



ARKANSAS DRINKING WATER UPDATE



Four large UV units are shown at a drinking water facility in Albany, NY.
Photo courtesy of EPA

Draft Policy on UV disinfection issued

The need for water systems to meet increasingly stringent microbial treatment requirements while simultaneously complying with other regulatory requirements has resulted in some water systems examining less conventional treatment schemes. Among those is ultraviolet light for disinfection.

While UV light has long been used in drinking water for small scale, point-of-use treatment systems, its applicability to large scale systems was limited by several disadvantages including high design and operational cost, and UV's inability to impart a distribution disinfectant residual.

Recent EPA regulations have caused larger systems to re-examine the feasibility of such treatment. The change has been brought about primarily as the result of the Long Term 2 Enhanced Surface Water Treatment Rule.

The Long Term 2 Rule established more stringent log removal or inactivation rates for *Cryptosporidium* based on the pathogen's concentration in the source water. Since *Cryptosporidium* is virtually unaffected by chlorine, other means of inactivation or higher rates of physical removal than that afforded by conventional treatment were necessary if the source water concentrations of *Cryptosporidium* required higher levels of treatment.

To respond to the future possibility of a public water system in Arkansas needing to

See UV disinfection, page 2

Sanitary Surveys requirements under the Ground Water Rule

The purpose of a sanitary survey is to review a public water system's source, equipment, facilities and treatment procedures to ensure they have been properly maintained and operated to make certain that safe drinking water is distributed to the public. Under the EPA's Total Coliform Rule (TCR), issued in 1989, state primacy agencies were to conduct sanitary surveys on a minimum five-year cycle for community and non-community water systems that collected fewer than five compliance samples per month, and every 10 years for noncommunity systems that disinfected their source. Under the Ground Water Rule (GWR), effective in 2009, the sanitary survey requirements have been revised for ground water systems to be consistent with surface water systems by increasing the frequency and completeness of the sanitary surveys to enhance public health protection.

The GWR requires that a sanitary survey address eight specific elements and for the surveyor to identify any significant deficiencies that may exist at the water system. Unlike for surface systems, a significant deficiency for groundwater systems is not specifically defined by EPA. However, it is referenced in 40 CFR 142.16 to include, but not be limited to, "defects in design, operation, or maintenance, or a failure or malfunction of the sources, treatment, storage, or distribution system that the State determines have caused, or have potential for causing, the introduction of contamination into the water delivered to consumers, and that has the near term potential to pose risks to public health or safety."

Any significant deficiency identified during the sanitary survey must be addressed by the public water system within a specified time frame

See GWR Sanitary Surveys, page 6

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ADH elects not to utilize alternate *E.coli* trigger level for small system LT 2 monitoring

Lyle Godfrey, P.E., Engineer Supervisor

Earlier this year EPA issued guidance for States which amended the level of *E. coli* in the source water for small water system that would trigger additional monitoring for *Cryptosporidium*. The Long Term 2 Enhanced Surface Water Treatment Rule (LT2) established source water monitoring requirements for the purpose of establishing treatment requirements based on source water quality.

The preamble of the 2006 LT2 stated that EPA would issue guidance to States on alternative indicators and *E. coli* trigger levels used to determine *Cryptosporidium* monitoring requirements under the Rule for surface systems serving less than 10,000 people. The Rule's original monitoring requirements were based on an arithmetical average of *E.coli* levels exceeding 50 colonies/100 ml for a stream or river source, and 10 colonies/100ml for a lake or reservoir.

EPA conducted an evaluation of source monitoring data from large systems and determined that an alternate trigger level of 100 colonies/100ml for both rivers and lakes could be justified while still maintaining the intended level of public health protection. Following this evaluation, EPA issued guidance in February which allowed States the option of using either criteria. EPA estimated that the alternate trigger levels could exclude approximately 1,300 systems from monitoring for *Cryptosporidium* which translated into

an approximate saving of \$17 million nationwide.

Under the LT2, *E.coli* monitoring for small systems was to have begun by October, 2008 and *Cryptosporidium* monitoring by April, 2010. The Arkansas program elected to begin *E.coli* and *Cryptosporidium* monitoring earlier in order to better distribute the analytical workload and to give systems greater time to comply with higher treatment levels, if required.

Analytical costs for *E.coli* and for *Cryptosporidium* analysis under the LT2 for small and large systems are being paid by the ADH's Public Water System Supervision Fee

At the time the guidance was issued, all of the 86 small surface systems in Arkansas had completed their *E. coli* monitoring and 36 had been triggered to begin *Cryptosporidium* monitoring under the original LT2 criteria. In fact, 28 of the systems had already completed 19 of the required 24 months of *Cryptosporidium* monitoring by the time the new guidance was issued.

In view of this, the Engineering Section staff decided to complete the first round of monitoring for all small surface systems using the original *E.coli* trigger levels of 10 colonies/100 ml for a lake or reservoir source, and 50 colonies/100 ml for streams or rivers. It was felt that use this would minimize confusion which could result from a 'mid-stream' change in monitoring triggers. Currently, *Cryptosporidium* monitoring has been completed on 28 sources; another 5 will be finished in December of this year with the balance to finish by February 2012.

A second round of *Cryptosporidium* monitoring under the LT2 has to begin by 2015 for all surface systems and will be phased in based on population served beginning with large systems.

The Arkansas drinking water program has notified EPA Region 6 that its plans to take advantage of the alternate *E.coli* trigger levels for small systems, and any associated

monetary savings, in the second round of LT2 monitoring.

For questions about LT2 monitoring, contact Lyle Godfrey, P.E. at Lyle.Godfrey@Arkansas.gov or at 501-661-2623. ♦

UV disinfection

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utilize such technology, the Engineering Section has drafted a policy on the applicability, design, and operation of such UV equipment.

The policy was developed earlier this year by Jeff Stone, P.E., Chief Engineer. It points out that *Cryptosporidium* removal and inactivation can be achieved through several treatment schemes, and that the need and appropriateness of UV disinfection must be clearly demonstrated through an initial preparation of a preliminary engineering report and a water quality study.

A key aspect of UV disinfection under the LT2 is the required third party validation of the specific UV reactor proposed for a facility. This validation is meant to ensure the unit will perform at the required performance level for the source water in question. Under the policy, the validation must be by an independent party and must be performed according to established protocols published by EPA in its guidance manuals.

Other aspects of the policy require that at least one redundant unit be provided so that service is continuous if an unit is down for maintenance, that alternate power be provided so that inadequately treated water is not distributed, and that the water system have an emergency response plan in the event of a lamp and sleeve breakage since mercury is used in the lamps.

For a copy of the draft policy or questions comments concerning it, contact Jeff Stone at 501-661-2623 or Jeffery.Stone@Arkansas.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.

Lack of a day tank results in over-feed of caustic soda at water treatment plant

Glenn Greenway, P.E., Engineer Supervisor
Steve Burghart, P.E., District Engineer

On a weekend in late July of this year an accidental over-feed of caustic soda occurred at a water treatment plant in a small town in east Arkansas. Caustic soda is used at this particular treatment plant to raise the pH for both softening and for iron removal. The over-feed caused the pH of the water in the distribution system to reach at least 11 and possibly higher. Residents of the community complained about the water feeling slimy, irritating to the skin and tasting badly. Based on second-hand reports, a few residents sought medical treatment at the emergency room of a nearby hospital; however, the seriousness of their diagnosis was not known.

When the water manager began receiving complaints about the water, he immediately went to the treatment plant, discovered the over-feed, closed the valves on the bulk storage tanks containing caustic soda, and began flushing the high pH water from the distribution system. While the Department of Health (ADH) was notified of the event on the following weekday, the operator failed to contact the Arkansas Department of Health (ADH) within four hours as required by the Rules and Regulations Pertaining to Public Water Systems whenever an emergency is known to have occurred.

How did the over-feed happen? A new bulk storage system for treatment chemicals had recently been installed at the treatment plant and the bulk tanks had been filled just before the overfeed occurred. The bulk storage tanks had been obtained from and their installation supervised by the company which sold the city the caustic soda chemical. However, none of the chemical feed changes had been submitted to or approved by the ADH. Review and approval of any modifications to a water treatment plant or water system is required by the ADH's regulations.

Several important safeguards were apparently not considered as part of the modifications. The modifications involved moving the location of all chemical bulk storage tanks and feeders from the ground floor of the treatment plant to the second floor of the plant. Whereas the caustic soda previously had to be pumped uphill by the chemical feeder to the clarifier, the relocation to the second floor meant the equipment was now at a higher elevation than the clarifier discharge point.

The new bulk storage system for caustic soda consisted of four 265

gallon tanks approximately 7 feet tall connected in series with a PVC header pipe at the bottom of the tanks. The header pipe was connected to the feed pump and the isolation valves for each of the four bulk tanks were left open.

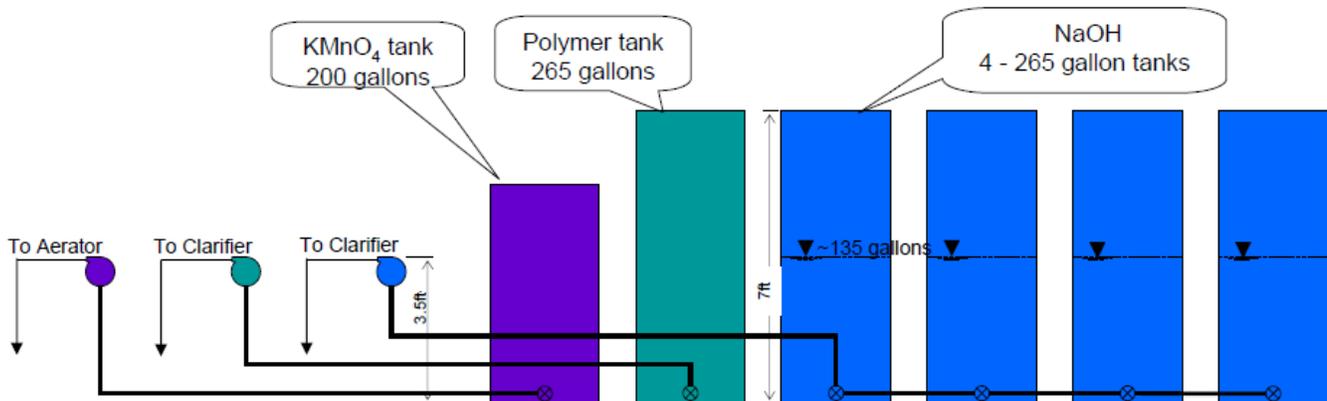
Since the bulk tanks were now at a higher elevation than the clarifier discharge point, a constant positive pressure existed on the suction side of the feed pump. The result was that caustic soda flowed by gravity through the pump, even when it was not operating, at an estimated rate of 10 to 20 gallons per hour. This continued until the liquid level of caustic soda in the bulk storage tanks was at the same elevation as the feed pump. An estimated 500 gallons of caustic soda was fed over a period of 36 to 48

“...important safeguards were apparently not considered as part of the modifications.”

hours. In normal operation, 60 to 80 gallons would have been used in the same time period.

Several things could have been done that would have lessened the magnitude of the over-feed. Three of the storage tanks should have been valved off allowing only one bulk tank to be used as the supply. If this had been done, only about 130 gallons of caustic soda would have been

See Over-feed, next page



Schematic of the bulk storage tanks where the chemical overfeed occurred. The clarifier application point was at a lower elevation than the chemical feeders. Caustic soda in the just filled tanks drained by gravity until the liquid level was as the same elevation as the chemical feeders.

Over-feed *continued from page 3*

available to gravity flow into the clarifier. Also, the feed pump could have been installed at or above the maximum level of the chemical in the storage tanks, or a pipe loop utilized on the discharge side of the feeder pump extending above the elevation of the bulk tanks with a vacuum breaker at the top of the loop. Either of these would have prevented gravity flow from occurring. Most importantly, though, a properly sized day tank should have been installed as part of the chemical feed modifications.

Just as the name implies, a day tank holds a little more than one day's volume of required chemical and its purpose is to limit the amount of chemical applied if an over-feed or backsiphonage should occur. If the modifications had been submitted to ADH Engineering Section for review and approval, a properly sized day tank would have been required.

What can be learned from this incident? If you are going to modify an existing water treatment plant, no matter how small the modification appears, you should first call your ADH District staff to determine if you need to submit plans and specifications for review and approval. What is a modification? Any change in the existing equipment, chemicals used, filters upgraded, etc.

This incident also reinforces the value of utilizing a day tank as part of chemical feed systems in a water treatment plant. Day tanks are required by "Ten States Standards" which provides the design guidelines that the ADH uses to conduct the plan review process. Occasionally, designers will question the value of a day tank when submitting designs for feed systems. However, this incident clearly demonstrated the value of day tanks as a safety feature that can minimize the harm that may result if an overfeed occurs.

The ADH has cited the water system for violations of its regulations and has required deficiencies in the feed system to be corrected. A follow-up investigation is currently being conducted. ♦

NATIONAL

* EPA has extended the deadline for comments on the proposed Revised Total Coliform Rule until October 13. In a Federal Register notice on August 31, EPA stated the extension would allow greater opportunity to all interested parties to review and submit comments on the proposal.

* EPA has published a guidance manual on complying with and implementing the assessment and corrective action requirements of the proposed Revised Total Coliform Rule (RTCR). The manual provides information on how to conduct assessments to identify the causes of total coliform and E. coli occurrence in the distribution system, and on the corresponding actions that systems can take to correct the problem. Stakeholders wanted the manual published before the comment period for the RTCR closed on October 13. The manual is at <http://water.epa.gov/lawsregs/rulesreg/sdwa/tcr/regulation.cfm>.

* The National Resources Defense Council issued a report in August predicting that one-third of all U.S. counties in the lower 48 states face higher risks of water shortages by 2050 as the result of global warming. It also predicted that 400 counties, including most of the counties in eastern Arkansas will be at an extremely high risk for water shortages. The report estimated the impact of global warming combined with historical growth in water consumption from population increases, irrigation, and power generation. NRDC used the report to promote the need for Congress to pass legislation that reduces global warming pollution. A summary can be found at www.nrdc.org/media/2010/100720.asp

* Separate House and Senate bills to reauthorize the Drinking Water SRF are currently under consideration.

HR 5320 passed the House on July 30 and reauthorized the SRF for 3 years with requirements for states to focus on affordability and to increase their emphasis on projects for water and energy efficiency, source water protection, and security. The Senate bill, S1005, contains many of the same measures but is not a companion measure to the House bill. A vote had not been taken on the bill by the Senate as of mid September.

* President Barack Obama proposed on September 6 the formation of an infrastructure bank for roads, railways, and airports in order to renew the nation's transportation systems and as an economic stimulus measure.

If approved by Congress, such a bank would borrow money through the federal treasury system and provide low cost loans to states and local entities. American Water Works Association Executive Director David LaFrance has recommended that water systems be included in the federal infrastructure bank. LaFrance said that water infrastructure was critical for public health, fire protection, economic prosperity and overall quality of life, and that much of that infrastructure was nearing the end of its functional lifespan.

REGIONAL

* The North American Lake Management Society's 30th International Symposium – *The Water Cycle: Managing the Challenges in Water Resources* – will be held in Oklahoma City, OK on November 3-5. The symposium features sessions of interest to drinking water programs including nutrient criteria, watershed assessment, watershed management, cyanobacteria, and others. Information can be found at www.nalms.org/nalmsnew/.

News of Note

Water Operator Licenses Issued

June 1 through July 31, 2010

Licensee Name	Grade/Type	Water System Name
ARMSTRONG KENNETH	D - IV	WILMOT WATERWORKS & CHICOT JUNCTION WATER ASSOC
BLAIR JIMMIE	T - II	MARSHALL WATERWORKS
BREWER GAYLON	D - I	QUITMAN WATERWORKS
BRYANT TERRY	D - III	CAMDEN WATERWORKS
CLARK DANNY	D - III & T - III	EARLE WATERWORKS
COBURN HERSHAL	T - IV	CABOT WATERWORKS
CROOK TODD	D - IV	MAUMELLE WATER MANAGEMENT
DAVIS TOM	D - II & T - II	BONANZA WATERWORKS
DRAPER DONALD	D - IV	BENTON-WASHINGTON REGIONAL PWA
ESTEP II ROY	T - II	USFS LAKE WEDINGTON, SHORES LAKE & WHITE ROCK
GROSS ARLIS	D - II	OMAHA WATERWORKS
HELLER BARRY	D - IV & T - IV	MAUMELLE WATER MANAGEMENT
HIBBARD JODY	T - II	ARSENAL WATER SYSTEM, GRADY WATERWORKS, & YORKTOWN WATER ASSN
HILL RICHARD	T - IV	HOT SPRINGS UTILITIES
HOVIS PATRICK	D - II	RAVENDEN WATERWORKS
IRWIN JAMES	T - III	HOT SPRINGS UTILITIES
KELLEY MICKEY	D - IV	GARFIELD WATERWORKS
KELLY JOHN	T - IV	NASHVILLE WATERWORKS
KING DAVID	T - III	CROSS COUNTY RURAL WATER SYS
LOGAN KENNETH	D - II	BULL SHOALS WATER SYSTEM
MALLARD TIFFANY	T - IV	FORT SMITH WATER UTILITIES
MATTINGLY JAMES	T - II	HOT SPRINGS UTILITIES
MCCULLOUGH GRAHAM	T - IV	NO WATER SYSTEM PROVIDED
MULLINS ROBERT	D - I	EUREKA SPRINGS WATERWORKS
NEWKIRK DONALD	T - I	EVERGREEN PACKAGING PINE BLUFF MILL
OGDEN JIMMY	D - IV	EAST JOHNSON CO WATER ASSN
OWENS JEREMY	D - I	HATFIELD WATERWORKS
PENNINGTON BRANDY	D - VSS	BOWSER WATER ASSN
PIERCE CHESTER	T - IV	NO WATER SYSTEM PROVIDED
POSADA CHE	T - III	MOUNTAIN VIEW WATERWORKS
POSTON ROBERT	D - VSS	ST CHARLES WATERWORKS
PYLES JEFF	T - IV	JAMES FORK REGIONAL WATER DISTRICT
REDFEARN BEAU	T - IV	TEXARKANA WATER UTILITIES
STUART VAUGHN	T - II	WALDENBURG WATER ASSOCIATION & WEINER WATERWORKS
TOWNSON DAVID	T - IV	TEXARKANA WATER UTILITIES
UPTON STEVEN	D - I	GREAT LAKES CHEMICAL SOUTH
WALDO TONY	D - II	TRI-COUNTY REG WATER DISTBR DIST, TRI COUNTY RWDD -MOORES CHAPEL, & SOUTHWEST ATKINS WATER USERS
WARD JEFF	D - III	WOOSTER WATERWORKS
WILLSEY BRANDON	T - IV	JAMES FORK REGIONAL WATER DISTRICT

Filling out the Bacti Forms correctly under the Ground Water Rule

Jan Bingaman, Environmental Health Specialist Supervisor

The Ground Water Rule went into effect on December 1, 2009. The purpose of the rule is to address and reduce the health risk from E. Coli and viral contamination that may be present in groundwater sources.

Ground water systems that do **not** provide 4 log treatment, and which experience a *total coliform positive* in their distribution system must sample their raw water within 24 hours of the notification. The notification form received from the Arkansas Department of Health is accompanied by one or more sheets that are made up of 3 Bacti Forms. These forms include the *original lab number* that

completed forms we have received to date usually have one of the following areas that need correction by Engineering Section staff before the sample can be analyzed:

- Incorrect "Site Code" – the correct, applicable site codes are listed on the bottom of the notice sent to you by the ADH.
- Incorrect "Definite Location of Sample" – the correct locations are also listed at the bottom of the ADH notice.
- "Collected By" is not filled in.
- An incorrect form is used that does not include the original lab number.

If you experience a total coliform

GWR Sanitary Surveys

Continued from page 1

determined by the State. Ground water systems should be aware of the eight elements in a sanitary survey and what might be considered a significant deficiency by the State to avoid compromising the quality of the water and public health. The eight elements and some examples of what might be evaluated are described below:

- **Source** – well construction, potential source contamination, setback distances, source quantity and quality, well locations, source water transmission mains, site security, and general housekeeping.
- **Treatment** – design criteria, plant records, past inspections, operation, maintenance, and overall management of treatment facility.
- **Distribution System** – review schematics, operation and maintenance records, operating procedures, construction standards, and distribution system water quality data.
- **Finished Water Storage** – tank integrity, operational readiness, site security, potential sanitary risks, proper maintenance checks, and operation & maintenance procedures.
- **Pumps, Pump Facilities, and Controls** – pump capacity, maintenance, pump control system, emergency power back up, pump tests, remote monitoring, controls and alarms.
- **Monitoring, Reporting and Data Verification** – compliance with site sampling and monitoring plans, monthly reports, daily logs, analytical results and monitoring data, and record keeping requirements.
- **System Management and Operation** – managerial, and financial and technical sustainability.
- **Operator Compliance with State Requirements** – properly certified staff depending on the size and type of system.

The frequency of Arkansas' sanitary surveys for groundwater systems is every three years for community and nontransient noncommunity water systems, and every five years for transient non-

Continued next page

Bacti Form for Ground Water Rule Triggered Monitoring

ARKANSAS DEPARTMENT OF HEALTH Public Health Laboratory, 201 South Monroe Street Little Rock, AR 72205-5425 LABORATORY USE ONLY DO NOT WRITE IN THIS SPACE		WATER ANALYSIS BACTERIOLOGICAL	
Sample Shipped Via (Laboratory Use Only)		Laboratory Number	Laboratory Use Only
Date and Time Sample Collected (Required)		Date and Time Received	
MONTH	DAY	YEAR	HOU (Must check Box)
Exact Time		<input type="checkbox"/> AM	<input type="checkbox"/> PM
Public Non-Community System Use Only		<input type="checkbox"/> Public Community	
<input type="checkbox"/> Non Community		Private Submitters Local Health Units Only	
Water System Name PWS Name	Water System ID Number 999	Site Code	Source
Definite Location of Sample	City	Count	<input checked="" type="checkbox"/> Well
Private Submitters Local Health Units Only		Collected By	Original Lab no: 9999999
H/A		Printed: Wednesday, August 18, 2010 11:30:33	<input checked="" type="checkbox"/> RawWater
Send Report To: Name		Chlorine	Total
Address		<input type="checkbox"/> Free	<input type="checkbox"/>
GWR-01 R1009 City State/Zip		LABORATORY USE ONLY	
Analyst Name		Rejection Code	Analyst's Initials
Unsatisfactory code		cut along dotted line and attach form to sample	

identifies the *total coliform positive* sample that "triggered" the raw water sampling.

In the months since the Ground Water Rule went into effect, a number of ground water systems have had to perform triggered monitoring on their raw water. One issue Engineering Section staff has had to contend with is incorrect Bacti Forms accompanying the samples when received at the ADH's Public Health Laboratory.

Correct information on the forms is essential for a system to receive credit for performing the raw water sampling. The incorrectly

positive sample result in your distribution system, and, if you are a groundwater system that does not provide 4 log treatment, we will contact you by phone to notify you of your sampling requirements.

ADH personnel are also available to assist in filling out your forms properly. If you have any questions regarding these requirements, feel free to call Greg Alexander, Jan Bingaman, or your District Specialist at 501-661-2623. ♦

Note: If you use the normal Bacti Form, input the lab # of the sample that triggered the raw water sample(s) in the "Other" space as shown

Source:	<input checked="" type="checkbox"/> Well	<input type="checkbox"/> Surface	<input type="checkbox"/> Cistern	<input type="checkbox"/> Spring
	<input type="checkbox"/> Swimming Pool	<input type="checkbox"/> Swimming Beach		
Other	9999999			

Continued from page 6

community systems. Even though the Arkansas frequency exceeds the minimum criteria set by EPA, the eight elements examined during the survey are the same as outlined previously.

If a significant deficiency is identified, it is the State's responsibility to inform the public water system of the deficiency, in writing, within 30 days and to work with the public water system to correct the significant deficiency. Corrective action for an identified significant deficiency must be one or more of the following measures:

1. Correct all significant deficiencies.

2. Provide an alternate source of water.
3. Eliminate the source of contamination.
4. Provide treatment that reliably achieves 4-log treatment of viruses.

action plan unless the State has directed the system to implement specific corrective action measures. Within 120 days, or earlier if directed by the State, the water system is to have completed the corrective action or be in compliance with a State approved corrective action plan and schedule.

The identification of significant deficiencies by the State are not limited to sanitary surveys but can be pointed out at any time.

For questions about sanitary surveys under the Ground Water Rule, contact your District personnel or the GWR staff in the Engineering Section.♦

Elements of a Sanitary Survey under the GWR

- Source
- Treatment
- Distribution
- Storage
- Pumps
- Data Verification
- Management & Operation
- Operator certification

After the State notifies a public water system of a significant deficiency, the system must consult with the State within 30 days to determine an appropriate corrective

WATER OPERATOR LICENSE EXAMINATIONS

Up-to-date listing: www.healthy.arkansas.gov/eng/autoupdates/oper/operexam.htm

Listed below are the dates and locations of examination sessions. 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
10/8/2010	Fayetteville	Clarion Hotel, 1255 South Shiloh Drive	9:00 AM
10/8/2010	West Fork	Wenzel Community Center, 222 Webber	9:00 AM
10/15/2010	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
10/22/2010	N Little Rock	CAW Maryland Complex, 1500 West Maryland Ave	9:00 AM
11/5/2010	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
11/5/2010	Maumelle	Maumelle WW Plant Training Rm, 425 B Hyman Dr.	9:00 AM
11/19/2010	Camden	AR Environmental Training Academy, 100 Carr Road	9:00 AM
11/19/2010	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
11/19/2010	West Fork	Wenzel Community Center, 222 Webber	9:00 AM
12/3/2010	Arkadelphia	Recreation Center, 2555 Twin Rivers Dr	9:00 AM
12/3/2010	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
12/10/2010	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
12/17/2010	Russellville	Tri-County Water District, 5306 North Arkansas 7	9:00 AM

The above exam session information is subject to change and should be confirmed just prior to the scheduled examination period at the above web site or by contacting your District Environmental Health Specialist or Engineer at 501- 661-2623.

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

Pennsylvania takes additional steps to oversee natural gas development

While media reports on the pros and cons of hydraulic fracturing to develop natural gas deposits in the U.S. have been common in the past several months, few affected states have proposed oversight measures in addition to those already in place. One exception to that has been the state of Pennsylvania.

Significant gas development is occurring in the Marcellus Shale

formation which underlies a majority of Pennsylvania and extends into Ohio, New York, and all of West Virginia

In 2010, Pennsylvania has initiated the following actions.

- Governor Edward Rendell proposed additional oil and gas regulations to improve well construction standards, and proposed the strengthening of the state's enforcement capabilities including the hiring of 68 new environmental inspectors.

- The Pennsylvania Department of Environmental Protection (DEP) obtained and published a list of chemicals which comprise the fluids used for hydraulic fracturing. The list of over 80 chemicals can be found at

the DEP's website www.depweb.state.pa.us/.

- The state's Independent Regulatory Review Commission in June voted to require that total dissolved solids in wastewater discharges from natural gas development sites be no more than 500 mg/L. The Commission is an independent body whose purpose is to make certain that state agencies have the statutory authority to enact regulations and to determine whether a regulation is consistent with legislative intent.

- The DEP's oil and gas regulatory program is to be reviewed and compared against a set of guidelines

See Natural Gas, next page

Mandatory Training Course Schedule

Most Current Listing is at: www.healthy.arkansas.gov/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
Intermediate Distribution	10/05/10	10/07/10	Yes	West Fork	Wenzel Community Center, 222 Webber	ARWA
Advanced Distribution	10/05/10	10/07/10	Yes	Fayetteville	Clarion Hotel, 1255 South Shiloh Drive	AETA
Basic Math	10/12/10	10/12/10	Yes	Camden	AETA, 100 Carr Road	AETA
Advanced Distribution	10/12/10	10/14/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Applied Math	10/13/10	10/13/10	Yes	Camden	AETA, 100 Carr Road	AETA
PWS Compliance	10/14/10	10/14/10	Yes	Camden	AETA, 100 Carr Road	ADH
Basic Math	10/19/10	10/19/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Basic Distribution	10/19/10	10/21/10	Yes	N Little Rock	CAW Maryland Complex, 1500 W Maryland Ave	AETA
Applied Math	10/20/10	10/20/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
PWS Compliance	10/21/10	10/21/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ADH
Intermediate Distribution	11/02/10	10/04/10	Yes	Maumelle	Maumelle WWTP Training Rm, 425 B Hyman Dr.	AETA
Intermediate Treatment	11/02/10	11/04/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Basic Math	11/08/10	11/08/10	Yes	Russellville	Tri-County Water District Office, 5306 N AR 7	AETA
Applied Math	11/09/10	11/09/10	Yes	Russellville	Tri-County Water District Office, 5306 N AR 7	AETA
PWS Compliance	11/10/10	11/10/10	Yes	Russellville	Tri-County Water District Office, 5306 N AR 7	ADH
Advanced Distribution	11/16/10	11/18/10	Yes	West Fork	Wenzel Community Center, 222 Webber	ARWA
Basic Distribution	11/16/10	11/18/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Basic Treatment	11/16/10	11/18/10	Yes	Camden	AETA, 100 Carr Road	AETA
Intermediate Treatment	11/30/10	12/02/10	Yes	Arkadelphia	Recreation Center, 2555 Twin Rivers Dr	AETA
Intermediate Distribution	11/30/10	12/02/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Advanced Treatment	12/07/10	12/09/10	Yes	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Basic Treatment	12/14/10	12/16/10	Yes	Russellville	Tri-County Water District Office, 5306 N AR 7	AETA

*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 Martin Nutt – (501) 661-2623 – martin.nutt@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 – info@arkansasruralwater.org

Additional courses are shown on the internet at: www.healthy.arkansas.gov/eng/autoupdates/oper/mandtrngall.htm

Major Monitoring, MCL, Treatment Technique, & Licensing Violations

Community & Nontransient Noncommunity Public Water Systems January - March, 2010

ALMA WATER	DMCL 4,5,6	LEATHERWOOD VIEW ESTATES WATER	Bmon 4,5
ARK STATE PARK – MOUNT MAGAZINE	DMCL 4,5,6	LITTLE RIVER RDA WATER	DMCL 4,5,6
BAY WATER	Dmon 6	MALVERN WATER	DMCL 4,5,6
BEAVERFORK WSD	DMCL 4,5,6	MAYFLOWER WATER	DMCL 4,5,6
BEAVERFORK WSD	Bmon 6	MCNEIL RURAL WATER	DMCL 4,5,6
BOWSER WATER	OperLic 4	MILLTOWN-WASHBURN WATER	DMCL 4,5,6
BRADFORD WATER	OperLic 4,5,6	MORNING STAR WATER	FMCL 4,5,6
BRINKLEY WATER	BMCL 6	MOUNT SHERMAN WATER	RMCL 4,5,6
BUCKNER WATER	BMCL 5	NAIL-SWAIN WATER	Bmon 4
CLINTON WATER	DMCL 4,5,6	OAK RIDGE CENTRAL SCHOOL	Bmon 5
COTTON PLANT WATER	Bmon 4,5	PIKE CITY WATER	DMCL 4,5,6
CRABAPPLE POINT WATER	OperLic 5,6	PLAINVIEW WATER	DMCL 4,5,6
DAMASCUS WATER	DMCL 4,5,6	PLUMERVILLE WATER	Bmon 6
DEER WATER	TMCL 5	SOUTH PIKE COUNTY WATER	Bmon 4,6
DENNING WATER	Bmon 5	SDM WATER	FMCL 4,5,6
EAST PRAIRIE COUNTY PWA	OperLic 6	SDM WATER	RMCL 4,5,6
FELSENTHAL WATER	OperLic 4,5	SEARCY WATER	Dmon 4
FIFTY SIX WATER	BMCL 5	SOUTH MOUNTAIN WATER	RMCL 4,5,6
FOREMAN WATER	BMCL 4	SUBIACO ABBEY	DMCL 4,5,6
FOUKE WATER	OperLic 4,5	TALL OAKS MHP WATER	IMCL 4,5,6
GILMORE WATER	BMCL 6	TOLLETTE WATER	OerLic 4,5
GREENBRIER WATER	DMCL 4,5,6	UMPIRE HIGH SCHOOL	BMCL 6
GUY WATER	DMCL 4,5,6	VAN BUREN COUNTY WATER	DMCL 4,5,6
HOSANNA HEIGHTS WATER	BMCL 4	WALDRON WATER	DMCL 4,5,6
HOSANNA HEIGHTS WATER	Bmon 5	WIEDERKEHR VILLAGE WATER	Bmon 5
HOSANNA HEIGHTS WATER	GWRMCL 5,6	YELLVILLE WATER	Bmon 5
HOT SPRINGS VILLAGE WATER	TMON 6	YORKTOWN WATER	BMCL 6
HUMNOKE WATER	Bmon 5		
HWY 4-24 WATER	BMCL 6		
KNOBEL WATER	BMCL 6		
LAKE BULL SHOALS ESTATES WATER	GWRmon 5		
LAKE BULL SHOALS ESTATES WATER	BMCL 5		
LAKESIDE WATER	DMCL 4,5,6		
LAMAR WATER	BMCL 6		
LEATHERWOOD VIEW ESTATES WATER	OprLic 4,5		

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

Natural Gas

continued from page 10

developed and agreed to by a nonprofit organization whose Board is comprised of representatives from state agencies, industry, and public interest groups. The guidelines were developed by the State Review of Oil & Natural Gas Environmental Regulations (STRONGER). According to the organization, similar reviews have been conducted of 21 state programs, including one of Arkansas' program in 1993.

- The Pennsylvania General Assembly has proposed a severance tax on natural gas. According to Governor Rendell, the proceeds from the tax, estimated at \$100 million to \$200 million per year, would be used to help protect the environment and assist communities impacted by the natural gas development.

- The DEP has arranged for an emergency services company to be available to respond within five hours to any accident at a natural gas well in the state. This action followed a well blowout in June and a fire at another well in July in which it took as long as 16 hours to get crews in from out of state to address the accidents.

- The DEP began publishing an online weekly update of gas development activities entitled 'Marcellus Shale Examiner'. The updates can be found at DEP's website.

The DEP is on track to issue approximately 2,700 Marcellus permits this year — 36-percent more than the number of permits issued in 2009. An outside group, the Pennsylvania Land Trust Association, reported in August that it had counted 1,435 violations committed in Pennsylvania since 2008 by Marcellus Shale drilling

companies and that two-thirds of those incidents were identified as having or likely to have an environmental impact.

In September, the Environmental Protection Agency wrapped up a series of public hearings on a proposed study to assess the impact of hydraulic fracturing on drinking water. The study is planned to begin in January, 2011 with initial results hoped to be available by 2013.

Hydraulic fracturing is the process of pumping fluids into shale formations under high pressure in order to fracture the rock and facilitate the release of natural gas contained in the formation. The process is exempt from regulation by EPA under the Underground Injection Control program of the Safe Drinking Water Act based on a exemption granted to the gas industry by Congress as part of the 2005 Energy Policy Act.

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 July 14, 2010 in Lonoke, Arkansas. All Committee members were present: Steve Di Cicco, Committee Chair, City of Benton Water Utility; Findlay Edwards, P.E., University of Arkansas; Matthew Dunn, P.E., Crist Engineers, Inc.; Susan Merideth, P.E., Jonesboro City Water and Light; Terry House, Grand Prairie Bayou Two PFB; Scott Borman, Benton Washington RPWA; and Robert Hart, P.E., Executive Secretary, Arkansas Department of Health (ADH). ADH Staff & Guests present were: Martin Nutt, Training and Cert Officer, ADH; Jessica Clay, Training Coordinator, ADH; Ida Hampton, Administrative Specialist, ADH; Gary Oden, SAU Tech, representing Arkansas Environmental Training Academy (AETA); Randy Harper, Arkansas Environmental Training Academy; Dennis Sternberg, Arkansas Rural Water Association (ARWA); and from Magazine Waterworks were Marilyn Roberts, Charles West and James Corley.

Hart called the meeting to order and introduced Edwards as the newest Committee appointment by the State Board of Health. The Committee then confirmed Di Cicco as the Committee's Chair for state fiscal year 2011. The Committee reviewed and approved the minutes from the April 14, 2010 meeting.

Standing Business

The Committee reviewed two high school waiver requests, both for employees of the Magazine Waterworks. The Committee reviewed each request separately and voted to approve them with the stipulation that their waiver be limited to a Distribution 1 license unless they obtain their GED.

Nutt reviewed the SDWA Operator Training Grant and reminded the Committee that the grant is scheduled to expire on December 31, 2012. He stated that the fiscal year 2011 contracts with AETA and ARWA were

being finalized. He informed the Committee that, at current spending levels, the grant would likely not be spent by its expiration date.

Hart discussed the Legislative Task Force on Water Quality established by Act 1184 of 2009. He stated the task force was meeting monthly and that the Committee's appointee to the Task Force, Kevan Inboden with Jonesboro City Water and Light was actively participating. He reported the task force had received presentations from the Arkansas Department of Environmental Quality on state water quality standards and from Hart on the ADH's public drinking water program. Also, a representative from the Attorney General's office had provided information on state water laws and regulations; and Randy Easley with Fort Smith Water Utilities had made a presentation on pharmaceuticals and personal care products in the city's water sources. Hart indicated additional presentations were scheduled. The co-chairs for the Task Force - Representative Burriss and Senator Farris requested in July that members provide recommendations on what they felt should be the focus of the Task Force. Hart stated his recommendation would be to assure better protection of drinking water sources but that Committee members should provide any comments they had to Inboden at Jonesboro Water & Light. Hart said he would keep the Committee informed as the task force continues to meet.

Old Business

Under old business the Committee only had one item to address, that being the License Exam Development Workshops scheduled for week of August 16, 2010. Nutt stated he wanted to conduct the workshops with representatives from the ADH, ARWA, AETA, Licensing Committee and randomly selected operators holding the license for the exam being developed. The Committee discussed possible meeting sites and decided to hold workshops on August 17 at UA

Fayetteville and on August 19 at the AETA in Camden. The Committee members selected their preferred workshop location and Nutt concluded the discussion by indicating he would finalize preparations for the workshops.

New Business

Nutt provided the 2010 version of the License Committee Informational CD. He noted it contained the minutes from meetings held over the last several years, PWS Regulations, Licensing Law, Licensing Regulations, and Licensing Guidelines. He stated the CD was being provide as an easy reference for Committee members.

Nutt briefly reviewed the EPA OpCert Guidelines that the Arkansas program was required to meet or risk the loss of its Drinking Water SRF capitalization grant. He focused on that part of the guideline which requires an internal and external review of the program. He stated EPA had recently issued additional information in this area and he felt some future changes in the program review may be needed. He then provided information on present reviews and concluded by indicating more formal review proposals may be brought forward at a future meeting.

Committee Reports

In his Section Director's report, Hart advised that the state's overall budget continued to be very tight and employees would not receive in fiscal year 2011 a cost of living increase, merit increase, or career service bonus. He did state that Engineering's budget was currently stable but that some costly IT hardware and software upgrades were planned, and that future additional costs will likely be needed for additional disinfection by-product monitoring. This led to a discussion on the Public Water System Supervision Fees, their utilization, and other funding sources for the program. Hart also reviewed the past and ongoing work in implementing the Ground Water Rule,

and noted that the EPA Annual Compliance Report for 2009 had been completed and submitted. He then discussed a newsletter article in the summer edition of the *Drinking Water Update* on overall water system compliance, the issuance by EPA of the proposed Revised Total Coliform Rule, and how the proposed rule might result in improved compliance figures for water systems in that area.

In his Training & Certification Officer's Report, Nutt reviewed the quarterly Water License Exam Report and noted that passing rates remained stable. He presented a list of systems for which enforcement actions were being taken, and, in conclusion, reported that all aspects of the licensing program were running smoothly.

Reporting for AETA, Oden and Harper stated that during fiscal year 2010 the Academy had offered 57 water classes with an attendance of 378 persons. They also reported that AETA would be offering a fee based Utility Management Course starting in October and that the Academy had hired a Hazmat, OSHA, and General Safety instructor to hold fee based classes on those topics.

For ARWA, Sternberg reported that 13 classes had been held since January 2010 with one class cancelled in Paragould but that had since been rescheduled. Sternberg noted ARWA was partnering with United Rentals in Rogers, Arkansas to conduct safety classes in ARWA's name and facility. He stated he had spoken with Nutt concerning using the OpCert grant for just the registration costs for fee based training courses. He said Nutt had instructed him to request OpCert approval from the Committee. Sternberg noted that National Rural Water Association and the American Water Works Association were developing a utility management course that would be presented either on the internet or by the state affiliates in a classroom setting. He indicated ARWA hoped to offer the classroom version of the course as part of its 2011 training.

Other Business

Nutt indicated that Sternberg had brought up business in his report

WATER SYSTEM IMPROVEMENTS

SAINT FRANCIS RIVER REGIONAL WATER DISTRICT: 450 gpm well and auxiliary generator.

NORTH PULASKI WATER: 19,200 feet of 10 & 12-inch water line and a 1,000 gpm duplex booster pump station.

NORTHEAST PUBLIC WATER AUTHORITY: 2,535 feet of 6-inch PVC pipe to furnish water to Portia.

WESTERN GROVE WATER: 45,569 feet of 2 – 4 line, an 18,000 gallon standpipe and a 125 gpm booster pump station to supply customers in the Boat Mountain area.

NORTH GARLAND COUNTY REGIONAL WATER DISTRICT: addition of a 2 MGD clarifier and a 0.25 MGD clearwell addition.

JONESBORO CITY WATER AND LIGHT: addition of two 1,000 gpm water supply wells located near Commerce Street.

KEISER WATER: addition of a 300 gpm water supply well.

MARION COUNTY REGIONAL WATER DISTRICT: 5,300 feet of 12-inch pipe to furnish water to Pyatt.

PYATT WATER: 405,000 feet of 2 – 8 lines, three storage tanks of sizes 115,000 gallons, 250,000 gallons, and 74,000 gallons.

CLARKSVILLE WATER: 14,000 feet of 24-inch finished water transmission line from Cline Road to Harris Street.

PRAIRIE GROVE WATER: 9,700 feet of 2 through 12 inch water lines for the Hwy 62 Bypass.

Assistance with training costs for travel, registration, and study manuals available through EPA grant

Assistance with meal and lodging expenses is available for all mandatory water license exam training courses for community and nontransient noncommunity systems serving fewer than 3300 persons. Contact the training organizations listed on page 11 to determine your grant eligibility and to register for eligible courses. Backflow repair and backflow tester courses, including registration fees, are eligible. Registration fees, exclusive of meals and lodging, are available for safety and utility management courses. Registration should be completed well in advance of attending a course.

Free Study Manuals: If you are an operator for an eligible system, a complete set of exam reference manuals may be available, free of charge. Please contact the ADH water licensing program at (501) 661-2623.

concerning the need for the Committee to address the use of the OpCert grant for safety related courses. He indicated the Committee had not addressed previously the use of OpCert funds for safety courses. The Committee discussed that AETA was conducting similar fee based training on safety, and reviewed whether indirect safety courses were appropriate for OpCert Grant renewal training. The need to consider inclusion of AETA fee based utility management courses was also

discussed. A motion was then made and passed by the Committee to make OpCert grant eligible the registration fees, but exclusive of meals and lodging, for AETA and ARWA safety courses and AETA utility management courses.

No other business was brought before the Committee, the next meeting date was set for October 13, 2010 and the meeting adjourned.

Return Service Requested

PRINTED ON RECYCLED PAPER

AWW&WEA District Meetings

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

DATE	TIME	CITY	LOCATION	SPONSOR
October 2010				
7	5:45PM	Benton	Brown's Restaurant	Central District, AWW&WEA
7	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
14	5:00PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
14	5:00PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
14	5:30PM	West Memphis	Water Office	Eastern District, AWW&WEA
19	6:30PM	Monticello	Q & Y House	Southeast District, AWW&WEA
20	9:00AM	Eureka Springs	Best Western Inn of the Ozarks	Northwest District, AWW&WEA
21	12:30PM	Paragould	Service Center Bldg.	Northeast District, AWW&WEA
28	6:00PM	Waldo	The Ole Feed House	Southwest District, AWW&WEA
November 2010				
4	5:45PM	Little Rock	Water/Wastewater Maint. Facility	Central District, AWW&WEA
4	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
4	5:30PM	Marianna	Cleo's Restaurant	Eastern District, AWW&WEA
11	5:00PM	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 Restaurant	Southeast District, AWW&WEA
17	9:00AM	Berryville	Community Center	Northwest District, AWW&WEA
18	12:30PM	Jonesboro	Western Sizzlin	Northeast District, AWW&WEA
28	6:00PM	Hope	UACCH Student Center	Southwest District, AWW&WEA
December 2010				
2	5:45PM	Benton	Brown's Restaurant	Central District, AWW&WEA
2	6:30PM	Fort Smith	Golden Corral	Western District, AWW&WEA
9	5:30PM	Brinkley	Civic Center	Eastern District, AWW&WEA
9	5:00PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
9	5:00PM	Batesville	Western Sizzlin	North Central District, AWW&WEA
15	9:00AM	Fayetteville	Town Center	Northwest District, AWW&WEA
16	12:30PM	Jonesboro	Ron's Catfish	Northeast District, AWW&WEA
21	6:30PM	Star City	FUMC Family Life Center	Southeast District, AWW&WEA