



ARKANSAS DRINKING WATER UPDATE

Revised Total Coliform Update

Lance Jones, P.E., Chief Engineer

The Engineering Section is continuing efforts towards implementing the revisions to the 1989 Total Coliform Rule (TCR). These revisions are known as the Revised Total Coliform Rule (RTCRCR) and include several significant changes in the requirements that water systems must meet regarding the bacteriological quality of the water they provide to consumers. The RTCRCR is scheduled to become effective on April 1, 2016.

The primary changes in the RTCRCR require water systems with trigger levels for total coliforms to assess and correct sanitary deficiencies that contribute to the presence of coliform bacteria in the distribution system, and require a more comprehensive assessment when the presence of E-Coli bacteria is detected.

The major change of the RTCRCR from the TCR is the elimination of an MCL and MCLG for total coliforms. Under the current TCR, a total coliform MCL violation is issued when total coliform is detected in more than one water sample per month (or more than 5% of the samples when more than 40 monthly samples are collected). The issuance of an MCL violation requires the water system to issue a public notice to consumers, but does not require a corrective action.

The RTCRCR keeps the same trigger levels for total coliforms, but instead of an MCL being issued, the water system must conduct a Level 1 Assessment of the system to identify the cause of the total coliform positive samples and any associated sanitary defects. The system must submit the assessment report, including any corrective actions to address the sanitary defects to the State primacy agency for review within 30 days.

The Level 1 Assessment must include the following:

1. Inadequacies in sample sites, sampling protocol, and sample processing
2. Atypical events that may have affected distributed water quality or indicate that distributed water quality was impaired

3. Changes in distribution system maintenance and operation that may have affected or are affecting distributed water quality, including water storage
4. An evaluation of source water quality and treatment changes or conditions that may affect distributed water quality, where appropriate
5. Existing water quality monitoring data.

Water system personnel will be responsible for conducting Level 1 Assessments. The Engineering Section staff will provide technical assistance as needed to help the system conduct the Assessment and complete the report. Any sanitary defects that are identified shall be corrected to protect water quality.

The RTCRCR also includes requirements for Level 2 Assessments which require the same elements of the Level 1 Assessments be evaluated in more detail and will be conducted by Engineering Section staff in conjunction with the water system personnel. Level 2 Assessments are required under the following conditions:

1. More than one Level 1 Assessment is triggered in a 12-month period.
2. An MCL violation is issued for the presence of E-Coli in the distribution system. The Arkansas Department of Health also requires a 'Boil Water Advisory' be issued when an E-Coli MCL is issued.

Failure to conduct the Assessments or correct identified sanitary defects will result in a treatment technique violation.

The monitoring requirements for the RTCRCR are essentially the same as under the current TCR for routine and repeat samples (samples following a total coliform positive result).

(continued on page 2)

Inside the <i>Update</i>	Page
Surveying Sources	2
Licensing Exam Changes	3
State Water Plan	4
Harmful Algal Blooms	6
Bleach	8
Licensing Committee Report	9

Surveying Potential Sources of Contamination: A Cooperative Approach

Brad Jones, GIS – Source Water Protection



On January 9, 2014, a chemical release occurred from storage tanks on the Elk River in West Virginia just upstream of a public water intake in Charleston. 300,000 individuals lost access to safe drinking water because no one was aware of the threat until the chemical overwhelmed the treatment system. The first step in preventing an event like this in your watershed is knowing what potential sources of contamination (PSOC) could impact your source—whether well or surface intake. ADH source water protection (SWP) staff uses both mapping-grade global positioning (GPS) and geographic information system (GIS) tools to inventory PSOCs in source water protection areas. We can assist you in performing a PSOC inventory for your source(s).

SWP staff use Trimble GPS hand-held units to record the locations of PSOCs. Many PWS use similar units for in-house mapping of infrastructure. ADH can train and provide your staff with the knowledge to use your GPS units to identify and record PSOC locations. GIS can then be used to create a detailed map of all the PSOC locations recorded in proximity to your source. If you don't have access to GIS tools, we can make the maps for you. We also provide a report that outlines the types of PSOCs recorded, prioritizes them based on risks, and provides information on monitoring, preparation, and potential removal of certain PSOCs.

Last year ADH SWP partnered with the Jonesboro Water System staff to train and assist in a PSOC inventory of the all of their wellhead

protection areas. Jonesboro has 10 well fields with a total of 32 wells. The well fields are located in both urban and rural settings. With only a few hours of training on PSOC data collection, Jonesboro staff were off and running recording/collecting PSOC locations. Using an external antenna allowed them to record the PSOCs without getting out of their vehicle. Within a month, working only when rain prevented their routine duties, they had collected 463 PSOC locations. This data was used by ADH SWP staff to provide maps and an updated ADH Phase 2 report.

The starting point to prevent or to prepare for a contamination event like the Elk River spill is to know what PSOCs are in proximity to your public water source(s). A PSOC inventory is an efficient tool for preparation for and prevention of contamination events. Using GPS and GIS tools, ADH source water protection staff can assist you with any of these tasks—completion of a PSOC inventory, creation of maps and reports, or in creation of an accurate, up-to-date emergency plan. Contact me (Bradley.Jones@Arkansas.gov) to request assistance.

(RCTR update continued from page 1)

However, the current requirement of collecting a minimum of 5 samples in the month following a total coliform positive sample will be reduced to 3 samples when the RCTR is effective.

During the Spring-Summer 2014, we have been developing Assessment Forms, notification and tracking processes for Assessments and corrective actions and began the EPA primacy application process.

By 2015, we plan to implement the Assessment process in parallel with the current total coliform MCLs. During the time leading up to the April 1 2016 effective date of the RCTR, the Assessments will be used as a training tool for both the water systems and Engineering Section staff to become familiar with the process. No RCTR violations related to Assessments will be issued in this training period.

More information regarding the details of the RCTR can be found at the EPA website:

http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm

As well as the Engineering Section website under the Reports, Forms & Policies tab.

<http://www.healthy.arkansas.gov/eng>

Licensing Exam Changes Implemented

Martin Nutt, Training and Certification Officer

The Water Operator Licensing Program implemented several significant changes in the water license exam, the exam process, and exam sessions. The changes are outlined below.

Exams Changes

- The Water Operator Licensing Program switched to ABC national standardized exams. The exam items, also called questions, were reduced to 100 items for all treatment and distribution exams. The very small water system exam was reduced to 50 items. The minimum exam passing score remains 70 percent. The exam items style and content will not change. The standardized exams use the same ABC Itembank as the previous exams. The exam session time is the ABC prescribed three hours.

Exam Schedule Changes

- The exam session schedule significantly changed to quarterly exam sessions for paper based exams. Exam sessions at the conclusion of all mandatory treatment and distribution courses have stopped. See exam session schedule in this newsletter.
- An optional computer-based administration of water license exams is also available utilizing Applied Measurement Professionals Assessment Centers. The Centers, for an additional facility use fee of \$64.00 per exam, offer all license exams, are open Monday through Saturday with the scheduling process taking about a week. See the Engineering Section website at www.healthy.arkansas.gov/eng for additional information.

Examinee Must Reserve/Register For Exam

- Examinees **must** register/schedule their paper based exam a minimum of 45 days prior to the desired exam session date. To register on the internet go to www.healthy.arkansas.gov/eng and click on Exam Registration on the sidebar. You may also register by phone.
- To support the exam registration, in addition to the actual registration process, the examinee must have the required license application submitted, paid required exam fee, and be able to document the ability to meet the mandatory training attendance requirements (when will classes not attended be attended) by the time of examination. A copy of all training completion certificates must be on file with the License Program. Failure to cancel the registered exam session may result in the forfeiture of the exam fee.

Exam Preparation Changes

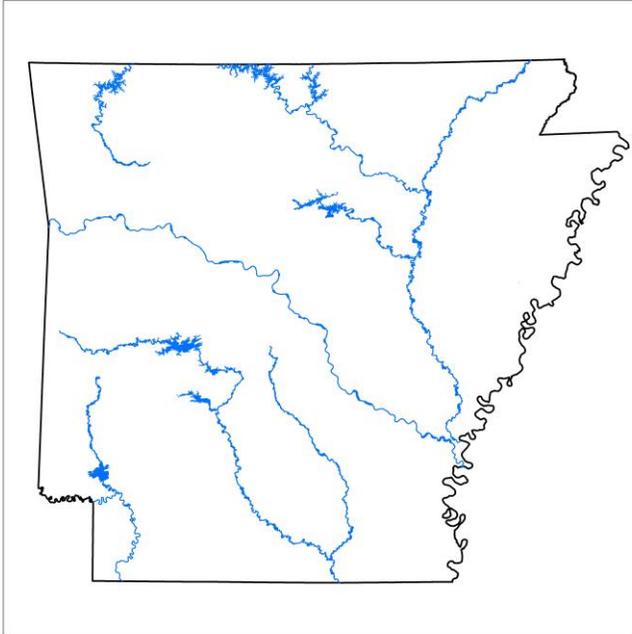
- The ABC standardized exams utilize ABC's *Needs To Know Criteria* and will utilize *ABC Formula/Conversion Table*. These documents are available on our website.
- The ABC Standardized exams utilize the same reference manuals as previous exams. They require the same mandatory courses. The exam questions are similar in format and difficulty to previous license exam questions.

As noted above our website has many resources available. Please contact the Water Operator Licensing Program staff if additional information is needed.

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Arkansas Water Plan 2014 Update

Edward C. Swaim
Water Resources Management Division
Arkansas Natural Resources Commission



Since 1969, the Arkansas Natural Resources Commission (ANRC), formerly Soil and Water Conservation Commission, has been responsible for the Arkansas Water Plan. When it was created by the General Assembly, the Plan was defined as a comprehensive plan for the orderly development and management of our water resources. This is a very broad definition, but, over the years, the Plan evolved into a thorough examination of water data and policy with recommendations for improvements.

There are four essential questions to be answered by this update:

- How much water do we need?
- How much do we have?
- Where will we have “gaps” between demand and supply?
- What tools will we use to address those gaps?

The first official Arkansas Water Plan was finished in 1975. Following that work, the Plan was updated in the wake of the severe 1980 drought. That work resulted in a series of reports published in the 1980s, culminating in the Executive Summary

published in 1990. That Summary included 28 specific issues and recommendations that we have been implementing for over 20 years.

In 2011, the General Assembly directed ANRC to update the Plan. After the legislature appropriated the money, ANRC engaged CDM Smith, a national engineering firm, and FTN Associates, an Arkansas engineering and environmental consulting firm to complete the update.

The Arkansas Department of Health, Game and Fish Commission, and Department of Environmental Quality were involved from the beginning. They helped with the scoping process to design the update and they participated in the contractor interviews done as we assessed the qualifications of consulting firms to engage to update the Plan.

Public Involvement

The 1990 update was drafted by state and federal agencies, and then presented to the public. Our current update is completely the opposite. We have engaged over 1,000 people in the process, from deciding the best sources of data, to identifying issues and formulating recommendations. This has been the most rewarding and productive part of the update process. We hope to build on this engagement as we implement the Plan and for future updates.

Major Goals

The Water Plan update has several goals. First and foremost, to meet our drinking water needs. We also seek to meet all our other water needs, including agriculture, recreation, fish and wildlife, power generation, navigation, and industry.

Issues and Recommendations

The Executive Summary is the main Water Plan report. It contains an overview of the data and forecasts found in the supporting reports. It describes major issues and recommended actions to address them. Implementation of these recommendations will be the real work of the Plan.

Groundwater/conjunctive Water Management

We continue to withdraw over twice the groundwater from our alluvial and Sparta aquifers than is naturally recharged. Over eighty percent of the water use in Arkansas is for crop irrigation. It is of utmost importance to take advantage of our abundant surface water to supplement groundwater use and sustain agriculture into the future. It is also vital to protect the Sparta aquifer for future public

and industrial use. Improved measurement of withdrawals using flow meters is recommended.

Incentives for Water Conservation

In addition to meeting more of our needs with surface water, technological and scientific advances are increasing efficiency. Every drop we save is a drop we do not pump out of the ground or a surface source. There is a lot of opportunity to conserve water, from reducing domestic consumption to improved irrigation. Tax credits, outreach, and education are the suggested incentive tools.

Infrastructure Condition

Water and wastewater infrastructure is very important to Arkansas, but it is expensive and difficult to maintain. The Plan addresses deteriorating infrastructure (including public water systems, wastewater treatment, levees, and dams) by promoting better planning and maintenance. The Plan encourages training programs for boards of directors of systems operating any type of infrastructure to maintain, repair, and replace infrastructure. If we take care of what we have, we can stretch the public investment further.

Infrastructure Financing

The State of Arkansas issues general obligation bonds based on its credit, and the Natural Resources Commission lends the proceeds to public water and wastewater entities at low interest rates. The Water Plan suggests continuing to use this financing tool to meet local and state needs.

Surface Water Use

The Plan quantifies the amount of surface water that can be used to meet our future needs. Thankfully, as a “water rich” state, we have sufficient water to meet all our in-stream and out-of-stream needs. Constructing intake, storage, and delivery facilities is promoted by the Plan as a long-term supply strategy.

Nonpoint Source Pollution Management

Reducing unregulated nutrient and sediment runoff was a major goal of the 1990 Plan and is in the current update. Voluntary, incentive based programs, rather than permitting or regulatory systems are recommended to build on our success. With continued work on reduction of polluted runoff, we can greatly improve the quality of our lakes and streams.

Drought Contingency Response

The operation of public water systems when surface supplies are suffering and making sure we have dispute resolution tools in place for shortages are two of the ways we must prepare better for drought. We also have to maintain our streamgauging network to collect data to monitor drought conditions. The updated Plan recommends the formation of a drought task force composed of public and private partners *before* droughts occur.

Water Education

The need to educate the public on the importance of water is a long-standing issue. It has been a part of every previous water planning effort in Arkansas, going back to the 1930s. To appreciate the work and expense of providing clean drinking water, to know how much our economy depends on water for industry, crops, navigation, etc., and to encourage good stewardship of the quality of our water, it is essential that the public stay informed.

Reallocation of Federal Reservoir Water

One of the major themes of the Water Plan is to take advantage of currently available resources. We are fortunate to have so many federal reservoirs in Arkansas to provide recreation, flood control, power generation, and public water. Since these are federally authorized, built, and operated, the Congress is responsible for deciding how they are to be used. However, there are administrative procedures within Corps of Engineers jurisdiction to “reallocate” portions of the stored water. The Plan encourages the use of this procedure when public water providers are planning to meet their long-term needs. With such a recommendation, we hope to have a positive influence on federal water policy.

Data and Science

The foundation for water planning is data. We need to know how much water we use and look for usage trends. The Plan suggests making improvements to our water use reporting system, especially for crop irrigation—our number one water use. Metering more water wells and surface pumps is recommended to improve the certainty of the numbers that we rely on. The Plan also includes a science and engineering advisory committee to assist in the development and collection of water data.

Stay Involved in the Process

Please view the Water Plan and supporting documents at www.arwaterplan.arkansas.gov

HEALTH CONCERNS RELATING TO CYANOBACTERIA BLOOMS

Jeff Stone, P.E., Director



This past summer, the City of Toledo, Ohio, was compelled to take the extraordinary step of issuing a no drink order for a short time. A toxic blue green algae bloom in Lake Erie was to blame. Lake Erie has a history of blue green algae blooms. These are caused primarily by nutrient run-off into the lake. Closer to home, here in the state of Arkansas, the Corps of Engineers issued a do not swim order for Lake Nimrod swim beaches following a blue green algae bloom this July. Toxins produced by so called blue green algae make these blooms a health concern both for body contact during water recreation and drinking water supply.

Actually, harmful algal blooms are not caused by algae at all, but rather by a type of organism called cyanobacteria. Cyanobacteria are not algae; they are a type of bacteria that photosynthesizes. Like plants and algae, their bluish green coloring comes from chloroplasts. This type of bacteria also grows as filaments and form string-like growths in the water. Thick scum layers can form near the surface. Cyanobacteria present health-related concerns. These bacteria containing toxins within their cells that can cause health issues upon skin contact or ingestion. Swimming in water contaminated with cyanobacteria can result in skin rashes. Ingestion of contaminated water can result in flu like symptoms including nausea, diarrhea, and respiratory problems. Neurological problems can result such as numbness, weakness, and vertigo. Also, if ingested, the toxins can cause liver damage. Children are most at risk for both exposures. They are more likely to accidentally swallow cyanotoxins

during water play and their lower body weights make them more vulnerable to lower concentrations of the toxins. People suffering from diabetes, hepatitis, or asthma are also more vulnerable. Pets or livestock occasionally die after drinking contaminated water.

Cyanobacteria are commonly present, in small concentrations in most fresh water lakes and reservoirs. Conditions that contribute to cyanobacterial blooms include: a) nutrient run-off (especially phosphorous but also nitrogen) into the reservoir or lake, b) warm weather, c) drought, and d) sunny conditions. When cyanobacteria bloom in a portion of a lake or reservoir, that area may become unsuitable for body contact recreation. If cyanobacteria bloom near a drinking water intake, the drinking water treatment system may be overwhelmed and not effectively remove the bacteria and associated toxins.

Cyanobacteria risks associated with body contact recreation are related to the density of the bloom. For recreational purposes, the water quality is judged by quantifying the cyanobacteria cells per milliliter (cell/ml) and chlorophyll-a concentrations. World Health Organization (WHO) Guidelines for safe recreational environments stipulate when the cyanobacterial bloom reaches 100,000 cells/ml, or 50 ug/L chlorophyll-a with cyanobacteria dominant, or cyanobacterial scum formation present, then a prohibition against body contact recreation is warranted. WHO also recommends warnings be issued at certain defined lower concentrations. The Corps of Engineers applied the World Health Organization's guidelines for closure of Lake Nimrod swimming beaches.

The Safe Drinking Water Act does not regulate cyanobacteria related toxins as regulated contaminants. However, the World Health Organization has issued a provisional guideline value of 1 part per billion for microcystin-LR which is found in cyanobacteria. Microcystin-LR is considered the most toxic compound of the microcystin group of compounds. The recent do not drink order in Toledo, Ohio, was based upon the World Health Organization drinking water guidelines for microcystin-LR.

Analysis for microcystins is commercially available, but can become expensive if performed regularly and routinely (\$400 to \$500 per sample). Test strips are commercially available that indicate presence or absence of microcystins. However these test strips are not advertised as being suitable for providing a quantitative measure of microcystin concentrations. A commercial analytical laboratory must be used to provide quantitative information

concerning microcystin concentration. In Arkansas, since the Safe Drinking Water Act does not regulate microcystins, the Department of Health's Public Health Laboratory does not provide microcystin analysis.

If a water system is interested in obtaining the services of a private laboratory for microcystin analysis, the Engineering Section at the Arkansas Department of Health is available to assist with sampling and to provide technical assistance concerning acquisition of analytical services, sample collection, shipping, and interpretation of results, etc. ADH would not provide for sampling and analysis, however, unless specific conditions could justify the cost of sampling and analysis.

If a public water system notes the presence of cyanobacteria in their raw water supply, they can take actions to minimize the level of toxins in the post treatment drinking water supply. Fortunately, treatment schemes for minimizing microcystin levels are similar to achieving other treatment objectives such as turbidity removal and minimizing disinfection byproduct formation. Treatment steps that minimize microcystin concentrations include the following.

USE DEEPER INTAKE PORTS WHEN BLOOMS OCCUR: Cyanobacteria utilize photosynthesis as a source of energy. Therefore concentration of these organisms will likely be more concentrated at higher levels where more sunlight is available. Using a deeper intake port may result in obtaining water that is less contaminated by cyanobacteria. However, using a deeper intake may have the undesired effect of increased iron, manganese and organics; these unfortunately also present treatment challenges.

DO NOT USE OXIDANTS PRIOR TO FILTRATION: One of the common strategies for minimizing disinfection byproduct formation is to eliminate use of chlorine prior to the filtration process. This same strategy, regarding use of all oxidants including chlorine, will minimize the level of toxins in the finished water. A well-functioning filter will remove most of the cyanobacteria present in the water. If the bacteria are intact, toxins will be removed along with the bacteria. However, use of oxidants prior to filtration will have the effect of rupturing the cell walls and "spilling" the toxins into the water. This should be avoided.

OPTIMIZE THE PLANT FOR TURBIDITY REMOVAL: Removing cyanobacteria cells by filtration removes the toxins contained in the bacteria. Effective turbidity removal is a strong indicator of effective bacteria removal. Optimizing the water treatment plant for turbidity removal will be the most effective way to minimize concentrations of

toxins. The Engineering Section has long promoted treatment plant optimization and assists optimization through activities that include the Area Wide Optimization Program (AWOP). Further details concerning water treatment plant optimization, including the optimization criteria, please contact Craig Corder at craig.corder@arkansas.gov or at (501) 661-2623.

FREQUENT FILTER BACKWASHING: When cyanobacteria cells are trapped within a filter, they will die and eventually release the toxins within the cells. More frequent backwashing will remove more of the cells before this occurs.

USE OF PAC OR GAC: Microcystins are organic chemicals that will be adsorbed by activated carbon. Use of powdered activated carbon (PAC) prior to filtration or use of granulated activated carbon (GAC) in the filter bed will reduce the level of microcystins in the treated water.

USE OF OZONE: Ozone has the ability to break down complex organic molecules into smaller components. Those treatment plants that are designed and equipped to utilize ozone should to some degree be able to reduce microcystin concentrations through chemical reduction.

Finally, **BECOME AN ADVOCATE FOR WATERSHED PROTECTION:** Lakes and reservoirs are more likely to have cyanobacteria blooms when nutrients such as nitrogen and phosphorous run off into the water body. These nutrients enable faster growth of these organisms. Phosphorous is a key nutrient of concern. A water system has the opportunity to comment on proposed discharges in the watershed during the NPDES permitting process. Our source water protection staff routinely monitors permitting, and notifies systems of potential discharges that are of concern.

Further information on this topic:

Cyanobacteria and Cyanotoxins: Information for Drinking Water Systems, EPA, http://water.epa.gov/scitech/swguidance/standards/criteria/nutrients/upload/cyanobacteria_factsheet.pdf

World Health Organization Guidelines for Drinking-Water Quality, 4th Edition, WHO, http://whqlibdoc.who.int/publications/2011/9789241548151_eng.pdf

Cyanobacterial toxins: Microcystin-LR in Drinking-water, WHO, http://www.who.int/water_sanitation_health/dwq/chemicals/cyanobactoxins.pdf

The Long Hot Blue-Green Summers of Oklahoma, ODEQ, <http://www.epa.gov/region6/ga/presentations12/c12-wright-p.pdf>

Using Chlorine Bleach To Disinfect Small Water Systems

Jeff Stone, P.E., Director

Many small water systems, needing only small quantities of bleach to disinfect their water supplies, rely upon chlorine bleach purchased at grocery and discount stores in one gallon jugs. With regard to some small water systems, use of larger volumes of bleach (55 gallon drums) is impractical. This article discusses bleach products that are available in small quantities at grocery and discount stores.

If any proof were needed that the world used to be a simpler place, one would only need to visit the bleach section of a discount or grocery store. I can remember a simpler time where there was only one product found in the bleach section of store shelves and that product was plain chlorine bleach. However, today things are different. There are now many types of bleach offered for sale in discount and grocery stores. Most product offerings are unsuitable for use as a drinking water disinfectant due to the presence of scenting, thickening, or cleaning agents in the product. There are even non-chlorine bleach products being offered. Also, most product offerings are not certified according to NSF Standard 60. The NSF Standard 60 certification is necessary in order to ensure that no contaminants are present in the product that would pose a threat to consumers drinking the disinfected water. NSF Standard 60 certification of all chemicals utilized in drinking water treatment, including chlorine bleach, is required by the Arkansas Department of Health's Rules and Regulations Pertaining to Public Water Systems.

Chlorine bleach, sodium hypochlorite, is used as a disinfectant by numerous public water systems in Arkansas. Of the systems that use bleach, the vast majority are very small systems that supply relatively small quantities of drinking water and utilize small amounts of bleach. Small amounts of bleach are most readily obtained at discount or grocery stores and normally sold in approximately one gallon jugs with chlorine concentrations typically ranging from 6% to 12%. The higher concentration bleach products are usually labeled as "concentrated".

In order to ensure that a small water system utilizes an acceptable chlorine bleach product the following rules must be observed: a) the bleach must be a chlorine bleach, b) the bleach must not contain scenting agents, cleaning agents, nor thickening agents (splash proof), etc, and c) the product must be NSF Standard 60 Certified.

So which products are NSF Standard 60 Certified? This certification is not normally indicated on the product label. It is not usually possible to read the label on the jug and verify the certification. An internet search is necessary to verify NSF Standard 60 Certification of the products. In preparation for this article, an internet search for NSF Standard 60 certified products was conducted and three NSF Standard 60 certified products were found that are readily available in grocery, discount, or janitorial/business supply stores.

Clorox brand product certifications can be found on the Water Quality Association website at www.wqa.org. Clorox products that are listed as being NSF Standard 60 certified are Clorox Regular Bleach and Clorox Commercial Solutions Ultra Clorox. Clorox regular bleach in normal and concentrated strengths can be found in almost any grocery or discount store and is offered in approximately one gallon jugs.

The KIK Corporation offers Pure Bright Disinfectant Bleach that is provided in approximately one gallon jugs. Pure Bright Disinfectant Bleach is listed as being NSF Standard 60 certified and the listing can be found on the NSF website at www.nsg.org. Pure Bright Disinfectant Bleach is often provided through janitorial or business supply stores.

In researching this article, I was not able to find any generic brand bleach products that maintained NSF Standard 60 certification.

In summary, when using chlorine bleach for drinking water disinfection be sure to only use products that meet the following criteria: a) is a chlorine bleach, b) does not contain scenting, cleaning, or thickening agents, c) is NSF Standard 60 Certified.

If you need assistance in verifying NSF certifications for any treatment chemical including chlorine bleach, you can ask for ADH assistance by calling your district personnel at 501-661-2623 or emailing me at jeffery.stone@arkansas.gov

Report Of The Arkansas Drinking Water Advisory and Operator Licensing Committee

Martin Nutt, Training and Certification Officer

The Arkansas Drinking Water Advisory and Operator Licensing Committee held its quarterly meeting on July 10, 2014 in Lonoke, Arkansas. Committee members present were: Matthew Dunn, P.E., Committee Chair, Crist Engineers, Inc.; Tim Shaw, Community Water System; Stacy Cheevers, Beaver Water District; Roger Moren, Sardis Water Association; Bradley Scheffler, City of Piggott; and Jeff Stone, P.E., Executive Secretary, Arkansas Department of Health (ADH). One member Dr. Findlay Edwards, P.E., University of Arkansas was unable to attend. ADH staff & guests present were Martin Nutt, Training and Certification Officer, Ida Hampton, Administrative Specialist, and Reginald Rogers, Deputy General Counsel, ADH; Jonathan Richardson and Jeremy Rowe, Arkansas Environmental Training Academy (AETA); and Dennis Sternberg, Arkansas Rural Water Association (ARWA).

In calling the meeting to order, Stone introduced new Committee Member Bradley Scheffler, Water/Wastewater Director, City of Piggott, Piggott, Arkansas. Mr. Scheffler joined Piggott water utilities in 1984 and he holds both Distribution IV and Treatment IV Water Operator Licenses. The Arkansas State Board of Health appointed Mr. Scheffler on April 24, 2014 to serve on the Arkansas Drinking Water Advisory and Operator Licensing Committee for a term of office extending through June 30, 2020.

The Committee confirmed Dunn as Chair from Chair-Elect. The Committee tabled action on electing a Chair Elect until their October 2014 meeting.

Standing Business

The Committee reviewed and approved the minutes from the January 22, 2014 meeting. The Committee did not have a High School waiver to consider.

Old Business

The Committee received an update from Nutt related to exam content and exam schedule changes. He provided a handout detailing the progress being made towards converting from Association of Boards of Certification (ABC) customized license exams to ABC's Standardized National License Exams noting that the exam items style and difficulty should not change. The exam would have a reduced number of questions with completion time reduced as well. The handout also addressed the changes in exam session schedule to quarterly, and the requirement that operators must schedule exams 45 days in advance of the exam sessions. He reminded the Committee that mandatory training courses could be attended after registering but before the actual exam.

Nutt updated the Committee on the option of utilizing Applied Measurement Professionals (AMP) for the computer-based license exam administration of the ABC standardized exam. He informed the Committee AMP was in place and available to operators. He outlined the basic process operators would follow to utilize AMP, including AMP's additional \$64.00 exam administration fee. He reminded the Committee that AMP Assessment Centers are located in Little Rock, Fayetteville, Memphis, Shreveport, Tulsa, Springfield, and other sites internationally. He noted AMP provides the computer based exams within a short timeframe with a flexible exam session schedule. Nutt stated that the option of using AMP computer based exam sessions provides a timely alternative to the paper based quarterly exam sessions.

Stone briefed the Committee on the Section's latest efforts towards implementing the Federal Drinking Water Standards' Revised Total Coliform Rule published February 13, 2013. He informed the Committee the Section's Chief Engineer, Lance Jones, was taking the lead on implementation effort noting he had attended several EPA sponsored Rule webinars, and conference calls. Internally the Section was starting to develop the necessary forms and procedures to perform the system assessments required after coliform positive samples. The Section was also developing its primacy approval package for submittal to EPA in late 2014 for primary enforcement of the Rule. The Section should begin, in early 2015, the process of transitioning water systems to the new Rule with the Rule becoming legally enforceable in early 2016.

Stone updated the Committee on some internal changes in the Cross Connection Control Backflow Device Testing and Repair licensing program. Initially, the entire program was to be transferred to the Section from the Protective Health Codes Section. The final decision was the backflow licensing program will remain in Protective Health Codes with the Section's Cross Connection Control Engineer, Thomas Johnson, providing technical resources for the Program and the exams. Johnson is to attend specific training and then work with the industry to improve the Tester and Repair License exam item bank leading to updated exams.

New Business

Nutt provided the Committee for its review and approval a proposed reciprocal guideline with the Association of Boards of Certification for water treatment licenses and distribution licenses. Nutt noted ABC only licenses operators in licensing areas where their home territory does not offer the license. Nutt noted that the ABC program and Arkansas match up well with the most significant area of concern being ABC lower level licenses do not have training requirements prior to sitting for an exam. The guideline addressed this issue similarly to other state reciprocal guidelines where mandatory training was not required in that it was incumbent on the operator seeking reciprocity to demonstrate equivalent training to the Arkansas' training requirement. The guideline also required for all license grades the attendance of the Arkansas PWS Compliance course prior to an Arkansas license being issued. The guideline proposed all ABC licenses to reciprocate to the same grade level in Arkansas after meeting above conditions. The Committee approved the Reciprocity Guideline.

Jeff reviewed the EPA SDWA Annual Compliance Report provided to the Committee, noting the report was full of numbers and violation data. He noted the report is posted on the Section's website, a legal notice was printed in the Arkansas Democrat Gazette of its posting, and a summary of the report was in the Summer Edition of the Drinking Water Update. He highlighted several of the compliance numbers stating our numbers compare very favorable to other states. He attributed the high compliance numbers were a combination of the excellent work by the operators collecting the samples they are responsible for, the Sections high level of diligence in completing the other monitoring requirements, and the State's great water quality.

Committee Reports

Stone, in his Section Director's report, stated the Section funding was always subject to EPA federal money, Section is holding its own, paying bills, and the recent approval from EPA to spend federal funds for laboratory equipment was good news. The program has suffered a couple of staff losses and their replacements are being sought.

Nutt provided a Licensing Program report. He referenced a spreadsheet handout titled "Water License Exam Report", noting passing rates remained stable and would still like to see upper distribution and treatment exams performing better. He reviewed a summary of licensing compliance enforcement efforts, taken by the Section. He reviewed recent administrative hearing actions noting the results from those hearings had had mostly positive results with Dermott Waterworks obtaining a licensed operator and Bealuh Grove Water Association progressing with their efforts to merge with another water system. Nutt noted Elaine Waterworks is due a Warning of Administrative Order, and several other systems approaching the need for a Warning notice. Nutt reported the overall license program continued to be fully staffed, exam results and licenses were being processed smoothly and ABC exam grading times continue to be around 3-4 weeks turnaround time.

Rowe provided a training report for the Arkansas Environmental Training Academy. He reported the Academy in fiscal year 2014 had 3,415 total students in 332 classes within all five training divisions with 572 total students in 72 water classes.

Sternberg provided a training report for the Arkansas Rural Water Association for January through June, 2014 showing 24 water classes with a total of 872 students. He noted ARWA had all of its generators out during the Mayflower and Vilonia tornado and provided 358 man hours in Mayflower alone. He noted they recently received EPA technical assistance and training grant funds which will help allow them to continue providing mandatory water training courses.

Other Business

The Committee confirmed their next meeting date for October 2, 2014, and concluded the meeting.



Staff News:

Louise Hogan joined the Engineering Section in August as the Environmental Health Specialist for District 6. She received a B.S. in Environmental Science from UALR. Before joining the Engineering Section, Louise worked for Little Rock Wastewater, and she currently holds a Class IV wastewater license.

WATER OPERATOR LICENSE EXAMINATIONS SCHEDULE

The most current Exam Schedule is at: <http://www.healthy.arkansas.gov/eng/autoupdates/oper/operexam.htm>

You must register for the exam 45 days in advance. To register on the internet go to www.healthy.arkansas.gov/eng and select Registraton. To register by e-mail, provide name, license exam desired, exam session site, and exam date in an email addressed to ADH.Water.Licensing@arkansas.gov. You may register by phone with the Water Licensing Program at (501) 661-2623. Call (501) 661-2623, ask for Water Licensing Program.

Listed below are the dates and locations of examination sessions as scheduled, as of **September 26, 2014**. 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, pagers and other electronic communication devices are not allowed. Non-Programmable calculators are allowed in exam sessions.

EXAM DATE	REGISTER DEADLINE	CITY	LOCATION	TIME
12/5/2014	10/21/2014	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
12/5/2014	10/21/2014	Nashville	Carter Day Center, 200 Nichols Drive	9:00 AM
12/5/2014	10/21/2014	Fayetteville	Fayetteville Operations Center, 2435 S Industrial Dr	9:00 AM
12/12/2014	10/28/2014	Jonesboro	Jonesboro CWL Office Training Rm, 400 E Monroe	9:00 AM
12/12/2014	10/28/2014	Camden	AR Environmental Training Academy, 100 Carr Road	9:00 AM
12/12/2014	10/28/2014	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64 East)	9:00 AM
3/6/2015	1/20/15	Fayetteville	Fayetteville Operations Center, 2435 S Industrial Dr	9:00 AM
3/6/2015	1/20/15	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
3/6/2015	1/20/15	Mtn. Home	Baxter Co OEM Training Facility, 170 Dillard Dr, Midway	9:00 AM
3/13/2015	1/27/15	Camden	AR Environmental Training Academy, 100 Carr Road	9:00 AM
3/13/2015	1/27/15	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64 East)	9:00 AM
3/13/2015	1/27/15	Jonesboro	Jonesboro CWL Office Training Rm, 400 E Monroe	9:00 AM
4/29/2015	3/15/15	Hot Springs	AWW&WEA Annual Conf, HS Convention Center	9:00 AM
6/5/2015	4/21/15	Fayetteville	Fayetteville Operations Center, 2435 S Industrial Dr	9:00 AM
6/5/2015	4/21/15	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	9:00 AM
6/5/2015	4/21/15	Nashville	Carter Day Center, 200 Nichols Drive	9:00 AM
6/12/2015	4/28/15	Camden	AR Environmental Training Academy, 100 Carr Road	9:00 AM
6/12/2015	4/28/15	Clarksville	CLW (Operations Bld) 710 East Main (Hwy 64 East)	9:00 AM
6/12/2015	4/28/15	Jonesboro	Jonesboro CWL Office Training Rm, 400 E Monroe	9:00 AM

The above exam session information is subject to change. You should confirm this information just prior to the scheduled examination period. Also, the latest exam schedule information can be viewed on the Internet at: <http://www.healthy.arkansas.gov/eng/autoupdates/oper/operexam.htm> >.

Remember, you must register for the exam 45 days in advance.

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 before taking an exam. Copies of your training documentation must be provided when registering for an exam or provide documentation of its attendance by the exam session.

Mandatory Training Course Schedule

Most Current Listing and when available the 2015 schedule is at: www.healthy.arkansas.gov/eng/autoupdates/oper/mandtrngall.htm.
Please contact the course sponsor to register for course well in advance of course date.
Water License Exams No Longer Held At The End Of Most Courses

(Please note all mandatory courses begin at 8:00 a.m.)

Mandatory Course Name	START DATE	ENDING DATE	Time	CITY	LOCATION	SPONSOR
Intermediate Water Treatment	10/01/14	10/15/14	TBD	Internet	http://www.sautech.edu/aeta/schedule.aspx	AETA
Basic Water Math	10/14/14	10/14/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	AETA
Applied Water Math	10/15/14	10/15/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	AETA
ADH PWS Compliance	10/16/14	10/16/14	8:00 AM	Russellville	Tri-County Water, 5306 N Arkansas Ave	ADH
Intermediate Water Distribution	10/16/14	10/31/14	TBD	Internet	http://www.sautech.edu/aeta/schedule.aspx	AETA
Advanced Distribution	10/21/14	10/23/14	8:00 AM	West Fork	Wenzel Community Center, 222 Webber	ARWA
Intermediate Water Treatment	10/21/14	10/23/14	8:00 AM	Maumelle	Wastewater Plant Training Rm, 425 B Hyman Drive	AETA
Advanced Water Treatment	11/01/14	11/15/14	TBD	Internet	http://www.sautech.edu/aeta/schedule.aspx	AETA
Advanced Water Treatment	11/04/14	11/06/14	8:00 AM	Maumelle	Wastewater Plant Training Rm, 425 B Hyman Drive	AETA
Advanced Water Distribution	11/16/14	11/30/14	TBD	Internet	http://www.sautech.edu/aeta/schedule.aspx	AETA
Basic Water Treatment	11/18/14	11/20/14	8:00 AM	Fayetteville	Utilities Operations Center, 2435 S Industrial Dr	AETA
Advanced Treatment	11/18/14	11/20/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Applied Water Math	12/01/14	12/15/14	TBD	Internet	http://www.sautech.edu/aeta/schedule.aspx	AETA
Basic Water Math	12/01/14	12/15/14	TBD	Internet	http://www.sautech.edu/aeta/schedule.aspx	AETA
Basic Water Distribution	12/02/14	12/04/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA
Basic Math	12/09/14	12/09/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
ADH PWS Compliance	12/10/14	12/10/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ADH
Applied Math	12/11/14	12/11/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Advanced Distribution	12/16/14	12/18/14	8:00 AM	Lonoke	ARWA Training Facility, 240 Dee Dee Ln	ARWA
Intermediate Water Distribution	12/16/14	12/18/14	8:00 AM	Camden	AR Env Training Academy, 100 Carr Road	AETA

The most current Mandatory Training Schedule, including 2015 when available,
<http://www.healthy.arkansas.gov/eng/autoupdates/oper/mandtrngall.htm>

Computer Based Water License Exams

Computer-based Arkansas Water Operator License Examinations are available utilizing Applied Measurement Professionals (AMP) Assessment Centers (www.goamp.com). To utilize AMP, contact the Water Operator Licensing Program to start the process. To schedule an exam utilizing AMP, the License Program must be in receipt of the examinee's Water Operator License application, required License and Exam fees paid, and the mandatory training requirements documented as met.

This is an optional method of examination with an additional administration fee of \$64.00 per exam. This option allows scheduling exams with a large degree of flexibility as to day of the week (open Monday through Saturday) and time of day. The Licensing Program will arrange for AMP to contact the examinee. AMP will provide needed information and directions to schedule the computer-based exam. The AMP computer based exam administration fee of \$64.00 paid directly to AMP when the exam is scheduled. Scheduling takes 1-2 weeks of lead-time.

The exams are administered via computer terminals in an AMP Assessment Centers, they are not paper based. AMP provides a paper copy of the ABC exam formula sheet and scratch paper. A practice exam to become familiar with the computer process is available at the time of examination. The process is user friendly with the examination graded immediately after the exam conclusion. AMP furnishes the Licensing Program your exam results.

AMP has examination centers in Fayetteville, AR; Little Rock, AR; Memphis, TN; Jackson, MS; Shreveport, LA; Tulsa, OK; Springfield, MO; with other Centers throughout the nation. For additional site information, examination concepts, and examination procedures, see AMP's website, www.goamp.com. Under Candidates (exam taker), click/select "Get Started". I suggest you review the Arkansas handbook, view the "What To Expect" video, and review the "General Recommendations" before you "Schedule an Exam".

Major Monitoring, MCL, Treatment Technique, & Licensing Violations

Community & Nontransient Noncommunity Public Water Systems, April - June 2014

ASP MT MAGAZINE	DBPR 4, 5, 6	MAMMOTH SPRING WATERWORKS	Bmon 6
ASP MT MAGAZINE	Bmon 5	MENIFEE WATER DEPARTMENT	BMCL 6
BANKS WATERWORKS	PN 5	MONTGOMERY CO REGIONAL PWA	DBPR 4, 5, 6
BATTS-LAPILE WATER ASSOC	BMCL 6	MONTGOMERY CO REGIONAL PWA	BMCL 6
BEN LOMAND WATERWORKS	Bmon 5	MONTROSE WATERWORKS	BMCL 5, 6
BENTON COUNTY WA4	BMCL 5	NORTH CARBON CITY WA	Bmon 6
BEULAH GROVE WATER	DBPR 4, 5, 6	NORTH PULASKI PFB	BMCL 6
BEULAH GROVE WATER	PN 4, 5, 6	NORTHERN OHIO WATER ASSOC	PN 4, 6
BEULAH GROVE WATER	Bmon 4, 5, 6	NSC INTERNATIONAL	Bmon 6
BIGGERS WATERWORKS	BMCL 6	OAK GROVE WATER	Bmon 4
BLUE MOUNTAIN WATERWORKS	DBPR 4, 5, 6	OIL TROUGH WATERWORKS	BMCL 4
BODCAW RURAL WATER SYSTEM	DBPR 4, 5, 6	OIL TROUGH WATERWORKS	Bmon 5
BOYDELL WATER SYSTEM	BMCL 6	OLD BELLA VISTA POA	Bmon 6
BEUNA VISTA-OGEMAW WA	Bmon 6	PARKDALE WATERWORKS	BMCL 5
CALICO ROCK WATERWORKS	Tmon 4	PIKE CITY WATER ASSOC	PN 5
CASH WATERWORKS	PN 5	POTTSVILLE WATERWORKS	Bmon 4
CENTRAL ARKANSAS WATER	DBPR 4	PYATT WATERWORKS	Bmon 5
CENTRAL PUBLIC WATER AUTH	Bmon 5	QUINN WATERWORKS	BMCL 6
CONCORD WATER & SEWER PFB	Bmon 4	READLAND-GRANDLAKE WA	DBPR 4
CORNING WATEERWORKS	PN 4	RIVIERA UTILITIES	DBPR 4, 5, 6
CORNING WATERWORKS	Bmon 6	ROE WATERWORKS	Bmon 6
COTTON PLANT WATERWORKS	DBPR 4	STAR CITY WATERWORKS	BMCL4
COTTONWOOD WA	PN 5	STAR CITY WATERWORKS	Bmon 6
DEER RUN WATER COMPANY	BMCL 4, 6	SULPHUR SPRINGS WATERWORKS	Bmon 5
DEER RUN WATER COMPANY	DBPR 5	SULPHUR SPRINGS WATERWORKS	GWR 5
DEER RUN WATER COMPANY	Bmon 5	TUMBLING SHOALS WATER ASSOC	BMCL 6
DENNING WATERWORKS	Bmon 4	VILONIA WATERWORKS	BMCL 6
DENNING WATERWORKS	BMCL 5	WALKER WATER ASSOC	Bmon 5
DERMOTT WATERWORKS	PN 4	WALKERVILLE WATER ASSOC	BMCL 6
DERMOTT WATERWORKS	DBPR 4, 5	WARD MHP	PN 4, 5, 6
ELAINE WATERWORKS	DBPR 4, 5	WARD MHP	DBPR 4, 5
EUDORA WATERWORKS	DBPR 4	WATSON WATERWORKS	Bmon 4, 5
FELSENTHAL WATER AND SEWER	BMCL 5	WATSON WATERWORKS	BMCL 6
FELSENTHAL WATER AND SEWER	Bmon 6	WHELEN SPRINGS WATER DEPT	Bmon 5
FOUKE WATERWORKS	PN 4, 5, 6	WIDENER WATERWORKS	Bmon 5
FOUKE WATERWORKS	DBPR 4, 5	WIEDERKEHR VILLAGE WATER	Bmon 4
FOUKE WATERWORKS	Bmon 4, 5, 6	WIEDERKEHR VILLAGE WATER	PN 6
FOUNTAIN HILL WATERWORKS	DBPR 4, 5, 6	WIEDERKEHR VILLAGE WATER	DBPR 4, 5, 6
FREE HOPE WATER ASSOC	Bmon 5	YELLVILLE WATERWORKS	Bmon 6
GILMORE WATERWORKS	Bmon 5		
GURDON WATERWORKS	Bmon 5		
HERMITAGE WATERWORKS	DBPR 6		
HORSESHOE LAKE UTILITIES	BMCL 6		
HUMPHREY WATERWORKS	BMCL 4		
HUMPHREY WATERWORKS	Bmon 6		
JACKSONVILLE WATERWORKS	BMCL 5		
KELSO-ROHWER WATER ASSOC	Bmon 4		
KENSETT WATERWORKS	Bmon 5		
KNGWOOD MHP	BMCL 4		
LAURELWOOD HOA	BMCL 5, 6		

KEY: Bmon = Bacti Monitoring; BMCL = Bacti MCL; Dmon = Disinfection By Product Rule Monitoring; DBPR=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= Various SWTR requirements; Failure to Filter; RMCL = Radiochemical MCL; FMCL = Fluoride MCL; IMCL=Inorganic Chemical MCL; SMCL = Synthetic Chemical MCL; OperLic = Operator Licensing; 4 = April 2014, 5 = May. 2014, 6 =June 2014

Water Operator Licenses Issued

JUNE 1, 2014 THROUGH AUGUST 31, 2014

LICENSEE NAME	GRADE/TYPE	WATER SYSTEM NAME
AULT, ROGER	D - IV & T - IV	MALVERN WATERWORKS
BAGWELL, NICK	D - I	IMBODEN WATERWORKS
BAUGUS, SHANNON	D - I	KEISER WATERWORKS
		LITTLE RIVER WATER ASSOCIATION
BELLOT, MELISSA	D - III	LITTLE RIVER CO RDA
BOHANNON, CHARLES	D - IV & T - IV	CENTRAL ARKANSAS WATER
BREEDLOVE, MICHAEL	T - IV	MARION COUNTY REG WATER DIST
CALDWELL, LORIE	D - II	YORKTOWN WATER ASSOCIATION
CHRISMAN, ADAM	D - IV	CLARKSVILLE WATERWORKS
CRAFT, RICK	D - II	GENTRY WATERWORKS
DAVIS, CHRISTOPHER	D - III	MAGNOLIA WATERWORKS
DAVIS, MARTIN	D - II	BERGMAN WATERWORKS
DOHRMAN, MARK	D - II	COTTER WATERWORKS
DOWDY, MICHAEL	D - I	RECTOR WATERWORKS
FOUTCH, RANDALL	D - I	BUFFALO ISLAND REG WATER DIST
FRISBY, ERIC	D - I	Great Lakes Chemical South
GOODMAN, HENRY	T - IV	MOUNTAIN VIEW WATERWORKS
JACKSON, JUSTIN	D - III	FOUR MILE HILL WATER ASSOC
JONES, DUSTIN	T - II	CASS C C C
JONES, JESSIE	D - II	RIVERSOUTH RURAL WATER DIST
JONES, JOSHUA	D - III & T - III	MARION COUNTY REG WATER DIST
JONES, JUSTIN	D - II	JUDSONIA WATERWORKS
JONES, RUSTY	D - I	BOWSER WATER ASSN
LACE, BRAD	T - IV	CROSS COUNTY RURAL WATER SYS
LEWIS, JEREMY	D - III	WALNUT RIDGE WATERWORKS
LEWIS, JONATHAN	D - IV & T - IV	JONESBORO WATER SYSTEM
LEWIS, JUDY	D - II	BENTON COUNTY WATER AUTHORITY 4 & 5
LEWIS, STEVE	D - II	BENTON COUNTY WATER AUTHORITY 4 & 5
LIECHTY, STEPHANIE	T - IV	CENTRAL ARKANSAS WATER
LILES, JIMMY	T - IV	REDFIELD WATERWORKS
LOBBS, RICHARD	D - III	MOUNTAIN PINE WATERWORKS
LONG, TERRY	D - I	EUREKA SPRINGS WATERWORKS
LOWE, CODY	D - IV	VILONIA WATERWORKS
LUCAS, STEVEN	D - II	NEWPORT WATERWORKS
LUTZ, MARK	T - III	BEEBE WATERWORKS
MARTIN, MATTHEW	D - I & T - I	MARION COUNTY REG WATER DIST
MAYDEN, JOSH	D - IV	JACKSONVILLE WATERWORKS
MCJUNKIN, JEREMY	D - I	GENTRY WATERWORKS
PAGE, CLIFFORD	D - II	TAYLOR WATERWORKS
PATTERSON, JEFFREY	D - III	HWY 71 WATER DISTRICT #1 PWA
PENNEY, RONALD	D - III	CADDO VALLEY WATERWORKS
		CLARK CO COUNTRY WATER FACILITY BOARD
PISTONE, ANTHONY	D - II	BALD KNOB WATERWORKS
PITTS, GREGORY	T - II	GLENHAVEN YOUTH RANCH
PURIFOY, LOYLD	T - III	CARTHAGE WATER AND SEWER
		FORDYCE RURAL WATER ASSOC
		FORDYCE WATER CO
		OUTSIDE KINGSLAND WATER ASSOC

Water Operator Licenses Issued (continued)

JUNE 1, 2014 THROUGH AUGUST 31, 2014

RAMEY, LARRY	D - IV	FORT SMITH WATER UTILITIES
REED, CORY	D - I	GENTRY WATERWORKS
ROUGHTON, ANTHONY	D - I	CENTERTON WATERWORKS
ROWTON, MORGAN	T - II	ALEXA SPRINGS WATER COMPANY
SAYRE, RICK	D - IV	CAVE SPRINGS WATERWORKS
SEATON, TIMOTHY	T - I	COMMUNITY WATER SYSTEM
SHREWSBURY, CHASE	D - I	BATTS-LAPILE WATER ASSOCIATION
SIMON, WILLIAM	T - II	PARKIN WATERWORKS
SMITH, RICKY	T - IV	SILOAM SPRINGS WATERWORKS
SUTHERLAND, RICHARD	D - II	GRAVETTE WATERWORKS
TALLEY, THOMAS	D - IV	SPRINGDALE WATER UTILITIES
THOMPSON, TONYA	T - II	ST FRANCIS RIVER REG WATER DD
VANAMAN, CHARLES	D - II	PEA RIDGE WATERWORKS
VAUGHN, ASHLEY	D - I	CORNING WATERWORKS
WELLS, KEITH	D - IV & T - IV	JONESBORO WATER SYSTEM
WHITE, JAMES	D - II & T - II	DOVER WATERWORKS
WHITE, JOE	D - IV	CENTRAL ARKANSAS WATER
WILSON, PALERMO	D - III	HOPE WATER LIGHT COMM
WOODLE, DIANA	D - IV	SE WHITE COUNTY WATER ASSOC
YATES, JEFFERY	D - III	HOPE WATER LIGHT COMM

Water Exam Manuals Available Free

Systems eligible for manuals are all Community Public Water Systems or Non-Community Non-Transient Public Water Systems serving a retail population of fewer than 3300 persons. The manuals, see table below, are provided to the water system, not the individual operator.

A simple request to Water Operator Licensing Program by phone at (501) 661-2623 or email at ADH.Water.Licensing@arkansas.gov is all that is required to receive the manuals.

Reference Manuals Provided OpCert Grant Eligible Systems	Value
Water Treatment Plant Operation, Volume I, by CSU Sacramento*	\$49.00
Water Treatment Plant Operation, Volume II, by CSU Sacramento*	\$49.00
Water Distribution System Operation & Maintenance, by CSU Sacramento	\$49.00
Small Water System Operation and Maintenance, by CSU Sacramento	\$49.00
Manage For Success, by CSU Sacramento	\$49.00
Utility Management, by CSU Sacramento	\$29.00
Water System Security: A Field Guide by American Water Works Assn	\$65.00
Operator Certification Study Guide by American Water Works Association	\$59.00
Total Value of Set	\$398.00

* Manual provided if system is required to have treatment-licensed operators.

Return Service Requested

PRINTED ON RECYCLED PAPER

AWW&WEA District Meetings

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

DATE	TIME	CITY	LOCATION	SPONSOR
<u>October 2014</u>				
2	5:30 PM	Fort Smith	Golden Corral	Western District, AWW&WEA
2	5:00 PM	Benton	Brown's Country Restaurant	Central District, AWW&WEA
8	8:30 AM	Eureka Springs	Best Western Inn of the Ozarks	Northwest District, AWW&WEA
9	5:00 PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
9	5:00 PM	Pleasant Plains	Tadpole's Catfish Barn	North Central District, AWW&WEA
9	5:30 PM	West Memphis	West Memphis Water Office	Eastern District, AWW&WEA
16	12:30 PM	Lake City	Winwater	Northeast District, AWW&WEA
21	5:00 PM	Monticello	Western Sizzlin	Southeast District, AWW&WEA
23	6:00 PM	Magnolia	The Rails Restaurant	Southwest District, AWW&WEA
<u>November 2014</u>				
6	5:00 PM	TBA	TBA	Central District, AWW&WEA
6	6:00 PM	Fort Smith	Golden Corral	Western District, AWW&WEA
6	5:30 PM	Forrest City	Catfish Island	Eastern Central District, AWW&WEA
12	8:30 AM	Berryville	Berryville Community Center	Northwest District, AWW&WEA
13	5:30 PM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
13	5:00 PM	Pleasant Plains	Tadpole's Catfish Barn	North Central District, AWW&WEA
18	5:00 PM	Crossett	Country Vittles	Southeast District, AWW&WEA
20	12:30 PM	Jonesboro	Wild Hog	Northeast District, AWW&WEA
20	6:00 PM	Hope	UACCH-Hempstead Hall	Southwest District, AWW&WEA
<u>December 2014</u>				
4	5:00 PM	TBA	TBA	Central District, AWW&WEA
4	5:30 PM	Fort Smith	Columbus Acres, Picnic	Western District, AWW&WEA
10	8:30 AM	Fayetteville	Guest House Inn	Northwest District, AWW&WEA
11	8:30 AM	Russellville	Western Sizzlin	AR Valley District, AWW&WEA
11	5:00 PM	Pleasant Plains	Tadpole's Catfish Barn	North Central District, AWW&WEA
12	5:30 PM	Brinkley	TBA	Eastern District, AWW&WEA
16	5:00 PM	Monticello	Q&Y House	Southeast District, AWW&WEA
18	12:30 PM	Jonesboro	Ron's Catfish	Northeast District, AWW&WEA
<u>No December Meeting</u>				Southwest District, AWW&WEA