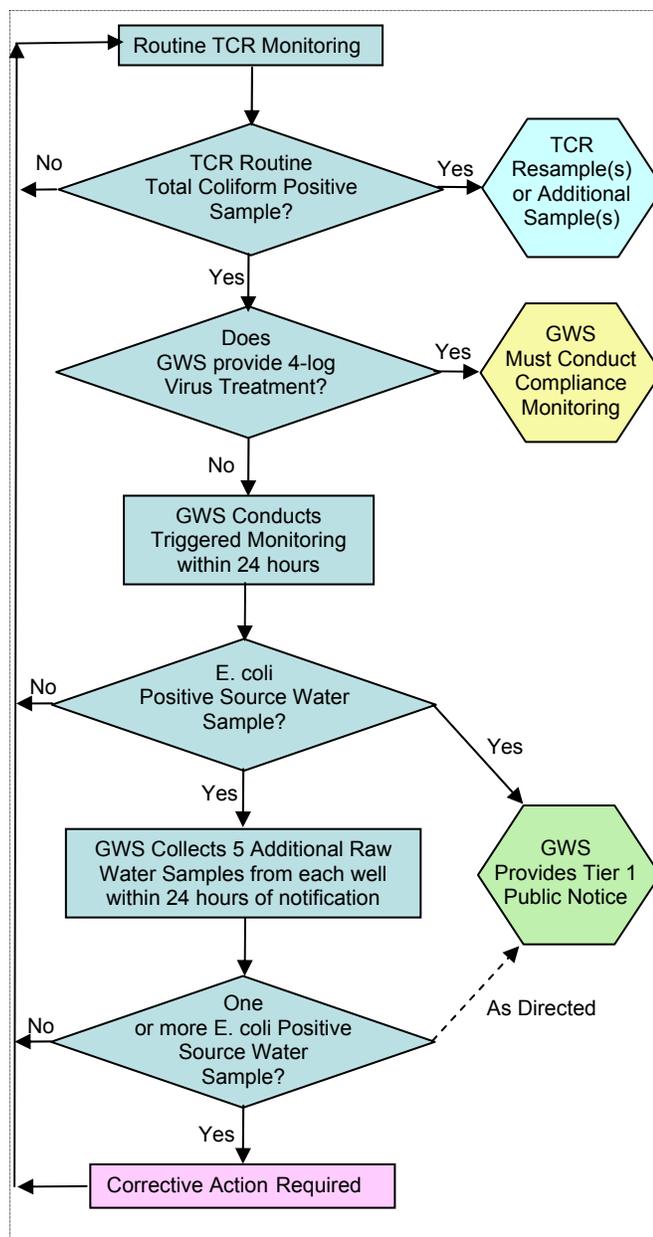
**Consecutive Systems:**

- ❖ Systems that purchase 100% of their water must:
  - a) Notify their wholesale system within 24 hours of receiving notice of a total coliform positive sample taken under the TCR.

*(Note: The ADH plans to provide notice to the source systems of TCR positive results in their consecutive systems.)*

- b) Upon receiving notice from the wholesale system or the State of a fecal indicator positive source water sample (either initial triggered samples or additional samples), the consecutive system must provide Tier 1 public notice to its customs within 24 hours.

**Flow Diagram for Triggered Source Water Monitoring**



- iii) Provide Special Notice of the E. coli positive source sample in their CCR, including the status of corrective actions taken.
- b) Community GWSs that fails to conduct required triggered or additional monitoring must:
  - i) Provide Tier 3 Public Notice within 12 months.
  - ii) Such notice may be provided in their CCR.

**Assessment Monitoring**

- ❖ If directed by the State, GWSs shall conduct assessment monitoring.

Assessment monitoring generally consist of monthly source samples for a period of 12 months.

*For more information, contact Greg Alexander with the Engineering Section: 501-661-2623. The above information is available as a trifold pamphlet by contacting the Engineering Section.♦*

## 2009 Water Licenses Not Renewed for Failure to Pay Fees or Lack of Training Hours

Delinquent licenses can be reinstated until 6/30/2010. Contact the licensing staff with the Engineering Section.

Licensee Name	Mailing Address City
ALLEN DAVID	Star City
ANDERSON KENNETH	BAUXITE
APPLE DANIEL	DANVILLE
ARMSTRONG ANN	EUREKA SPRINGS
ASAY TIM	BATESVILLE
AUGUSTUS JAMES	CUSHMAN
AUTREY TINA	ROGERS
BAGLEY JOHNATHAN	GRANNIS
BAKER GLENN	HOT SPRINGS
BAKER JOHN	LEAD HILL
BALTZ BILL	PARIS
BEADLES JOHN	JONESBORO
BEIGHTS WESLEY	ROGERS
BELL JAMES	BOONEVILLE
BENNETT NICHOLAS	KINSLAND
BENSON RICKY	IMBODEN
BERRY VIVIAN	FORDYCE
BLANKENSHIP DANNY	BROCKWELL
BLANTON TERRY	JUDSONIA
BOUNDS JAMES	ROGERS
BRACKEN ROBERT	ALMA
BRANUM KENNETH	CORNING
BRAY TONY	PEA RIDGE
BRICE MERVIN	JACKSONVILLE
BROWN BRUCE	GOSNELL
BROWN DUSTY	Trumann
BUCKNER CLARENCE	SEARCY
BULLINGTON THOMAS	BATESVILLE
BURCH HAROLD	FAYETTEVILLE
BURKHEART DAVID	CORNING
BUSH SHERMAN	COLORADO SPRGS
CALER KEVIN	ELKINS
CAMBLIN LAWRENCE	WATTS
CANNON SHANE	Belleville
CAPLES DENNY	JONESBORO
CARAWAY KERRY	MT PLEASANT
CARD KENNETH	BERRYVILLE
CARLSON PAUL	MEXICO
CARMAN ROY	BENTON
CARPENTER STEVEN	BAUXITE
CARTER DENNIS	GREERS FERRY
CARTER TODD	BERRYVILLE
CLEMENTS ARLENE	WYNNE
COKER BOB	FAYETTEVILLE
COLEMAN JUSTIN	MOUNTAIN HOME
CONATSER TIMOTHY	DEQUEEN

Licensee Name	Mailing Address City
CONSTANTIN JR	Norman
CORNISH NORMAN	WARREN
COTNER JAMES	HUNTINGTON
CRAIG JAY	CABOT
CRUSE CHRISTOPHER	ROGERS
DAVIS GREGORY	NOEL
DAVIS JOHN	MENA
DAVIS JONATHAN	BENTON
DICKSON DENNIS	WHITE HALL
DIFFIN S	CINCINNATI
DILDAY LANDON	BATESVILLE
DINWIDDIE BRANDON	BAUXITE
DOBBS JOHN	PRAIRIE GROVE
DOUGLAS KENNETH	LONOKE
DUNLAP DARRELL	FULTON
DURHAM CHARLES	PANDGBURN
EDERINGTON JAMES	HERMITAGE
EDWARDS KENNETH	LOCKESBURG
EIDSON NORMAN	LAKE CITY
ELWIN MARTIN	SPRINGDALE
EOFF WILLIAM	Rogers
FARMER GREGORY	HARRISON
FERGUSON BLAKE	MARION
FLETCHER DAVID	Pea Ridge
FLOYD RANAY	MURFREESBORO
FLYNT DAVID	DECATUR
FOLEY ROBERT	Boise
FRANCIS GERALD	ASHDOWN
FRENCH ROBERT	CLINTON
FRUS JOSEPH	ROGERS
FULLER DON	KENSETT
GARRIS ROY	BISMARCK
GEASLIN TERRY	TUCKERMAN
GLOVER WALTER	STAR CITY
GOAD DALLAS	BRADFORD
GORDON STEPHEN	HOLIDAY ISLAND
GRAY DARRELL	JACKSONVILLE
GRIFFIN RUSTY	LITTLE ROCK
GUESS GREGORY	ALMA
GULLEY DENVER	MOUNTAIN HOME
GUY BRADLEY	MAMMOTH SPRINGS
HALE JAMES	FORT SMITH
HALL DON	DONIPHAN
HALMES III JOSEPH	OZARK
HARGIS BRENT	HUNTSVILLE

Licensee Name	Mailing Address City
HARRIS JIM	FORT SMITH
HARRIS WENDY	NASHVILLE
HARTNESS CLAY	WOOSTER
HATCHER JOHN	Paris
HEINRICHS BILLY	Siloam Springs
HOLLAND DONNIE	POTEAU
HOLMAN HARRY	LONOKE
HUGGINS BENNY	DOVER
HUGHES JERRY	MAGNESS
HUTCHESON JACK	BENTONVILLE
HUTSON LARRY	LOCKESBURG
HYSLIP GWEN	FARMINGTON
INMAN MICHAEL	BENTONVILLE
IRWIN JAMES	DONALDSON
JACKSON HENRY	MINERAL SPRINGS
JACKSON JAMES	SEARCY
JAMES JOE	DUMAS
JAMISON LEROY	GREENWOOD
JANSSEN ROBERT	MAUMELLE
JETTON DANNY	LAVACA
JOHN RICHARD	BRYANT
JOHNSON DAVID	JACKSONVILLE
JOHNSON DERL	JONES
JOHNSON ERIC	EVENING SHADE
JONES DAVID	OPPELO
JONES MIKE	LITTLE ROCK
KEATTS CARROLL	LITTLE ROCK
KEMP JESSIE	CALICO ROCK
KILGORE STEVEN	JASPER
KING ANTHONY	MARSHALL
KING DARRELL	HORSESHOE BEND
KING ZACHARY	BENTON
KIRSCH BRUNO	LITTLE ROCK
KISMAN HARRY	GOSNELL
KITCHENS RUSSELL	BENTON
LACEFIELD STEPHEN	GLENWOOD
LAUGHRY WAYNE	GASSVILLE
LAWSON JERRY	HOUSTON
LAXTON HENRY	JONESBORO
LUCK J	ROSSTON
MAIN BRIAN	ENGLAND
MALLETT STEVE	HOT SPRINGS
MAY SAM	SPARKMAN
MCCAULEY FRANK	HOT SPRINGS
MCNUTT CRYSTAL	SILAM SPRINGS
MCWHORTER	STAR CITY

## 2009 Water Licenses Not Renewed for Failure to Pay Fees or Lack of Training Hours

Delinquent licenses can be reinstated until 6/30/2010. Contact the licensing staff with the Engineering Section.

Licensee Name	Mailing Address City
DONALD	
MILLICAN JEANETTE	EL DORADO
MITCHELL JOE	TRUMAN
MITCHELL JULIA	MT HOLLY
MITCHELL VIRGIL	MOUNTAIN PINE
MONEYMAKER BILLY	MARIANNA
MOORE ANDRE	LITTLE ROCK
MOORE CHARLES	Clinton
MORGAN PAUL	MAMMOTH SPRING
MORGAN STEPHEN	LITTLE ROCK
MORGAN TERESA	LEXA
MORRIS ELMER	MINERAL SPRINGS
MORTENSEN JOHN	Holly Springs
MOWRY THOMAS	SPRINGDALE
NEWMAN DON	N LITTLE ROCK
OSHEL THOMAS	LITTLE ROCK
PARADIS ROBERT	N LITTLE ROCK
PARKER JAMES	NASHVILLE
PARSON FLOYD	MORO
PATTERSON ROBERT	Flippin
PERRY BRIAN	Austin
PITTS CHARLES	LONOKE
POUNDS DENA	Gentry
PRICE CHRIS	CLARKSVILLE
PRICE MICHAEL	CAVE CITY
PRIEBE LARRY	LONDON
PUMPHREY LAWRENCE	JUNCTION CITY
PURYEAR MILTON	NASHVILLE
RAMSEY CHRISTOPHER	BENTON
RANDALL BILLY	HUNTSVILLE
RASMUSSEN DENNIS	LOWELL
RAULS WILLIAM	HERMITAGE
REEL BRIAN	JACKSONVILLE
REHM ANDREW	BRADFORD
REID RYAN	JACKSONVILLE
REID SCOTT	MENA
REVES JAMES	DOVER
RICHARDSON MICHAEL	VALLEY CENTER
RILEY MITCHELL	GILLHAM
ROBEN JAMES	MOUNTAIN HOME
ROGERS J	KINGSLAND
ROLLINS BETTY	COTTON PLANT
ROUSE ED	MOUNTAIN HOME
ROWE EARL	GENTRY
SAUNDERS GERALD	Searcy
SAWRIE BYRON	HIGDEN

Licensee Name	Mailing Address City
SBANOTTO DAVID	SPRINGDALE
SCHAUF DALE	HOT SPRINGS
SCHILLINGER FREDERICK	SEARCY
SCOTT JOHNNY	BOONEVILLE
SCROGGINS CHRISTINA	LONOKE
SEAMAN ALFRED	LEWISTON
SELLS SCOTT	KIRBY
SEXTON STEVEN	BRADFORD
SHELBY PAUL	BRYANT
SHUE JIMMY	QUITMAN
SIMMONS JON	HARTFORD
SIMPSON JOHN	BAUXITE
SMITH DONNA	ROGERS
SMITH GERALD	TRUMANN
SMITH JONIA	RUSSELLVILLE
SMITH VIRGINIA	TEXARKANA
SPAKES GREGORY	RISON
STADLER LOUIS	HICKORY RIDGE
STANDLEE CHARLES	Green Forest
STANE JUSTIN	OZARK
STOBAUGH WARREN	PLUMBERVILLE
STOLTZ HENRY	RUSSELLVILLE
STONESIFER CLAYTON	WEST FORK
SUTTERFIELD RANDAL	BIG FLAT
SWORD JULIAN	NORMAN
TALLENT FARON	VILONIA
TARRON GENE	HOT SPRINGS
TAYLOR STANLEY	EVENING SHADE
TAYLOR STEVE	GARFIELD
TEMPLETON DOUGLAS	CHESTER
THARNISH LARRY	BATESVILLE
THIEL ROBERT	Mountan Home
TIGHE LORI	ASHDOWN
TIMLIN KATHY	MAMMOTH SPRINGS
TOLAND DONALD	HASKELL
TOWNSEND SUE	FOUKE
TRUE DEVIN	CABOT
TURNER JAMES	EL DORADO
TUSZYNSKI GARY	PEA RIDGE
ULMER DANA	LIBERTY
VARDAMAN MATTHEW	BRYANT
VAUGHN JEFFERY	DANVILLE
VIERS RONALD	Jackson
VONDRAN JOHN	CONWAY
WALKER CLAYTON	LITTLE ROCK

Licensee Name	Mailing Address City
WALKER SHERRIE	JACKSONVILLE
WALLACE JEFFERY	Lubbock
WARDEN WESLEY	CECIL
WARREN PORTER	PROCTOR
WATKINS LINARD	JUDSONIA
WATSON SANDRA	HOT SPRINGS
WELLS RICHARD	SHERWOOD
WHITE JAMES	DIERKS
WILLHITE DON	ALMA
WILLIAMS HAROLD	PINE BLUFF
WILLIFORD JASON	FAYETTEVILLE
WILMOTH ROSS	GENTRY
WILSON DAVID	Eureka Springs
WINKLE DONALD	BATESVILLE
WOODS JUSTIN	MAUMELLE
WOODWARD JACKIE	SALLISAW
WOOLS DAVID	JUDSONIA
YOKEM MATTHEW	Pleasant Hill
YORK JEFFREY	ROGERS
<b><u>Licenses Not Renewed for Lack of Training Hours</u></b>	
Name	Mailing Address City
Bastion Linda	Conway
Bradford Bernard	Jacksonville
Burnett Debbie	Crossett
Carter kenneth	Sperry
Cogburn Jason	Glenwood
Dixon Russell	Belleville
Gunn Tommy	Flowood
Henderson David	Green Forrest
Hendrix Guy	Bauxite
Howard Bennie	Strong
Johnson Clifton	Cherokee Village
Johnson Don	Rogers
Joseph Lisa	Jamestown, NC
Kast Susan	Fox
Koonce Phyllis	Plumerville
Lamb Antonio	Little Rock
Lock Robert	Stuttgart
Moore Kenneth	Mansfield
Ruhwedel Gale	West Grove
Short Teddy	Hot Springs
Simmons Delmas	Kirby
Smith Warren	Melbourne
Wilkins Mark	Decatur
Wolf Jan	Stuttgart

# Software Tools for CT Compliance

Lance A. Jones, P.E.,  
Chief of Technical Support

The Engineering Section now has two software programs available to use for determining compliance with CT requirements of the Surface Water Treatment Rule (SWTR) and Ground Water Rules (GWR).

The first is an older software program developed in the 1990's by Jeff Stone, P.E., of the Engineering Section. It was originally developed to calculate the required free chlorine needed for compliance or the percent of the required CT value achieved based on the current free chlorine residual for 0.5 to 3.0-log Giardia cyst inactivation. Since the vast majority of water systems at that time were using free chlorine as the disinfectant for CT compliance with the SWTR, this program was adequate to evaluate the disinfection effectiveness for both Giardia and Viruses. Free Chlorine is much more effective on viruses than Giardia and a minimum 0.5-log Giardia CT value, required under Arkansas' implementation of the SWTR, would also meet a maximum 4.0-log Virus CT value.

Later revisions were included in the program to allow the evaluation of other types disinfectants. These revisions included the ability to calculate required disinfectant levels and percent of CT achieved for the SWTR using ozone, chlorine dioxide, and chloramines, as well as the ability to evaluate CT values from 2.0 to 4.0-log inactivation for viruses. These disinfectants have differing effectiveness on Giardia and viruses, and the evaluation of both CT values is needed to ensure that compliance is met.

The older program is available in the form of an executable file (CTcom.exe) on the Engineering Section website. This is a stand-alone DOS based program that should be usable on operating systems ranging from DOS, Windows 3.11, Windows 95, 98, 2000 and XP. Windows Vista users may experience problems running this program and are recommended to use the newly developed Excel program file.

The second Excel based program was developed in 2009 by Lance Jones, P.E., of the Engineering Section for the purposes of including all CT values up to 3.0-log Giardia Cyst and 4.0-log Virus inactivation for all approved disinfectants for

compliance with both the SWTR and GWR. Factors driving the development of this program were the problems users were experiencing with the CTcom.exe program under the Windows Vista operating system and because an alternate tool for CT evaluation was needed.

Other benefits of the Excel program are that it is more versatile, allows for multiple segments of a treatment plant to be used in the calculations simultaneously and doesn't require complete data re-entry in order to change one parameter.

Also, if the approved T<sub>10</sub> volumes and baffle factor for the CT segment(s) are entered with the flow rate, there is no need to calculate the T<sub>10</sub> time as is required for the CTcom.exe program. Please contact the Engineering Section or refer to your applicable CT letter for details on the approved segment volume and baffle factor data for your facility.

As shown in the screen-shot example below, the program calculates the achieved CT, percent CT needed for compliance for both Giardia and viruses, required disinfectant residual needed for 100% compliance in individual segments as well as depth of clearwell or length of

Continued next page

CT Compliance Calculation Worksheet				Razorback Water System		12/1/2009	
Conditions		Residual or Depth/Length Needed for 100% in Segment		Required <i>Giardia</i> 0.5-log Inactivation		Required <i>Virus</i> 2.5-log Inactivation	
Plant Flow	250 gpm						
HS Flow	300 gpm						
CT Achieved							
<b>Clearwell</b>		43.1% <i>Giardia</i>	300.0% <i>Virus</i>				
Minimum depth	6 ft	CT =15 min-mg/l	T10 30-min	13.9 ft			
Temp (C of F)	5 C						
Cl2 (free)	0.5 mg/l			1.30 mg/l			
pH	8.1						
<b>Rapid Mix</b>		22.0% <i>Giardia</i>	9.2% <i>Virus</i>				
Temp (C of F)	40 F	1.12 min-mg/l	T10 1.6-min				
Chlorine Dioxide	0.7 mg/l			7.60 mg/l			
pH	7.5						
<b>Segment 3</b>		<i>Giardia</i>	<i>Virus</i>				
Temp (C of F)							
Cl2 (free)	mg/l			mg/l			
pH							
<b>Segment 4</b>		<i>Giardia</i>	<i>Virus</i>				
Temp (C of F)							
Cl2 (free)	mg/l			mg/l			
pH							
<b>Pipeline</b>		30.7% <i>Giardia</i>	9.8% <i>Virus</i>				
Length	2000 ft	111.96 min-mg/l	T10 53.32-min	20364 ft			
Temp (C of F)	5 C						
Chloramine	2.1 mg/l			21.40 mg/l			
pH	8.4						
<b>Total CT Achieved</b>		<i>Giardia</i> 95.8% 0.48-log	<b>Non-Compliance for <i>Giardia</i></b>				
		<i>Virus</i> 319.1% 7.98-log	<b><i>Virus</i> CT Compliance Met</b>				
				Clear Data Entry		Clear Entire Worksheet	

pipe needed. This is useful in designing new disinfection facilities. This example shows that virus CT is achieved but some slight treatment adjustments are needed to meet Giardia CT requirements.

The program segments do not need to be entered in the exact order as in the water treatment facility being evaluated, nor do all segments need to have data entered.

This program is available in the form of an (Office 2003) Excel spreadsheet file ( CT-TableCalc.xls ) and requires use of Microsoft Excel or other program capable of running \*.XLS files.

Both programs use interpolated CT table data as published in the Surface Water Treatment Rule and Guidance Manual and do not use an empirical formula to estimate CT values. The data obtained with the programs should match data obtained by manually checking the CT tables.

The files are available for download from the Engineering Section's website [www.healthyarkansas.com/eng/ctcom.htm](http://www.healthyarkansas.com/eng/ctcom.htm).

If you have questions regarding these programs, contact Lance Jones at 501-661-2623 or [Lance.Jones@Arkansas.gov](mailto:Lance.Jones@Arkansas.gov). ♦

### Water Laboratory Alliance Launched

EPA's Office of Water announced in November the launch of the Water Laboratory Alliance. The Alliance is a coalition of public and private water laboratories which can provide the analytical capability and capacity to respond to a natural, intentional or unintentional water contamination event. The Arkansas Public Health Laboratory will be a member of the coalition.

The Alliance is a result of Homeland Security Presidential Directive 9 instructing EPA to develop nationwide laboratory networks and utilize standardized diagnostic protocols and procedures. More information is located at <http://cfpub.epa.gov/safewater/watersecurity/wla.cfm>.

## WATER OPERATOR LICENSE EXAMINATIONS

Listed below are the dates and locations of examination sessions. Up to date listing are at: <http://www.healthyarkansas.com/eng/autoupdates/oper/operexam.htm>. 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
01/14/10	Russellville	Tri-County Water District, 5306 North Arkansas 7	9:00 AM
01/15/10	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
01/22/10	Maumelle	Maumelle WW Training Rm, 425 B Hyman Dr.	9:00 AM
01/29/10	Nashville	Carter Day Center, 200 Nichols Drive	9:00 AM
02/05/10	Little Rock	Unknown	9:00 AM
02/12/10	Camden	AR Env. Training Academy, 100 Carr Road	9:00 AM
02/19/10	Nashville	Carter Day Center, 200 Nichols Drive	9:00 AM
02/26/10	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
03/05/10	Clarksville	CLW Operations Ctr, 710 East Main (Hwy 64 E)	9:00 AM
03/12/10	Russellville	Tri-County Water District, 5306 North Arkansas 7	9:00 AM
03/19/10	Little Rock	Unknown	9:00 AM
03/19/10	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
04/09/10	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
04/09/10	Paragould	To be announced	9:00 AM
04/09/10	Van Buren	To be announced	9:00 AM
04/16/10	Camden	AR Env Training Academy, 100 Carr Road	9:00 AM
04/23/10	Jonesboro	Unknown	9:00 AM
04/30/10	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
05/05/10	Hot Springs	AWWWEA Conference - HS Convention Center	9:00 AM
05/14/10	Midway/Mt Home	Baxter Co OEM Trng Ctr, 170 Dillard Dr, Midway	9:00 AM
05/14/10	Russellville	Tri-County Water District, 5306 North Arkansas 7	9:00 AM
05/21/10	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
05/28/10	Nashville	Carter Day Center, 200 Nichols Drive	9:00 AM
05/28/10	Paragould	Unknown	9:00 AM
06/04/10	Clarksville	CLW Operations Ctr, 710 East Main (Hwy 64 E)	9:00 AM
06/11/10	Arkadelphia	Recreation Center, 2575 Twin Rivers Dr	9:00 AM
06/11/10	Nashville	Carter Day Center, 200 Nichols Drive	9:00 AM
06/18/10	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
06/18/10	Jonesboro	Unknown	9:00 AM

The above exam session information is subject to change. You should confirm this information just prior to the scheduled examination period. You may confirm the exam session and its location by contacting your District Specialist or Engineer at (501) 661-2623.

Please verify that your license application has been filed with the Engineering Section 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.

## NATIONAL

\* The American Water Works Association and the National Rural Water Association signed this past summer a memorandum of understanding and a work plan on mutual goals for the two organizations. Among the common goals identified were to promote sound public policy; to increase public understanding; and to provide technical information and training assistance. A joint committee with members from the two groups has been set up to work on further defining their efforts. Under the MOU, NRWA affiliates can acquire AWWA publications at a discounted rate.

\* EPA announced in October it was undertaking a new evaluation of the pesticide atrazine in order to determine its effects on humans. Atrazine is a widely used agricultural pesticide and is currently regulated under the Safe Drinking Water Act. EPA said in its announcement that it wanted to incorporate more recent data from laboratory and population studies in order to examine its risk assessment of the pesticide and whether to modify the restrictions on its use. The review will be completed in a year. The announcement follows a series of articles in the *New York Times* in August on the exposure of the US population to low levels of atrazine in drinking water.

\* The National Association of Clean Water Agencies (NACWA) and the Association of the Metropolitan Water Agencies (AMWA) have published a report entitled, "Confronting Climate Change: An Early Analysis of Water and Wastewater Adaptation Costs." The report details the impacts climate change can have on wastewater and drinking water utilities and estimates the combined utility adaptation costs to be between \$448 billion and \$944 billion through 2050. The two groups, which represent the nation's largest public wastewater and drinking water agencies, urged Congress and the Obama administration to recognize climate change impacts on water and to implement policies that will help utilities take timely actions to adapt. The report is available at: <http://www.amwa.net/galleries/climate->

## [change/ConfrontingClimateChangeOct09.pdf](#)

\* The US Army Corps of Engineers proposed in November the rewriting its operations manual for the Apalachicola-Chattahoochee-Flint River Basin to prohibit water withdrawals by the City of Atlanta from Lake Lanier after July 2012. The proposal is a result of a July ruling by a federal judge that Atlanta has been illegally withdrawing water from the lake for decades. The ruling is currently under appeal by the state of Georgia. Georgia, Alabama and Florida are currently discussing options for a compromise in an ongoing dispute over the allocation of water in the Basin.

## News of Note

\* EPA in October issued final regulations to ensure the safety of drinking water on commercial aircraft. The regulations, which will be administered directly by EPA, require air carriers to develop a coliform sampling plan, and an operation and maintenance plan for each aircraft they own or operate. Corrective actions and public notice are required if coliform are detected. Self inspection of each aircraft's water system must be conducted at least every five years. The regulations apply only to the water system on the aircraft. The US Food and Drug Administration is responsible for airport watering points outside the aircraft including the tanks, trucks, and hoses by which aircraft board water.

## REGIONAL

\* The Obama Administration announced the appointment of Alfredo Armendariz as the Regional Administrator for EPA Region 6. Armendariz was most recently a professor in the Department of Environmental and Civil Engineering at Southern Methodist University in Dallas. His other work includes research, government, and private sector experience. Region 6 includes

the state of Arkansas as well as Texas, Louisiana, Oklahoma, New Mexico and Tribal Nations in those states.

## ARKANSAS

\* Beaver Water District celebrated in August the 50<sup>th</sup> anniversary of its formation. The District, formed to provide drinking water to northwest Arkansas, is credited with tipping the benefit-cost ratio so that the US Army Corps of Engineers could construct Beaver Lake. The District currently can produce 140 million gallons of water per day and supplies water to more than 250,000 people and industries in Washington and Benton counties.

## ENGINEERING SECTION

\* Teresa Lee, P.E., has been hired as an Engineer Supervisor in the Engineering Section. Teresa formerly worked for the Section as the Cross Connection Control Engineer and had left to work for another state agency. In her present position, Teresa will oversee the Section's program for transient noncommunity water systems, Capacity Development efforts, technical assistance contracts, Lead & Copper Rule, and Consumer Confidence Reports.

\* Robert Hart, P.E., Director of the Engineering Section, has been named a Board Certified Environmental Engineer by the American Academy of Environmental Engineers. The Academy, founded in 1955 and based in Annapolis, MD, is dedicated to excellence in the practice of environmental engineering to ensure the public health, safety, and welfare.

\* A fact sheet, "Disinfection Byproducts Questions & Answers," prepared by staff in the Engineering and Epidemiology Sections of the Department of Health is available to public water systems. The document provides information on the source and relative health risks of disinfection by products, and is intended to supplement water system outreach or public notification requirements. For a copy, contact the Lyle Godfrey or Bob Makin.

# The “What” and “Why” of Ordinances for Source Water Protection

Daniel Smith, P.G., Geologist Supervisor

Source Water Protection (SWP) is intended to prevent the pollution of water resources that serve as sources of drinking water for local communities. The Arkansas Department of Health (ADH) is the lead agency in implementing the SWP programs in the state including the Wellhead Protection Program (WHPP) and the Source Water Assessment Program (SWAP). These programs were established by the 1986 and 1996 Amendments to the Safe Drinking Water Act, respectively.

The ADH recognizes that SWP programs, if fully implemented, are one of the best ways to protect your source of drinking water. A source water protection ordinance is considered as one of the most important control measures or management strategies for a successful SWP or WHPP program! In fact, the ADH has developed specific criteria for a Public Water System (PWS) to be listed as having a substantially implemented SWP

program. To be included in this select group the PWS must have a source water protection program in place that includes a management team, a delineation (SWAP or WHPP delineation), a contaminant source inventory, and one of the following control measures/management strategies: 1) SWP/WHPP ordinance or resolution, or 2) any two of the following: SWP emergency /contingency plan, public outreach program, drinking water protection signs, and/or any other control measure/management strategy deemed acceptable by the ADH.

## What is a source water protection ordinance?

A source water protection ordinance is a local regulation pertaining to the protection of a public drinking water source. Often the

average citizen may take for granted that a high quality drinking water supply will always be available and may not be aware of activities that may adversely impact a source. Therefore, local regulations allow the community to protect its drinking water source from contamination.

## Why do you need a source water protection ordinance?

The potential for contamination and the ability to prevent it from occurring are the most compelling reasons. Preventing contamination will protect



the public's health and is much more cost effective than replacing a public water supply well or intake. Take a moment to reflect on the potential sources of contamination located within your source water protection area. Could contamination of your source occur if these potential contaminant sources are not managed properly? Keep in mind animal waste, fertilizers and sewage may result in nitrate and bacteriological contamination. Also toxic organic and inorganic chemicals that may be stored and/or used at various business and industrial sites may also contaminate source waters.

## What should the source water protection ordinance contain?

At a minimum the ordinance should contain a description of the delineated source water protection area,

allowable and prohibited land uses within the source water protection area, and how the ordinance will be enforced. The ADH source water protection staff has developed a generic model ordinance that may be modified to address specific needs. A copy of the model ordinance may be obtained by contacting one of the source water protection program staff listed below. The EPA has also developed model ordinances that can be accessed at: <http://www.epa.gov/nps/ordinance/sourcewater.htm>.

## How does a PWS go about establishing a source water protection ordinance?

Source water protection ordinances are generally passed by a governing body, such as a city council or water district board of directors, and subsequently enforced by city or utility code officials and the prosecuting attorney.

Typically, the utility's source water protection team will begin a process of educating the governing body about the need for protecting the utility's source, including proposing a model ordinance. Members of the governing body will have legitimate questions and concerns that need answering.

During this time ADH source water protection staff members may be called upon to provide technical information and respond to questions by the city council. Following these discussions the next step is entirely up to the city council. They may move to table, move to modify the model ordinance, or they may vote to adopt the ordinance. Keep in mind the passage of the source water protection ordinance is entirely dependant upon the local governing body. However it has been our experience, that once they understand the importance of source water protection, the outcome is favorable.

ADH source water protection staff include Dan Smith, Sandra Chandler, and Stan Starling. They may be contacted at 501-661-2623 for assistance. ♦

# Spot checks of water quality monitoring equipment show poor calibration rate

Craig Corder, P.E., Engineer Supervisor

During the summer of 2009 an intern, Andrew Gorman, was hired to conduct a water quality monitoring equipment calibration check project at surface water treatment plants around the state. Andrew was trained to check the calibration of turbidimeters, pH meters, and chlorine analyzers, each of which has regulatory implications for such plants. Similar calibration check projects were previously conducted by summer interns in 1999, 2000, 2001, 2003, and 2004.

Gorman checked the calibration of 264 turbidimeters, 29 pH meters, and 44 chlorine analyzers at 40 treatment plants throughout the state. Only 54% of the turbidimeters, 52% of the pH meters, and 73% of the chlorine analyzers were found to be in calibration, less than in the previous summer calibration check in 2004.

Turbidimeters should be accurate to within 2%. During the calibration check project, the water system's turbidimeter was compared to an ADH turbidimeter and any reading within 10% was considered to be in calibration. If the difference was between 10% and 20%, the turbidimeter was classified as out of calibration, and if greater than 20% then the unit was classified as significantly out of calibration. Forty two percent of the turbidimeters were found to be out of calibration and 4% were found to be significantly out of calibration. Summer interns have checked turbidimeter calibrations in 6 of the last 11 years and only the initial calibration check project in 1999 showed worst results for turbidimeter calibration.

For the pH meters, any difference of 0.25 standard units or less was classified as in calibration; a difference of between 0.25 and 0.50 standard units was considered out of calibration, and anything above 0.50 standard units was considered significantly out of calibration. Thirty percent of the pH meters were found to be out of calibration, and 18% were found to be significantly out of calibration. We have checked pH meter calibration 3

times in the last 7 years and this year's results are the worst of any year.

For chlorine residuals, water system results were compared to a Hach DR890 colorimeter owned by the ADH. Differences less than 0.25 parts per million were considered within calibration, differences from 0.25 ppm to 0.50 ppm were classified as out of calibration, and differences greater than 0.50 ppm were significantly out of calibration. About 14% were found to be out of calibration and the same percentage were found to be significantly out of calibration. Four chlorine analyzers were found to be not working at all and are included in the significantly out of calibration group. The ADH has checked chlorine analyzer calibration 3 times in the last 7 years and this year's results are the worst of any year.

## Standards & Tips

### Turbidimeters

- Hach 1720 series turbidimeters need to have the light bulb changed annually. The bulbs slowly dim with age and will cause the turbidimeter to drift out of calibration.
- Do not shake 4000 NTU Formazin stock solutions. Air bubbles can

become entrained in the stock solution and reduce the amount of formazin pipetted into solutions. Mix 4000 NTU Formazin stock solutions by gently inverting or by gently rolling the bottle on a flat surface prior to pipetting.

- Adjust the flow rate to online turbidimeters with the plant in operation. The supply line pressure may vary with the plant on or off line.

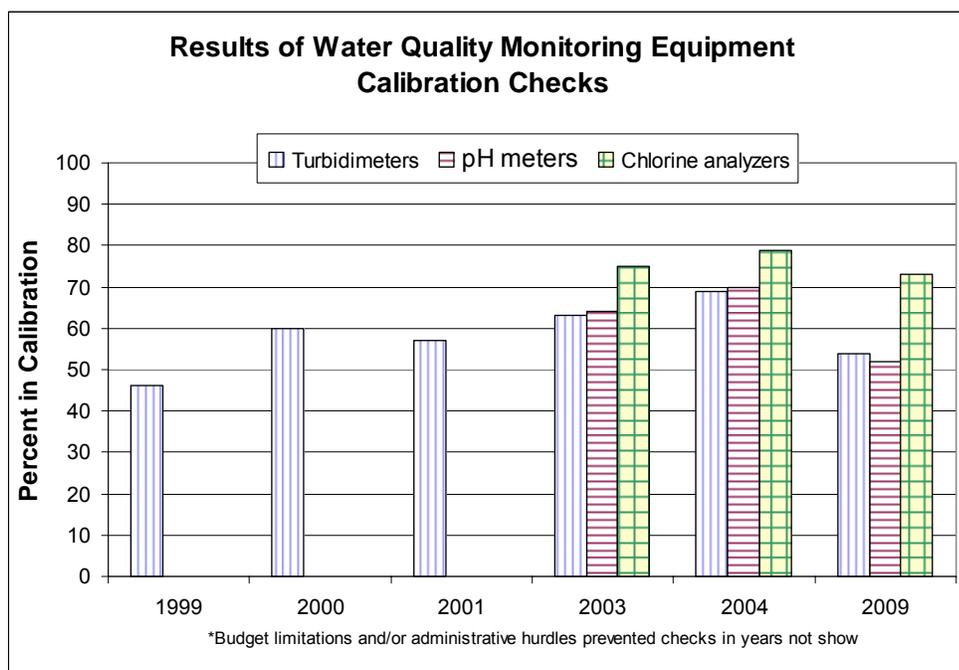
### pH Meters

- pH meters must be calibrated at least daily with two buffer solutions. Use one buffer below the expected readings and one buffer above the expected readings.
- Store pH probes as recommended by the manufacture for the specific probe. Distilled or deionized water is usually not recommended for storage.

### Chlorine Analyzers

- At least once every 3 months, compare readings between multiple chlorine analyzers. If you only have one chlorine analyzer, compare with a neighboring water system's chlorine analyzers.
- Follow the manufacture's recommendations for cleaning, part replacement, calibration checks, calibration, and repair.

If you have questions about equipment calibration, contact Craig Corder with the Engineering Section at 501-661-2623. ♦



## EPA approves new methods for online analyses

The Environmental Protection Agency in a November Federal Register notice approved 25 additional methods for drinking water analysis. Included are new methods for online, continuous measurement of chlorine residual and turbidity.

The agency found that the new methods were "equally effective" to currently approved methods. The new methods were reviewed under an expedited approval process implemented by EPA in 2007. In addition to online chlorine residual and turbidity, the new methods cover a wide range of drinking water constituents including haloacetic acids; total organic carbon; coliform and *E.coli*; and bromate, chlorite and several other inorganic contaminants.

The new method for chlorine residual, EPA Method 334.0, is performance based and covers all on-line methods including the previously approved DPD methods. The new method permits the use of amperometric analysis, or electrical probes, similar to those currently approved for laboratory testing. While amperometric analyses are sensitive to flow, temperature and pH, they offer greater simplicity as compared to the online DPD method which requires the use of a photometer and the mixing of two chemicals - the DPD reagent and a buffer.

Water utilities which must use on-line measurement of chlorine in order to comply with surface water and ground water CT regulations had keenly anticipated the approval of the new method.

The newly approved method for turbidity, AMI Turbiwell Method, is a vendor submitted method which uses a light emitting diode (LED) process developed by SWAN Analytical Instruments AG in Switzerland.

The list of the new methods is at [http://epa.gov/safewater/methods/analyticalmethods\\_expedited.html](http://epa.gov/safewater/methods/analyticalmethods_expedited.html).

## Arkansas small systems complete *E.coli* monitoring under LT2ESWTR

Don Fiegel, Environmental Specialist

Source water monitoring for *E.coli* bacteria has been completed for small Arkansas surface water systems under the EPA's Long Term 2 Enhanced Surface Water Treatment Rule. Approximately one-third of those systems are either currently undergoing or will soon begin source monitoring for *Cryptosporidium*.

The LT2 Rule is designed to control *Cryptosporidium* in treated drinking water where the source is a lake, stream, or spring, or has been classified as groundwater under the direct influence of surface water. Under the LT2 Rule, small systems, serving less than a 10,000 population, monitor their source for *E.coli* bacteria. If the *E.coli* levels exceed a specified trigger, depending on whether the source was a lake or stream, the water system had to then begin *Cryptosporidium* monitoring. All surface systems serving greater than 10,000 population were required to monitor for *Cryptosporidium* in their source water.

As with all compliance monitoring to date, the Department of Health's drinking water program assumed the cost for the analyses of both *E.coli* and *Cryptosporidium*. *E.coli* was analyzed through the agency's Public Health Laboratory at a cost of approximately \$1500 per source. *Cryptosporidium* is being analyzed under a Department of

Health contract with a private laboratory at a cost of approximately \$12,000 per source.

Monitoring for *E.coli* in the source water of the 96 small surface systems in the state began in October 2007 and continued for 24 months. Thirty-seven source waters have exceeded the trigger levels under the LT2 Rule. Systems monitoring for *Cryptosporidium* will be placed into numerical "bin" classifications based on an increasing average concentration of the cysts in the source water. The higher the bin number, the higher the degree of treatment, or other management strategy, that is required to achieve a reduction in the *Cryptosporidium* levels in the treated water.

A table with the results of *Cryptosporidium* monitoring, to date, for both large and small systems, and their resulting bin classification is found below.

Compliance with the LT2 Rule for small systems must be achieved by September 30, 2014. Compliance for large systems is phased in beginning in 2012. States may allow up to an additional two years if capital improvements are required.

For more information on the LT2 ESWTR or its implementation, contact Don Fiegel or Lyle Godfrey at 501-661-2623. ♦

LT2 Enhanced Surface Water Treatment Rule Monitoring

Schedule	Population	# Public Water Systems	# Monitoring for Crypto	# Positive for Crypto	# in Bin 2	Compliance
1	>100,000	2	2	2	0	2012
2	50,000 – 100,000	2	2	2	2	2012
3	10,000 – 50,000	19	19	7	2	2013
4	< 10,000	96	37	18 <sup>1</sup>	1	2014

1. Positive to date; sampling is continuing.

## Mandatory Training Course Schedule

Most Current Listing is at: [www.healthyarkansas.com/eng/autoupdates/oper/mandtrngall.htm](http://www.healthyarkansas.com/eng/autoupdates/oper/mandtrngall.htm) (Courses begin at 8:00 a.m.)

MANDATORY COURSE NAME	START DATE	END DATE	OPCERT GRANT ELIGIBLE COURSE	CITY	LOCATION All courses begin at 8 a.m.	SPONSOR
Basic Treatment	01/05/09	01/20/09	Yes	Internet	Not applicable	AEA
Basic Distribution	01/06/09	01/08/09	Yes	Clarksville	Operations Center, 710 E Main	ARWA
Basic Water Math	01/12/09	01/12/09	Yes	Camden	Arkansas Env Academy, 100 Carr Rd	AEA
Applied Water Math	01/13/09	01/13/09	Yes	Camden	Arkansas Env Academy, 100 Carr Rd	AEA
PWS Compliance	01/14/09	01/14/09	Yes	Camden	Arkansas Env Academy, 100 Carr Rd	ADH
Basic Distribution	01/15/09	01/31/09	Yes	Internet	Not applicable	AEA
Advanced Treatment	01/20/09	01/22/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
Basic Distribution	01/26/09	01/28/09	Yes	Hot Springs	Wastewater Facility, 798 Adams	AEA
Basic Water Math	01/27/09	01/27/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
Applied Water Math	01/28/09	01/28/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
PWS Compliance	01/29/09	01/29/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ADH
Intermediate Treatment	02/02/09	02/16/09	Yes	Internet	Not applicable	AEA
Advanced Treatment	02/03/09	02/05/09	Yes	Arkadelphia	Recreation Ctr, 2575 Twin Rivers Dr	AEA
Advanced Distribution	02/03/09	02/05/09	Yes	Clarksville	Operations Center, 710 E Main	ARWA
Basic Treatment	02/09/09	02/11/09	Yes	Maumelle	Wastewater Plant, 425 B Hyman Dr	AEA
Basic Water Math	02/10/09	02/10/09	Yes	West Fork	Wenzel Community Ctr, 222 Weber	ARWA
Intermediate Distribution	02/10/09	02/12/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
Applied Water Math	02/11/09	02/11/09	Yes	West Fork	Wenzel Community Ctr, 222 Weber	ARWA
PWS Compliance	02/12/09	02/12/09	Yes	West Fork	Wenzel Community Ctr, 222 Weber	ADH
Intermediate Distribution	02/16/09	02/27/09	Yes	Internet	Not applicable	AEA
Basic Treatment	02/24/09	02/26/09	Yes	Jonesboro	CWL Service Ctr, Johnson & Main	ARWA
Advanced Treatment	03/02/09	03/16/09	Yes	Internet	Not applicable	AEA
Basic Treatment	03/02/09	03/04/09	Yes	Fayetteville	Operations Ctr, 2435 S Industrial Dr	AEA
Basic Distribution	03/10/09	03/12/09	Yes	Arkadelphia	Recreation Ctr, 2575 Twin Rivers Dr	AEA
Intermediate Treatment	03/10/09	03/12/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
Advanced Distribution	03/16/09	03/31/09	Yes	Internet	Not applicable	AEA
Basic Distribution	03/17/09	03/19/09	Yes	Nashville	Carter Day Facility, 200 Nichols Dr	ARWA
PWS Compliance	03/19/09	03/19/09	No	Little Rock	ADH Lab, 201 So Monroe	ADH
Intermediate Distribution	03/23/09	03/25/09	Yes	Russellville	Tri County Water, 5306 No Hwy 7	AEA
Advanced Distribution	03/24/09	03/26/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
Basic Distribution	03/31/09	04/02/09	Yes	Mt Home	Baxter Co OEM, 170 Dillard Dr.	ARWA
Basic Water Math	04/01/09	04/15/09	Yes	Internet	Not applicable	AEA
Intermediate Treatment	04/06/09	04/08/09	Yes	Camden	Arkansas Env Academy, 100 Carr Rd	AEA
Basic Water Math	04/07/09	04/07/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
Applied Water Math	04/08/09	04/08/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ARWA
PWS Compliance	04/09/09	04/09/09	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee	ADH
Basic Water Math	04/14/09	04/14/09	Yes	Jonesboro	CWL Service Ctr, Johnson & Main	ARWA
Applied Water Math	04/15/09	04/30/09	Yes	Internet	Not applicable	AEA
Applied Water Math	04/15/09	04/15/09	Yes	Jonesboro	CWL Service Ctr, Johnson & Main	ARWA

\*OpCERT Grant Eligible Course – Meal and lodging expenses may be reimbursed for operators from Community or Non-Transient Non Community Public Water System serving a population of 3300 or less. The course may be 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.

ADH – Arkansas Department of Health – Contact Jeremy Rowe or Martin Nutt – (501) 661-2623 – [Jeremy.Rowe@arkansas.gov](mailto:Jeremy.Rowe@arkansas.gov)

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

ARWA – Arkansas Rural Water Association – Contact Carol Shaw – (501) 676-2255 – [info@arkansasruralwater.org](mailto:info@arkansasruralwater.org)

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

## Water Operator Licenses Issued

August through October 2009

Licensee Name	Grade/Type	System Name
ADAMS BRADLEY	T - I	HELENA WATER SEWER & LONG LAKE WATER ASSOCIATION
ADCOCK ANTHONY	D - IV	CROSSETT WATER COMMISSION & WEST ASHLEY COUNTY WATER ASSN
ANDERSON JAMES	D - I	HATFIELD WATERWORKS
BAKER JOHN	D - I	HARTFORD WATERWORKS
BAKER ZACH	D - II	PIGGOTT WATERWORKS & POLLA RD WATERWORKS
BENNETT REBECCA	D - I	TONTITOWN WATERWORKS
BETTS EDWARD	D - III	MARION COUNTY REG WATER DIST
BLESER BRUCE	D - VSS	SYLVAN SHORES SD WATERWORKS
BOLLIER THOMAS	D - II	GUY WATERWORKS
BRYAN-ROBERTSON BETH	D - I	KELSO-ROHWER WATER ASSOCIATION
BURRIS JAMES	D - I	REMINGTON ARMS COMPANY
BUSCH JARED	D - I	MAMMOTH SPRING WATERWORKS
CASTON WILLIAM	T - II	CELESTIAL BEVERAGE COMPANY
COBURN HERSHAL	T - II	CABOT WATERWORKS
COWGILL JAMEY	D - II	BRUNNER HILL WATER ASSOC
DAVIS TONY	D - IV	BEE BRANCH WATER
DEDMON JUDY	D - III	MILLTOWN-WASHBURN WATER USERS
DUFRESNE DANIEL	T - II	AQUA FLOW ARTESIAN WELL
EAKIN KEVIN	D - II	DOVER WATERWORKS
ELLISON LOUANN	T - I	OZARK WATERWORKS
FINLEY MARK	D - I	HUGHES WATERWORKS
FREEMAN PATRICK	D - IV	FORT SMITH WATER UTILITIES
FYFFE LUKE	D - II	TEXARKANA WATER UTILITIES
GARRICK PHILIP	D - IV & T - IV	UNITED WATER ARKANSAS
GATLIN MARK	D - IV	FORT SMITH WATER UTILITIES
GOODMAN HENRY	T - III	MOUNTAIN VIEW WATERWORKS
HADLOCK ROBERT	D - IV	HARTMAN WATERWORKS & SPADRA-GOOSE CAMP WATER ASSOC
HALL GALEN	D - IV	MOUNTAIN VIEW WATERWORKS
HARROD GREG	D - IV	MAUMELLE WATER CORPORATION
HERRINGTON CHARLES	D - IV	MOUNTAIN VIEW WATERWORKS
HIBBARD JODY	T - I	ARSENAL WATER SYSTEM & GRADY WATERWORKS
HICKS STEPHEN	D - II	CALICO ROCK WATERWORKS
HOWELL JEREMY	D - II	WALDRON WATERWORKS
JONES JR CARL	D - I & T - I	HICKORY RIDGE WATERWORKS
KIZER JIMMY	D - VSS	COLLINS WATER ASSOCIATION
LANIER GEORGE	D - I	COTTONSHED WATERWORKS & LOCKESBURG WATERWORKS
LEFLORE RILEY	D - I	WEST MEMPHIS WATERWORKS
LEMONS DANIEL	T - IV	ARKADELPHIA WATERWORKS
MADDON TOMMY	T - II	HOT SPRINGS UTILITIES
MAY STEVEN	D - II	OPPELO WATER DEPARTMENT

Continued on page 16

Licensee Name	Grade/Type	System Name
MAYO LINDA	D - VSS	MOUNTAIN DEVELOPMENT
MCDONALD KENNETH	D - IV	CENTRAL ARKANSAS WATER
MHOON MARVIN	D - IV	CENTRAL ARKANSAS WATER
NASH CHARLES	D - I	LOCKESBURG WATERWORKS
NICHOLSON REGAN	D - I	ASH FLAT WATER COMPANY
NORDIN MILTON	D - IV	EAST JOHNSON CO WATER ASSN
OLIVAREZ GERARDO	T - II	HOUSTON WATERWORKS & OLA WATERWORKS
RAMSEY JOSHUA	D - IV	BENTON WATERWORKS
REDFEARN BEAU	T - II	TEXARKANA WATER UTILITIES
ROBINSON BRANDON	D - III	MILLTOWN-WASHBURN WATER USERS
ROUGHTON MICHAEL	D - III	BELLA VISTA POA
RUSH ROY	D - IV	JONESBORO WATER SYSTEM
SMITH ANDREW	D - I	GOULD MUNICIPAL WATER-SEWER
SOLIDA LESTER	D - II	INDEPENDENCE JACKSON REGIONAL
STOREY EARNEST	D - II	BALD KNOB WATERWORKS
TEAGUE AARON	T - IV	CALICO ROCK WATERWORKS
THOMAS LARRY	D - III	CENTRAL ARKANSAS WATER
TOWNSON DAVID	T - II	TEXARKANA WATER UTILITIES
VEAZEY JOHN	T - IV	WATSON CHAPEL WATER ASSOC
WHITE TERRY	D - IV	BENTON WATERWORKS
WILLIAMS FITZGERALD	T - II	NO PWS INFORMATION PROVIDED
WILSON DAVID	D - III	HOLIDAY ISLAND WATERWORKS

## WATER SYSTEM IMPROVEMENTS

BOONEVILLE HUMAN DEVELOPMENT CENTER: 150,000 gallon elevated tank.  
DOTA: new well and a 350 gpm water treatment plant including clarification, filtration and new clearwell.  
DIERKS: water treatment plant expansion including clarification, filtration and high service pumping.  
EAST PRAIRIE COUNTY WATER: 300 gpm water treatment plant improvements including aeration, detention and filtration.  
FOREMAN: 150,000 gallon elevated storage tank, a 450 gpm duplex pump station and an auxiliary generator.  
FRANKLIN SEBASTION PUBLIC WATER AUTHORITY: approximately 72,000 feet of 12 - 24 water transmission line and a 2 million gallon ground storage tank.  
LONOKE-WHITE PUBLIC WATER AUTHORITY: approximately 305,000 feet of 10 – 24 inch water line and a 305,000 gallon ground storage tank.  
McNEIL: a 100,000 gallon elevated water tank.  
NORTH EAST ARKANSAS PUBLIC WATER AUTHORITY: 3 MGD surface water treatment plant and approximately 79,000 feet of 4-inch through 24-inch water line.  
NORTH HOWARD COUNTY WATER, approximately 385,000 feet of 2 through 10-inch water lines, a 165 gpm duplex pump station, and a 100,000 gallon elevated storage tank.  
PYATT: approximately 463,000 feet of 2 through 12-inch water mains, a 250,000 gallon standpipe, and a 260,000 gallon standpipe.  
SMACKOVER: 400 gpm well and a 100,000 gallon storage tank.  
MOUNTAINBUR: approximately 75,000 feet of 3 and 6-inch line and a 100,000 gallon standpipe.  
UNITED WATER (Pine Bluff): 300,000 gallon fused steel water storage tank.  
WYNNE: new 1200 gpm well.

# Major Monitoring, MCL, Treatment Technique, & Licensing Violations

Community & Nontransient Noncommunity Public Water Systems / July - September, 2009

ACORN RURAL WATER	Bmon 9	MONTGOMERY CO REG WATER	DMCL 7,8,9
ADC – CUMMINS UNIT	BMCL 7	MONTROSE WATER	BMCL 8
ADC – TUCKER UNIT	Bmon 7	MONTROSE WATER	Bmon 9
AIRPORT ROAD WATER	OperLic 7,8	MORNING STAR WATER	BMCL 7,8,9
ALICIA WATER	BMCL 7	MORO WATER	OperLic 7
ALICIA WATER	Bmon 8,9	MOUNTAIN DEVELOPMENT	Bmon 7
ALLPORT WATER	Bmon 7,8,9	MOUNT SHERMAN WATER	RMCL 7,8,9
ALLPORT WATER	OperLic 8,9	MOUNT ZION WATER	BMCL 9
ALTHEIMER WATER	OperLic 7,8	NO GARLAND CO REG WATER	DMCL 7,8,9
ARK ST PARK – MT MAGAZINE	DMCL 7,8,9	NEW LONDON WATER	BMCL 9
BATTS-LAPILE WATER	Bmon 7	NORFORK LAKE ESTATES WATER	BMCL 7,8
BATTS-LAPILE WATER	BMCL 9	NORTH LAGRUE WATER	Bmon 7
BENTON CO WATER	BMCL 9	NORTHEAST DEWITT WATER	Bmon 7
BEULAH GROVE WATER	Bmon 9	NORTHERN OHIO WATER	BMCL 7
BOWSER WATER	Dmon 9	NW ARK REG AIRPORT	DMCL 7,8,9
BOWSER WATER	OperLic 9	OAK GROVE WATER	Bmon 8
BRADFORD WATER	BMCL 7,8	OAK RIDGE CENTRAL SCHOOL	Dmon 7,9
BRANCH WATER	Bmon 7	OAKHILLS SID	Bmon 7
CAMDEN	DMCL 7,8,9	OAKHILLS SID	BMCL 8
CAMP ROBINSON	BMCL 7	ODEN-PENCIL BLUFF WATER	BMCL 8
CAMPBELL STATION WATER	Bmon 7,8	OLA WATER	DMCL 7,8,9
CARTHAGE WATER	BMCL 8	OLA WATER	Bmon 7
CASA WATER	DMCL 7,8,9	PARON-OWENSVILLE WATER	DMCL 7,8,9
CENTERTON WATR	BMCL 8	PIKE CITY WATER	DMCL 7,8,9
CHIDESTER WATER	Bmon 7	PORTIA WATER	Bmon 7,8
RUSSELLVILLE CITY CORP	BMCL 9	QUITMAN WATER	BMCL 9
CLINTON WATER	Tmon 8	READLAND-GRANDLAKE WATER	OperLic 7,8,9
COTTON PLANT WATER	Bmon 7	RED BUD MHP	Bmon 7,8
DEER RUN WATER	BMCL 9	RED BUD MHP	Tmon 7,8,9
DELIGHT WATER	Bmon 7	RIVEIERA UTILITIES	Bmon 7
DES ARC WATER	Bmon 9	SO PIKE CO WATER	BMCL 7
EUDORA WATER	OperLic 7,8,9	SDM WATER	FMCL 7,8,9
EVERGREEN PACKAGING	BMCL 7	SDM WATER	RMCL 7,8,9
FOUKE WATER	Bmon 8	SEDGWICK WATER	BMCL 8
GENERAL DYNAMICS	OperLic 9	SMACKOVER WATER	BMCL 8
GILLHAM REGIONAL WATER	DMCL 7,8,9	SOUTH MOUNTAIN WATER	RMCL 7,8,9
GRANGE-CALAMINE WATER	Bmon 7	ST PAUL WATER	Bmon 8
GREENWOOD WATER	DMCL 7,8,9	SUBIACO ACADEMY WATER	DMCL 7,8,9
GREENWOOD WATER	BMCL 9	SUNSET WATER	Bmon 8,9
HARRISON WATER	BMCL 7	TANKSLEY APTS	BMCL 9
HARTFORD WATER	OperLic 7,8	TOLETTE WATER	BMCL 7,8
HARTFORD WATER	Bmon 7	TOWERING OAKS BAPTIST CHURCH	Tmon 8
HAVANA WATER	Bmon 9	TRI COUNTY REG WATER – MOORES CHAPEL	Bmon 7,8
HIGHFILL WATER	Bmon 7	UNITED WATER	BMCL 9
HOLLY GROVE WATER	Bmon 8	VAN BUREN CO WATER	DMCL 7,8,9
HOSANNA HEIGHTS WATER	OperLic 7,8,9	VAN BUREN WATER	BMCL 8
HOSANNA HEIGHTS WATER	BMCL 9	WALDRON WATER	DMCL 7,8,9
HUGHES WATER	OperLic 7	WATALULA WATER	BMCL 7
JAMES FORK REG WATER	DMCL 7,8,9	WHEATLEY WATER	BMCL 9
JEFFERSON SAMPLES DEXTER WATER	BMCL 9	WILLIFORD WATER	BMCL 8
KEISER WATER	BMCL 7	WILLIFORD WATER	Bmon 9
KEISER WATER	Bmon 9	WILLISVILLE WATER	Bmon 7
KINGS HILL WATER	BMCL 9		
LADD WATER	Bmon 9		
LAKE FOREST SUB DISTRICT	BMCL 7		
LAWRENCE CO REG WATER DIST	BMCL 8		
LEISURE HILLS MHP	BMCL 9		
LINCOLN WATER	Bmon 9		
MANGET-BUTTERFIELD WATER	DMCL 7,8,9		
MAYFLOWER WATER	DMCL 7,8,9		
MILLTOWN-WASHBURN WATER	DMCL 7,8,9		

**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; 7 = July, 8 = August, 9 = September.

## REPORT OF THE

# Arkansas Drinking Water Advisory and Operator Licensing Committee

A. Martin Nutt, Training and Certification Officer

The quarterly meeting of the Arkansas Drinking Water Advisory and Operator Licensing Committee was held on October 14, 2009 at the headquarters of Arkansas Rural Water Association in Lonoke.

Members present were: Chairman Rodney Williams, P.E., Matthew Dunn, P.E., Susan Merideth, P.E., Terry House, Steve Di Cicco, Scott Borman, and Robert Hart, P.E.. ADH staff present were: Martin Nutt and Caroline Johnson. Guests present were Gary Oden - SAU Tech; Dennis Sternberg, Jeff Ford, and Jim Philipp - Arkansas Rural Water Association. The Committee reviewed and approved the minutes from the July 21, 2009 meeting.

### Standing Business

Nutt updated the Committee on the SDWA Operator Certification Training Grant including that the grant was providing two-thirds of the water licensing mandatory training courses offered in the state. The Engineering Section had submitted to EPA Region 6 a request to extend the use of the grant through 2012 and that the request had been approved.

Hart informed the Committee that the legislative Task Force on Water Source Protection had met and that Jeff Stone, P.E., Chief Engineer, had made an informative presentation to them on wastewater treatment alternatives. Hart said that a separate legislative Task Force on Water Quality had not yet met. Kevan Inboden, P.E. with Jonesboro Water & Light was confirmed by the Committee as its appointee to the second Task Force.

### Old Business

Nutt stated that one of Chairman Williams' goals for the year was to set up a guideline for tracking attendance at the annual conferences. Nutt referenced the present guideline that addresses conference training credits for AWW&WEA, ARWA, and AW&WMA state meetings, and other

training programs. He provided a copy of the guideline with draft revisions to address tracking attendance in order to receive the approved training credit. There was considerable discussion concerning the guideline's purpose and use which followed. Hart suggested that the Committee table the guideline review until the next meeting in order to give everyone time to consider the guideline and obtain input from their colleagues. Williams agreed and tabled the review.

Hart addressed proposed changes to the Rules & Regulations Pertaining to Public Water Systems. He stated notices regarding the regulation changes and information pertaining to the Public Comment period and Public Hearing had been sent to all public water systems in the state, and summarized the proposed changes for the Committee.

Nutt updated the Committee concerning action the Association of Boards of Certification was taking in reference to the use of their Multiple Entry Exams. He stated the ABC Board of Directors took steps to phase out the multiple entry style exams. He stated the action had been taken based on data indicating the exams were allowing individuals to pass the overall exam even though they would have scored a failing grade on just the exam grade level items. Also, with few exceptions, individuals passing the exam grade level items were also passing the lower grade level items. Nutt stated that with ABC deciding to cease supporting the multi-entry exam concept, the Committee decision to delay implementation of the exam concept had worked out well.

Nutt updated the Committee on the 2009 Water License Renewal. He stated the renewal went exceedingly well and that the ADH website which provided operator training attendance hours had helped the process tremendously. He brought to the Committee's attention a list of the 2009 Operators that had not yet renewed (page 6 & 7). He stated the

list had been provided to the Section's technical staff to contact active operators in their District. The water operators have until June 30, 2010 to reinstate their license, after which their license will be forfeited for non-renewal.

### New Business

Nutt requested the Committee authorize the development of license exams and the required Exam Development Workshops. He requested the Committee continue with the previously used workshop concept with each exam selection table consisting of four randomly selected operators, holding the license of the exam being developed, and a representative from ARWA, AETA, the Licensing Committee, and Engineering Section technical staff. He stated his goal was to hold the workshops in March or April of 2010. The Committee agreed to the workshops and to continue to use the past concept. Nutt requested that new exams not be developed for some exams due to their low usage. A motion was made by Borman and approved to not develop the Very Small System (Distribution); Treatment I; and Treatment III exams.

Nutt next discussed the 2010 Mandatory Training Calendar. He provided to the Committee the Arkansas Rural Water Association's and the Arkansas Environmental Training Academy's draft 2010 mandatory training calendars for their review. He brought to the Committee attention that there were several conflicts between the two calendars, such as the same course being held in close proximity to each other. ARWA and AETA agreed to address the conflicts which Nutt had brought to the Committee's attention.

### Committee Reports

Hart provided his Executive Secretary/Section Director's report.

Continued next page

He noted the Section's budget was generally OK although the ADH, and the state overall, were having financial difficulties and were looking to save state general revenue wherever possible. He promised to keep the Committee informed on future updates on the matter.

Nutt provided the Training & Certification Officer's report. He reviewed the exam results spreadsheet handout noting the exam pass rates and shared his concerns on how specific exams were performing. He discussed the Enforcement actions handout and focused his attention on the water systems nearing administrative orders and notices of hearing to implement a fine. He also discussed actions Engineering Section staff were taking to address those situations. He indicated the licensing program in general was running smoothly with exams and applications being processed in a very timely manner.

Oden provided the Arkansas Environmental Academy report. He reported AETA had 13 classes and 76 students last quarter and one third of the students were eligible for the OpCert grant. He stated the 2010 course schedule had already been discussed. He noted the AETA Advisory Board was working on a new Logo and had revised their bylaws and that AETA was fully staffed.

Ford provided the Arkansas Rural Water Association report. He reported ARWA has held 25 training classes and 19 OpCert classes for a total of 44 courses so far this year with over 1000 in attendance. Ford responded to a question on Conference attendance and estimated the ARWA Conference had an attendance of over 600 people.

#### Other Business

No other business was brought before the Committee, the next meeting date was set for January 12, 2010, and the meeting adjourned. ♦

## **Arkansas Water Works & Water Environment Association Annual Conference and Short School**

**May 2 – 5, 2010**

**Hot Springs Convention Center**

**Hot Springs, Arkansas**

**[www.awwwea.org](http://www.awwwea.org)**

### **USEPA OpCert Training Grant Available**

Assistance with meals and lodging expenses is available for all mandatory water license exam training courses for community and non-community non-transient public water systems serving fewer than 3300 persons. Please contact the training providers shown below to determine your grant eligibility and to register for the grant eligible courses. Backflow repair and backflow tester courses, including registration fees, have been included in the grant. Registration should be done well in advance of attending a course. A listing of courses can be found on page 14 or at: [www.healthyarizona.com/eng/autoupdates/oper/opcertlinks.htm](http://www.healthyarizona.com/eng/autoupdates/oper/opcertlinks.htm).

AR Environmental Academy – Contact Letitia Rusch – (870) 574-4551 – [lrusch@sautech.edu](mailto:lrusch@sautech.edu)

AR Rural Water Association – Contact Carol Shaw – (501) 676-2255 – [info@arkansasruralwater.org](mailto:info@arkansasruralwater.org)

### **Final Contaminant Candidate List 3 released**

EPA in September released the final Contaminant Candidate List 3 (CCL 3) of 116 chemicals or chemical groups about which the agency will decide in the future whether to set drinking water regulations.

The list includes contaminants that are not currently subject to any proposed drinking water regulation but that are known or anticipated to occur in public water systems and which may require future regulation. The list is based on previous contaminant candidate lists and on input from the National Research Council and the National Drinking Water Advisory Council and others.

The CCL tends to drive unregulated contaminant monitoring requirements in order for EPA to gather additional occurrence data, where needed. Many water systems in the country are currently undergoing sampling for such contaminants as a result of the Unregulated Contaminant Monitoring Rule 2, an outgrowth of the CCL 2.

Under the Safe Drinking Water Act's requirements, by 2103 EPA will have to make decisions on whether or not to regulate at least five of the contaminants on the CCL 3.

The final list varies slightly from a draft CCL 3 issued in 2008 in the following categories.

Pharmaceuticals: one antibiotic and nine hormones were added.

Disinfection By-Products; chlorate and bromochloromethane were added.

Microbials: Adenovirus, Enterovirus, and Mycobacterium were added; Vibrio cholerae and Entamoeba histolytica were deleted.

Perfluorinated compounds: PFOA and PFOS were added.

The final list can be found at [www.epa.gov/OGWDW/ccl/ccl3.html](http://www.epa.gov/OGWDW/ccl/ccl3.html).

ENGINEERING SECTION  
 ARKANSAS DEPARTMENT OF HEALTH  
 4815 WEST MARKHAM, SLOT 37  
 LITTLE ROCK, AR 72205-3867  
 (501) 661-2623  
[www.HealthyArkansas.com/eng/](http://www.HealthyArkansas.com/eng/)

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Return Service Requested

AWW&WEA District Meetings

See also the Division's web site [www.healthyarkansas.com/eng/](http://www.healthyarkansas.com/eng/) for updates.

DATE	TIME	CITY	LOCATION	SPONSOR
<b>January 2010</b>				
7	5:45PM	Benton	Brown's Country Restaurant	Central District, AWW&WEA
7	6:30 PM	Fort Smith	Golden Corral	Western District, AWW&WEA
14	6:00PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
14	5:00PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
14	5:00PM	Des Arc	Don Dee Riverboat Restaurant	Eastern District, AWW&WEA
14	9:00AM	Bentonville	First Baptist Church	Northwest District, AWW&WEA
19	6:30PM	Hamburg	to be announced	Southeast District, AWW&WEA
21	12:30PM	to be announced	to be announced	Northeast District, AWW&WEA
28	6:00PM	Texarkana	The Ole Feed House	Southwest District, AWW&WEA
<b>February 2010</b>				
4	5:45PM	Jacksonville	Community Center	Central District, AWW&WEA
4	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
11	6:00PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
11	5:00PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
11	5:00PM	Wynne	Kelly's Restaurant	Eastern District, AWW&WEA
16	6:30PM	Kelso	Baptist Church	Southeast District, AWW&WEA
18	9:00AM	Decatur	City Municipal Bldg.	Northwest District, AWW&WEA
18	12:30PM	to be announced	to be announced	Northeast District, AWW&WEA
25	6:00PM	Nashville	Carter Day Training Center	Southwest District, AWW&WEA
<b>March 2010</b>				
4	5:45PM	Benton	Brown's Country Restaurant	Central District, AWW&WEA
4	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
11	5:30PM	Marianna	Cleo's Resturant	Eastern District, AWW&WEA
11	6:00PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
11	5:00PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
16	6:30PM	Crossett	Chen Chen Chinese	Southeast District, AWW&WEA
18	9:00AM	Rogers	to be announced	Northwest District, AWW&WEA
18	10:30AM	Jonesboro	CWL Service Bldg	Northeast District, AWW&WEA
25	6:00PM	Camden	The River Woods	Southwest District, AWW&WEA

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