Greetings from the InAWWA Small Systems Committee, we hope that you have survived the cold weather and are looking forward to the spring and summer months! Welcome to the Spring/Summer edition of our newsletter. As we head towards warmer weather, the newsletter covers several topics that will help you get ready for the crazy days of summer. We hope you enjoy the material covered in this edition and find it useful for your daily operation. As you read our newsletter and think of topics you would like us to present in the future, do not hesitate to contact any committee member listed! Enjoy the newsletter and thank you for participating.

“Never doubt that a small group of thoughtful committed citizens can change the world; indeed, it's the only thing that ever has.” – Margaret Mead, Anthropologist.

WHAT’S UP WHAT’S NEW - IDEM

By Liz Melvin, IDEM Drinking Water Branch

There are personnel changes as usual. We have new staff in all sections this time. Sam Blazey has joined the Ground Water Section. Sam will be working on Wellhead Protection. Kari Maxwell has been promoted to Senior Environmental Manager in the Field Inspection Section. She was formerly with the Compliance Section. Kevin Gaughan has joined the Field Inspection Section in the Northwest Regional Office replacing Wendy Schafer. Wilfredo De La Rosa has joined the Compliance Section. Willie will be working with Total Coliform and Ground Water Rules compliance. Juliana Savia has joined the Operator Certification & Capacity Development Section. Julie will be working primarily with Capacity Development projects. She will also be helping with the operator certification exam project. I may have forgotten to mention a new addition to the Construction Permit Section. Kristine Taylor joined the section in September 2014. A complete list of staff by section is included in this issue. Also included are the latest county assignments for the Field Inspection Section.

We are going full steam ahead with the certification test project. The distribution questions have been turned over to IvyTech for review. Staff from IvyTech will help ensure the validity, reliability, and fairness of the exam questions. While that is being done, we are continuing work on the treatment questions. Our goal is to have the tests ready by the end of this year. We will have paper tests available this year as usual in May and November. We will no longer allow open books once we begin offering tests at IvyTech. Our wastewater counterparts have begun offering their tests at IvyTech. The program seems to be working well for them.

As you know the tests are traditionally given twice a year via paper and pencil in Indianapolis, Ivy Tech has computerized the exams will be making them available to qualified candidates on-demand. Staff from IvyTech will help ensure the validity, reliability, and fairness of the exam questions. While that is being done, we are continuing work on the treatment questions. Our goal is to have the tests ready by the end of this year. We will have paper tests available this year as usual in May and November. We will no longer allow open books once we begin offering tests at IvyTech. Our wastewater counterparts have begun offering their tests at IvyTech. The program seems to be working well for them.

As you know the tests are traditionally given twice a year via paper and pencil in Indianapolis, Ivy Tech has computerized the exams will be making them available to qualified candidates on-demand. The qualification process will not be different. It will begin with an application to IDEM. Upon receipt of an approval letter, the applicant can immediately schedule a computer-based test at any of Ivy Tech’s 28 Certification and Workforce Assessment testing centers across the state. Individuals will be able to obtain unofficial test results onsite and receive official notification and credentials from IDEM shortly thereafter.

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FYI FROM THE SECTION CHAIR

Winter is gone and new life is springing up all around us. Water is the key ingredient, not only to survive, but to sustain and flourish, as well. The American Water Works Association and the Indiana Section want you to get more out of your AWWA membership this year as we work together to tackle the challenges that lie ahead, most notably the replacement of our nation’s aging water infrastructure.

WIFIA is Born
In 2005, the seed was planted, and after years of hard work by AWWA and a consortium of other water-related associations and work groups, the “Water Infrastructure Finance and Innovation Act” was signed into law by President Obama in June 2014. WIFIA allows 49% of large projects over $20M to be paid back with low-interest government loans. This is great news; however, as is common with new legislation, some pruning was required. WIFIA prohibits tax-exempt financing for the remaining 51%. AWWA Water Utility Council(s) and Government Affairs Committee(s) were aware of this technicality and quickly developed a strategy to address it.

Just recently, I attended the AWWA 2015 Water Matters! Fly-In to join over 130 AWWA WUC and Government Affairs volunteers and staff from around the country to do just that. “Free WIFIA” was the catch phrase we used with Legislators to encourage the removal of the tax-exempt prohibition. After 2 days of intense meetings with respective leaders on Capitol Hill, we hope an amendment is approved to “Free WIFIA” and allow our members to tap into this vital financial tool. Stay tuned.

Looking Ahead
Districts are gearing up for Spring Meetings in all areas of the State. Check out the website for meeting information and plan to attend. www.inawwa.org/events/districts

Don’t forget our 108th Annual Conference at the Marriott Downtown in Indianapolis, Feb. 8-11, 2016. Chair-Elect John Seever and the Technical Program Committee-Dylan Lambermont Chair are looking to build another great and relevant educational program for 2016. Please plan to submit an abstract and attend the conference. Submittal information will be sent out soon.

Get involved and be grafted into AWWA. Your growth begins here.

BACKFLOW DEVICE TESTING—NEW STATE FORM
Mark Hancock, Chief; IDEM Drinking Water Branch Permit’s Section

Pursuant to 327 IAC 8-10-9(b), IDEM now has a State form for reporting backflow device test results. The new form is electronically fillable and available in both PDF and Word versions. The forms are available for download at IDEM’s Cross Connection Control website found at http://in.gov/idem/cleanwater/2384.htm.

As before, the completed form must be submitted to both the applicable public water system and to the customer within 30 days of the test being completed. The completed form must be used for any IDEM required (327 IAC 8-10) backflow device.

Old forms may continue to be used until July 1st of this year, after which the new form must be used.

Backflow testers and public water systems may generate your own electronic form as long as the content is consistent with the State form. The purpose of the form is to help standardize the type and amount of information needed to ensure that the backflow device has been tested properly and provide Indiana licensed backflow testers an option to submit completed tests to their customers and public water system officials electronically.

If you have any questions, please contact the State’s Cross Connection Control contact, Kristine Taylor at ktaylor1@idem.in.gov or (317) 234-7421.

Indiana Chapter Water Buffalos -- Indiana Rides

- Saturday, May 16, 2015 - begin from Utility Supply Company’s regional office in Peru, Indiana
- Saturday, September 26, 2015 - begin from Utility Supply Company’s regional office in Huntingburg, Indiana.

We don't care what you ride. All we care is that you do ride...and that you have a passion to help change the lives of those without access to safe drinking water. Proceeds to benefit Water For People.

For information on participating in the rides or sponsoring, please contact Jeff Peters at ipeters34@indy.rr.com
FINDING ENERGY COST SAVINGS FOR YOUR UTILITY

Performing an “Energy Audit” seems to have lost its luster recently. The decline in interest may be a result of plummeting gas prices or maybe because green marketers have recently (albeit unsuccessfully) encouraged people to save the Earth by procuring their services. Relating this to your utility, it has proven difficult to justify paying for an expensive Energy Audit, without any guarantee that the utility could afford to make actual improvements.

For whatever reasons, there seems to have been recent backlash on the concept of an Energy Audit. This article is designed to take a different approach, to simplify, and to provide a simple 3 or 4 step process that your utility can consider for a ‘Guaranteed Successful’ Energy Assessment in 2015.

First, management must commit to the idea. So before presenting the idea to Management, do your homework and gather as much information as possible about your potential energy savings projects and the associated benefits. It may help to provide examples of successful projects that are similar to yours, with estimated productivity gains and energy costs savings. This can be done using (free) software such as the Pump System Assessment Tool (PSAT), which helps municipal users assess the efficiency of pumping system operations, provides a valve friction loss calculator as well as many other technical functions. See the PSAT website at http://www.energy.gov/eere/amo/articles/pumping-system-assessment-tool to find qualified specialists, or you can explore the U.S. Office for Energy Efficiency Web site at: http://www.energy.gov/eere/amo/motor-systems.

It is vital that Management assemble a project team with a team-oriented attitude. The owner, operators, and consultant/contractor, must all be working together to insure the project’s success. If a specific portion of your system is found to be operating inefficiently, it must be recognized as an opportunity for improvement. Remember, you are all in this together!

The second phase is to perform a general evaluation of your energy bills. What is your total annual energy cost? Which specific equipment are the most costly to your utility, and which facility(s) should be evaluated?

For example, one typical Southern Indiana Town, population 6,700, spends around $160,000 in annual energy consumption. $97,600 (61%) of that comes from their waste water plant, $51,200 (32%) from the potable water plant, $9,600 (6%) comes from lift stations, and 1% from other municipal buildings and street lights. A larger Central Indiana City, with population over 47,000, spends around $300,000 per year on their supply and treatment of about 4 million gallon per day (mgd). On a much larger scale, especially with the new UV treatment requirements, another large

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NEWS FROM IDEM’S OFFICE OF WATER QUALITY COMPLIANCE BRANCH

The OWQ Compliance Branch wants to take this opportunity to let you know about a number of things that are happening:

Operator Certification: IVY Tech is ready for you!
You have probably already heard that IDEM has been working with Ivy Tech to administer the wastewater operator certification exams electronically. The good news is that service is now up and running and available to anyone who qualifies to sit for the exam. You will still need to submit an application to IDEM as you always have. IDEM will then send you an approval letter that will give you the option of going to Ivy Tech at your convenience rather than waiting for IDEM to schedule the test. When applying, please use the updated application form from our website at www.idem.in.gov/5088.htm. Once on this page click on “forms and applications” and look for our application form, which is number 47289.

After you receive your approval letter you can book a reservation on line at any of the 25 IVY Tech testing facilities around the state and take your exam whenever you are ready. Testing at IVY Tech is in a controlled environment, and is generally available six days per week and at various hours. Under this new arrangement, you will be informed of your score as soon as you complete your test, so you won’t have to worry for two weeks while you wait for your test results. There is a nominal fee of $30 to use the IVY Tech testing facilities in addition to the $30 IDEM application fee.

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WATER HAMMER: WHAT IS IT AND WHY SHOULD WE CARE?

One of the most common conditions within a distribution system is “Water Hammer.” There are several complex engineering explanations for water transients/hammer but simply put, water (fluid hammer) hammer is a pressure surge or wave that results when a fluid (water) is forced to stop or change direction suddenly (momentum change). Water hammer commonly occurs when a valve is closed suddenly within a pipeline system and a pressure wave propagates in the pipe. Water Hammer conditions occur most often during:

- Sudden Valve Closure (fire hydrants, power failure, etc.)
- Pump Failure
- Check Valve slam (due to sudden deceleration, a check valve may slam shut rapidly, depending upon the dynamic characteristic of the check valve and the mass of water between a check valve and tank).
- Rapid expulsion of air from a vent or partially open valve
- Unexpected pipe breaks or damage - construction damage, traffic accidents, ground shift
- Severe changed in elevation or grade

Distribution systems are exposed to water hammer and surge conditions and these two forces can result in excessive vibration within the system, fitting failure, displacement and pipe wall ruptures (i.e. breaks).

Pipe breaks within a distribution system occur for a variety of reasons: age, damage, corrosion, poor installation workmanship, incorrect product application and others. Frequent, inexplicable & unidentified causes of pipe breaks within a water distribution system is an indicator that forces within the pipe system are excessive and a threat to the infrastructure. Any one break is a random occurrence, but repetitive, reoccurring breaks suggests conditions within the pipe system are a danger and that actions should be taken to reduce or eliminate the risks.

Consider that each break in the system brings with it individual and multiple complications:

- Funds for manpower/materials for repair of existing system drains budget
- Loss of treated water
- Interruption of emergency, fire protection and medical services
- Residents do not like shutdowns, boil orders or street/driveway repairs
- Service reputation of municipality is compromised
- Erosion of subsurface soil base
- Exposure of contaminants to the potable system

Greater and deeper costs to water main breaks that utility managers must factor into the whole repair process from beginning to end:

- Leak detection and location
- Location of other utilities (time, manpower, expense)
- Historical locations and restoration (replacement of brick paved streets, landscaping, etc.)
- Main breaks during Holidays (manpower, overtime pay, out of service, etc.)
- Politically inconvenient locations (i.e. mayor’s home, council person business, high traffic/business area, elderly residents, critical care facilities, etc.)
- Workman injuries during main break repair (risk analysis of workman’s comp claims)
- Allowing for “hand dig” areas
- Rental of equipment necessary, or hire contractor to do the repair work
- Replacement of Cover (grass, asphalt, concrete)

The list of issues is endless along with the draining of the budget which postpones or eliminates planned improvements and can affect personnel salary/benefit increases (why we should care). Systems are best served by identifying problematic water hammer zones; developing & working a strategic plan for change and a proactive program of reduction and prevention of main breaks are the best solutions for water distribution systems and their reputation.
NEWS FROM IDEM’S OFFICE OF WATER QUALITY COMPLIANCE BRANCH
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Those who don’t pass the exam can reapply and sit for the exam again after 30 days rather than having to wait six months as in the past. When you pass the test, you should expect to get your new certificate much sooner than previously, and it will be retroactive to the date you passed the exam.

NetDMR
IDEM continues to promote NetDMR as a better way for you to submit your DMRs and MROs/MMRs. This free web-based application checks your DMR for missing data and violations before you submit it, avoiding many of the errors encountered when using the paper DMRs. You can submit your DMR and MRO or MMR, along with other reports such as the noncompliance report, all using the electronic signature that is part of your NetDMR account, without ever having to print, sign, or mail any paper.

As of the end of November, over 25% of Indiana NPDES and IWP permit holders are using NetDMR.

Proposed Federal eReporting Rule
In early December, EPA again published this rule in the Federal Register and asked for public comments. We are expecting the final rule to be issued about one year from now. Once the federal eReporting Rule becomes final, Phase 1 will require all NPDES holders to begin submitting their DMRs electronically within one year. IDEM is working to get permittees enrolled in NetDMR now to avoid the rush. Of course, IDEM thinks there are other really good reasons to enroll in NetDMR now, including the ease in submitting documents without the need to print, sign and mail them.

Phase 2 of the proposed Rule will require all other reports to be submitted electronically within two years of the effective date. These reports include pretreatment annual reports, sludge reports, SSO/bypass/overflow reports, biomonitoring reports, NOIs and NOTs for general permits and any other report that you now submit on paper. IDEM, EPA and other states are currently in discussion about Phase 2 implementation requirements.

New IDEM MRO/MMR forms
We have developed a set of new MRO and MMR forms to be submitted along with DMRs. These new MROs and MMRs replace the old versions, and should be submitted with the January 2015 DMRs. The new forms can be found at [http://www.idem.in.gov/S104.htm](http://www.idem.in.gov/S104.htm).

By using NetDMR to submit your NPDES DMR data each month, you no longer need to hand-sign the MRO/MMR forms. When using NetDMR, enter/key the appropriate names on both the signature blanks on the new MRO/MMR forms, save as a “pdf” document (name it correctly), attach it to the NetDMR form and submit it.

Bypass/Overflow/SSO reports
We want everyone to know that we consider it very important that all bypass/overflow and SSO events are reported to IDEM. Please use the April 2013 version of form 48373, and please submit them as an e-mail attachment to wwereports@idem.in.gov rather than sending them by fax.

For More Information
Questions about NetDMR can be sent by e-mail to IDEM at NetDMR@idem.in.gov, or by calling Rose McDaniel at (317) 233-2653. You may call Rebecca McMonigle with questions about wastewater certification at (317) 232-8791. You may call Tonja Fuller-White with questions about wastewater operator continuing education at (317) 233-0479.

HURTY AWARDS

Recognize your utility employees with 25 years, or more, of service in the industry. Deadline for nominations is June 1, 2015. Awards to be presented at the InAWWA Fall District Meetings.

Contact the InAWWA Hurty Awards Committee Chair - Jeff Peters -- at jpeters34@indy.rr.com
**Groundwater Studies**

- **Wellhead Protection**
  - Heather Foxx: 317-234-7478
  - Alex Riddle: 317-234-5025

- **Hoosier Water Guardian Program**
  - Heather Foxx: 317-234-7478

- **Ground Water Quality Standards**
  - Jim Sullivan: 317-234-7476

- **Private Well Complaints / Ground Water Quality Concerns**
  - Jim Harris: 317-234-1221

- **Field Geology / Network and Basin Ground Water Studies**
  - Jim Harris: 317-234-1221
  - Alex Riddle: 317-234-5025
  - Kevin Spindler: 317-234-3243

- **PWSS Well Location / Wellhead Proximity Determination**
  - Alex Riddle: 317-234-5025
  - Heather Foxx: 317-234-7478

- **Chemistry Lab**
  - Mitt Denney: 317-234-0314

- **Source Water Assessments**
  - Alex Riddle: 317-234-5025
  - Kevin Spindler: 317-234-3243

**Capacity Development Section**

- **Operator Certification Program/Registered Backflow Testers**
  - Ruby Keslar: 317-234-7431
  - Denny Henderson: 317-234-7429
  - Phil Hiestand: 317-234-7428
  - Judy Sullivan: 317-234-7427

- **Capacity Development**
  - Phil Hiestand: 317-234-7428
  - Alex Powers: 317-234-7433
  - Adam Watts: 317-234-7426

- **Cross Connection Control Program**
  - Phil Hiestand: 317-234-7428

**Construction Permits Section**

- **Construction Permits**
  - Marc Hancock, Sect. Chief: 317-234-7434
  - Jacki Holland, AA: 317-234-7425
  - FAX: 317-234-8106

- **Cross Connection Control Program**
  - Arnold Bockrand: 317-234-7419
  - Lance Mabry: 317-234-7423
  - Heidi Nassiri: 317-234-7422

**Compliance Section**

- **Total Coliform Rule (TCR), Groundwater Rule (GWR)**
  - Sandra DeCastro: 317-234-7444
  - Ceazar Natividad: 317-234-7446
  - Kari Maxwell: 317-234-7456

- **Nitrate/Nitrite, SOCs, VOCs, Lead and Copper, Waiver Package, Radionuclides, IOCs, Disinfectants & Disinfection By-Products Rule (DBPR), Consumer Confidence Report (CCR)**
  - Stacy Jones: 317-234-7454
  - David Forsee: 317-234-7442
  - Peter Poon: 317-234-7441
  - Dennis Pace: 317-234-7440
  - Matthew Prater: 317-234-7437

- **Interim Enhanced Surface Water Treatment Rule (IESWTR), Surface Water Treatment Rule (SWTR)**
  - Yasser Elkhadib: 317-234-7451

- **System Inventory and New System Notification**
  - Sara Pierson: 317-234-7452
  - Casey Davidson: 317-234-7443
  - Sandra DeCastro: 317-234-7444

- **VFC (Virtual File Cabinet)**
  - Susie Fulford: 317-234-7435
  - Casey Davidson: 317-234-7443

- **Database Maintenance, SDWIS, Data Requests**
  - Wayne Wang: 317-234-7455
  - Sara Pierson: 317-234-7452
  - Matthew Prater: 317-234-7437
WHAT'S UP WHAT'S NEW (continued)

(Continued from page 1)

Reminding you again, the Revised Total Coliform Rule (RTCR) will go into effect April 1, 2016. The RTCR applies to all public water systems (PWS). The general description of the rule as provided by EPA states: “The RTCR establishes a maximum contaminant level (MCL) for E. coli and uses E. coli and total coliforms to initiate a “find and fix” approach to address fecal contamination that could enter into the distribution system. It requires PWSs to perform assessments to identify sanitary defects and subsequently take action to correct them.” PWSs must develop a written sample siting plan that identifies the system’s sample collection schedule and all sample sites, including sites for routine and repeat monitoring before April 1, 2016. Total coliform (TC) samples must be collected by PWSs at sites which are representative of water quality throughout the distribution system according to the written site plan. For PWSs collecting more than one sample per month, they must collect the total coliform samples at regular intervals throughout the month (exam hint). Within 24 hours of learning of a TC+ routing sample result, at least 3 repeat samples must be collected. One repeat sample must be collected from the original tap, one repeat sample must be collected from within five service connections upstream and one repeat sample must be collected from within five service connections downstream. If one or more repeat samples are TC+ the PWS must collect another set of repeat samples, unless an assessment has been triggered and the PWES has notified the state. While the TCR was silent on the subject, the RTCR specifically allows dedicated sampling stations as sites for collecting coliform samples.

The RTCR requires PWSs that have an indication of coliform contamination to assess the problem and take corrective action. There are two levels of assessments (i.e., Level 1 and Level 2) based on the severity or frequency of the problem. The purpose of the assessments is to find sanitary defects at the PWS including sanitary defects that could provide a pathway of entry for microbial contamination, or sanitary defects that indicate failure (existing or potential) of protective barriers against microbial contamination. When sanitary defects are identified during a Level 1 or a Level 2 assessment, they should be corrected as soon as possible to protect public health. The PWS must complete corrective actions no later than the time the assessment form is submitted to the state, which must be within 30 days of triggering the assessment or within state-approved timeframe which was proposed in the assessment form.

We are still developing plans as to who may perform Level 1 and Level 2 Assessments. For a Level 1 Assessment it may be that the owner or operator performs the assessment. A level 2 Assessment may be performed by the state or a state approved entity each time a Level 2 Assessment is triggered. The PWS is responsible for ensuring that the Level 2 Assessment is conducted regardless of the entity conducting the Level 2 Assessment.

A level 1 Assessment is triggered if any one of the following occurs: A PWS collecting fewer than 40 samples per month has 2 or ore TC+ routine/repeat samples in the same month. A PWS collecting at least 40 samples per month has greater than 5.0 percent of the routine/repeat samples in the same month that are TC+. A PWS fails to take every required repeat sample after any single TC+ sample. A Level 2 Assessment is triggered if any one of the following occurs: A PWS incurs an E. coli MCL violation. A PWS has a second Level 1 Assessment within a rolling 12 month period.

Some key points to keep in mind: Find and correct sanitary defects as soon as you become aware of them. This can reduce E. coli MCL violations which trigger a Level 2 Assessment. This can help reduce TC+ samples results, which may trigger a Level 1 Assessment. Make sure to collect all routine and repeat samples as required. Timely and correct monitoring can help reduce triggering a Level 1 or Level 2 Assessment because failure to conduct repeating monitoring triggers a Level 1 Assessment. Two Level 1 Assessments within a rolling 12 month period triggers a Level 2 Assessment.

This information presented above is straight from EPA guidance. Indiana will adopt rules to comply with EPA requirements.

On another note, the EPA, and by extension Indiana, has drinking water regulations for more than 90 contaminants. To assess and address risks posed by unregulated contaminants, the EPA, in accordance with the Safe Drinking Water Act (SDWA), identifies a list of contaminants which may require regulation in the future. The SDWA directs EPA to publish a Contaminant Candidate List (CCL) at least five every 5 years. The EPA determines whether we should regulate any or all of at least five contaminants in drinking water with a national primary drinking water regulation. From the latest list of five (published in October 2009), EPA is making preliminary determinations to regulate strontium in drinking water and to not regulate four contaminants, dimethoate, 1,3-dinitrobenzene, terfubos, and terbfos sulfone. EPA is currently evaluating any public comments prior to making the final regulatory determinations in 2015. Strontium replaces calcium in bone, affecting skeletal development. As a result, although strontium affects all life states, infants, children, and adolescents are of particular concern as a sensitive population because their bones are developing. Strontium occurs naturally and is abundant in the environment. Strontium has been detected in 99% of PWSs and at levels of concern in 7% of PWSs in the country. For more information you may visit the EPA website at: http://water.epa.gov/scitech/drinkingwater/dws/ccl/ccl3.cfm.

Feel free to contact me at lmelvin@idem.in.gov or at 317/234-7418 with questions or concerns. Please don’t hesitate to call. We will do our best to help you through issues or problems you may experience.
(surface water treatment) utility spends more than $1,000,000 annually on potable water treatment, with their wastewater bills much more than that.

Learn everything you can about your billing structure. It is often very complicated with the different power providers offering different tariff rate structures; however, your knowledge of where your costs originate and how they break down will have a significant influence on your ability to actually save money.

Once the right team is assembled and the mission is clear, Phase 3 involves finding ways to operate your existing system better and more efficiently than you currently do. Evaluating operational improvements is a great way to spend nothing on your existing system, but get something in return.

For example, when evaluating his water bill at the Fort Ben. Water Treatment Plant, Claude Jones, Water Treatment Manager from the City of Lawrence Utilities, found that when running his #3 (75 Hp) VFD-driven HSP, his monthly energy cost was $56.77 per million gallons pumped.

After having the individual pumps tested in his Annual Performance Tests, it was determined that the High Service Pump (HSP) #3 pump was operating less efficiently than the other 2 units. With that in mind, Mr. Jones theorized that by operating without HSP #3, significant savings may be realized and so he changed his pump sequencing for the following month prior to reevaluating his power consumption.

As anticipated, when operating the smaller #1 (60 hp) pump at full speed (60 hz) with the #2 (also 75 hp) pump at a lower speed (49 hz), energy costs declined to $29.45 per million gallons, providing savings of 48% over the previous month! The City of Lawrence’s monthly energy cost was reduced by $643 by running the smaller, slower, and more efficient equipment. Two years later, the acquired energy savings helped pay for a rebuild of the less efficient (#3) pumping equipment and insured all of their pumps were operating in their peak condition.

Another common, simple, and “free” operational improvement stems from better understanding the effect of the Peak Demand Charge on your energy bill, sometimes called “Peak Shaving”. For example, often a power utility will only have demand charges between 6AM and 6PM. So by shifting the time of day that you turn on your pumps, from 6:30AM to 5:45AM, you may completely eliminate that inrush current from your peak demand charges.

Better yet, if you have enough water tower storage, you may be able to eliminate certain major equipment from those demand periods by running only at night. Often these operational changes can be programmed into your existing SCADA/PLC, so the more efficient operations will remain automatic for ease of operations.

If you already have invested in the latest-greatest-and highest efficiency-- pumps, motors, blowers, valves, Power Factor correction systems, or VFDs; please note that there are lot of people reading this who currently drive their “Luxury Hybrid” like it’s a Derby Car. You have to know how to operate the equipment efficiently in order to maximize its value.

Assuming your “Phase 3” operations are perfect as-is, additional energy saving opportunities may require investments in equipment modifications or system improvements, which can be evaluated in “Phase 4”.

For example, surprisingly common in our industry is that folks continue to operate their pumping equipment at one constant speed or flow condition through a partly-open or throttled isolation or control valve. This is the low-hanging fruit where Variable Frequency/Speed Drives (VFD/VSD) provide very significant cost savings. A VFD allows you to fully open the throttled valve and then adjust the speed of the pumping equipment to insure no more friction pressure is wasted over that valve and into your system. The energy savings provided when operated at a lower speed can be astounding. To calculate the costs of friction through your valves, see the PSAT valve tool at the link mentioned above.

In summary, spending $100’s of dollars on new light bulbs can save you 60-70% of your already low cost to run those light bulbs. However, a financially rewarding “Energy Assessment” finds a mere 5-10% savings on the $30,000-$100,000 (or much more) that you probably didn’t even know you were spending on your motors and pumping equipment; and often it can be done with minimal capital expense.

For more information on how to operate your system more efficiently, feel free to contact Eric.Williams@PeerlessMidwest.com or Mr. Claude Jones at CJones@CityofLawrence.org
FINDING ENERGY COST SAVINGS FOR YOUR UTILITY

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Another common, simple, and “free” operational improvement stems from better understanding the effect of the Peak Demand Charge on your energy bill, sometimes called “Peak Shaving”. For example, often a power utility will only have demand charges between 6AM and 6PM. So by shifting the time of day that you turn on your pumps, from 6:30AM to 5:45AM, you may completely eliminate that inrush current from your peak demand charges.

Better yet, if you have enough water tower storage, you may be able to eliminate certain major equipment from those demand periods by running only at night. Often these operational changes can be programmed into your existing SCADA/PLC, so the more efficient operations will remain automatic for ease of operations.

If you already have invested in the latest-greatest-and highest efficiency-- pumps, motors, blowers, valves, Power Factor correction systems, or VFDs; please note that there are lot of people reading this who currently drive their “Luxury Hybrid” like it’s a Derby Car. You have to know how to operate the equipment efficiently in order to maximize its value.

Assuming your “Phase 3” operations are perfect as-is, additional energy saving opportunities may require investments in equipment modifications or system improvements, which can be evaluated in “Phase 4”.

For example, surprisingly common in our industry is that folks continue to operate their pumping equipment at one constant speed or flow condition through a partly-open or throttled isolation or control valve. This is the low-hanging fruit where Variable Frequency/Speed Drives (VFD/VSD) provide very significant cost savings. A VFD allows you to fully open the throttled valve and then adjust the speed of the pumping equipment to insure no more friction pressure is wasted over that valve and into your system. The energy savings provided when operated at a lower speed can be astounding. To calculate the costs of friction through your valves, see the PSAT valve tool at the link mentioned above.

In summary, spending $100’s of dollars on new light bulbs can save you 60-70% of your already low cost to run those light bulbs. However, a financially rewarding “Energy Assessment” finds a mere 5-10% savings on the $30,000-$100,000 (or much more) that you probably didn’t even know you were spending on your motors and pumping equipment; and often it can be done with minimal capital expense.

For more information on how to operate your system more efficiently, feel free to contact Eric.Williams@PeerlessMidwest.com or Mr. Claude Jones at CJones@CityofLawrence.org

---

OWL Wastewater Inspector Areas
October 2014

Regional Office Boundary

1. Nick Ream (219) 484-0233 nream@idem.in.gov
2. Jason Palin (317) 589-0007 jpalin@idem.in.gov
3. Lynn Raisor (317) 691-0099 lraisor@idem.in.gov
4. Keith Condra (812) 582-0086 kcondra@idem.in.gov
5. Scot Smith (317) 650-5122 ssmith@idem.in.gov
6. Aaron Deeter (317) 691-1915 adeeter@idem.in.gov
7. Eddy Depository (219) 314-1082 edepository@idem.in.gov
8. Rex Counterman (317) 691-1914 rcounterman@idem.in.gov
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10. Becky Ruark (317) 691-1509 bruark@idem.in.gov
11. Kim Rohr (317) 719-1666 krohr@idem.in.gov
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Section Chief
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Compliance Branch Chief
Mark Stanifer
Cell (317) 753-2828
Office (317) 232-8421
mstanifer@idem.in.gov

Operator Assistance
David Denman (317) 696-2153
ddenman@idem.in.gov
Jeff Ewlik, Compliance Branch E7 (317) 233-0678
Indiana Department of Environmental Management
Office of Water Quality - Compliance Section

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Non Orthophotography Data
- Obtained from the State of Indiana Geographical Information Office (GIO) Library
Map Projection: UTM Zone 16 N
Map Datum: NAD83
**BENEFITS OF LARGE METER TESTING**

*By Matt Brown, M.E. Simpson Company, Inc.*

1. **Increased Revenues**
   Accurate meters insure that the utility is receiving the revenue it deserves.

2. **Improved Accountability**
   After meters are repaired or replaced, the difference between the amount of water produced and the amount of water sold will decrease.

3. **Customer Service**
   Accurate meters insure that the cost of operating the utility is spread fairly and equitably among all customers.

   *Where do we start?*

4. **Test all plant or production meters**
   Test all plant or production meters annually to determine the true volume of water being introduced into the distribution system.

5. **Inspect all large commercial and industrial meters**
   Inspect all large commercial and industrial meters; note changes necessary to make each meter testable.

6. **Test large commercial and industrial meters**
   Test all large commercial and industrial meters in the system as part of an ongoing maintenance program. Test new meters within six months of installation.

7. **Repair meters**
   Repair all current model meters that fail to test within AWWA accuracy limits.

8. **Replace obsolete meters**
   Replace obsolete meters after determining proper meter type and size.

9. **Review consumption history**
   Review six months post-test consumption history and calculate average monthly revenue.

10. **Determine your requirements for annual testing**
    Establish a testing schedule after determining what percentage of revenue should be reserved for meter testing.

11. **Follow through**
    Once you have established your testing schedule, stick to it!

**Large Meter Testing Summary**

- A percentage of revenue should be reserved for meter testing.
- Meter testing should be performed as on-going maintenance.
- An annual testing program will insure that revenues stay up.
- Test meters within 6 months of installation.
## IDEM INSPECTOR COUNTY ASSIGNMENTS

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<th>INSPECTOR</th>
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All surface water systems Paul Mahoney  
8/25/2014
WATER RESOURCES AND SCARCITY IN INDIANA

“Water, Water, Everywhere? Not! — A Study of Water Resources and Scarcity in Indiana” was a presentation given by Vince Griffin who is the vice president in charge of Energy and Environmental Policy of the Indiana Chamber of Commerce.

Why water study? Griffin said that water is essential for our state’s economic development to keep business, grow business and attract business.

Indiana presently has no plan for its water future. There are water challenges from Central Indiana to the Ohio River. We need to identify:

(1) Where is the water?
(2) Who needs the water?; and
(3) How to get the water to where it is needed.

Griffin said there is a need for strong leadership in this area, and a clear and concise plan needs to be developed outside of a crisis-initiated scenario.

Mr. Griffin shared the Indiana Chamber Vision 2025 Water Plan Statement. “Traditional thinking should be challenged as it is essential to preserve and protect this valuable resource and recognize that national and global competition requires broader cooperation across the state. Communities must work together to utilize Indiana’s advantage and realize potential economic growth. The result of narrow, local planning is that resource sharing and economies of scale are missed. Indiana must rethink the way it plans, regulates and utilizes its water resources.”

MARK YOUR CALENDARS (continued)

(Continued from page 16)

June, 2015 – Water Buffalos – Ride With Purpose To Benefit Water For People – Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org
Note: Sponsorship deadline May 1, 2015

June 8 – 11, 2015 – AWWA Annual Conference and Exposition (ACE’15) – Aneheim, California. Contact: www.awwa.org

June 25, 2015 – Indiana Rural Water Association – Operator Symposium South – Utility Supply Co.; Huntingburg, Indiana. Contact: MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

July 25, 2015 – Sunset Cruise in Syracuse To Benefit Water For People – Syracuse, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

July 29, 2015 – InAWWA Annual Golf Outing (to benefit Water For People) – Indianapolis, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

August 5, 2015 – IRWA / InAWWA Operator Boot Camp North – Miami County Fairgrounds; Peru, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

August 19, 2015 – IRWA / InAWWA Operator Boot Camp South – Jackson County Water Corp.; Brownstown, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

August 22, 2015 – Run For World Water 5k To Benefit Water For People – 9:00am Start Time -- National Institute For Fitness and Sport; 250 University Boulevard; Indianapolis, Indiana. Contact: www.indianawea.org/5K or laoliver66@gmail.com. Facebook: /RUNFORWORLDWATER

August 24, 2015 – Wastewater Treatment Plant Operator Certification Examination Application submission must be postmarked by this date. The application can be downloaded from IDEM’s website at http://www.in.gov/icpr/webfile/formsdiv/47289.pdf. The Wastewater Treatment Plant Operator Certification Examination will be given October 8, 2015. Contact: Rebecca McMonigle, IDEM, 317-232-8791, rmcmonig@idem.in.gov

August 25, 2015 – Indiana Street Commissioners Association – 2015 Annual Conference – Indianapolis, Indiana. Contact: Larry Lee at 765-482-8870 or llee@cityoflebanon.org, or visit the ISCA website at www.indianastreets.org/
**Revised Total Coliform Rule: A Quick Reference Guide**

**Overview of the Rule**

<table>
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<tr>
<th>Title</th>
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<tr>
<td>78 FR 10,269, February 13, 2013, Vol. 78, No. 30</td>
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**Purpose**

Increase public health protection through the reduction of potential pathways of entry for fecal contamination into distribution systems.

**General Description**

The RTCR establishes a maximum contaminant level (MCL) for *E. coli* and uses *E. coli* and total coliforms to initiate a “find and fix” approach to address fecal contamination that could enter into the distribution system. It requires public water systems (PWSs) to perform assessments to identify sanitary defects and subsequently take action to correct them.

**Utilities Covered**

The RTCR applies to all PWSs.

---

**Public Health Benefits**

Implementation of the RTCR will result in:

- Decrease in the pathways by which fecal contamination can enter the drinking water distribution system.
- Reduction in fecal contamination should reduce the potential risk from all waterborne pathogens including bacteria, viruses, parasitic protozoa, and their associated illnesses.

---

**Critical Deadlines and Requirements**

**For Public Water Systems**

<table>
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<tr>
<th>Before</th>
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<td>PWSs must develop a written sample siting plan that identifies the system’s sample collection schedule and all sample sites, including sites for routine and repeat monitoring.</td>
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<tr>
<td>PWSs must monitor quarterly or annually and also identify additional routine monitoring sites in their sample siting plans.</td>
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<td>Sample siting plans are subject to state review and revision.</td>
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<tr>
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<td>PWSs must comply with the RTCR requirements unless the state selects an earlier implementation date.</td>
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**For State Drinking Water Agencies**

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<td>State submits final primary program revision package to the EPA Region, including:</td>
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<td>Adopted State Regulations.</td>
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<td>Regulation Crosswalk.</td>
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<td>40 CFR 142.10 Primary Update Checklist.</td>
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<td>40 CFR 142.14 and 142.15 Reporting and Recordkeeping.</td>
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<td>40 CFR 142.16 Special Primary Requirements.</td>
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<td>Attorney General’s Enforcement Certification.</td>
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**NOTE:** EPA regulations allow states until February 13, 2015, for this submittal. An extension of up to 2 years may be requested by the state.

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<td>State must submit a primary program revision extension request if it does not plan to submit the final primary program revision package by February 13, 2016. The state extension request is submitted to the EPA Region including all of the information required in 40 CFR 142.12(b):</td>
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<td>Aschedule (not to exceed 2 years) for the submission of the final primary program revision package.</td>
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<td>Justification that meets the federal requirements for an extension request.</td>
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<tr>
<td>Confirmation that the state is implementing the RTCR within its scope of its current authorities and capabilities.</td>
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<td>An approved workload agreement with the EPA Region.</td>
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<td>For states with an approved extension, submit completed and final program revision package by the agreed upon extension date.</td>
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**What are the Major Provisions?**

**Routine Sampling Requirements**

- Total coliform samples must be collected by PWSs at sites which are representative of water quality through out the distribution system according to a written sample siting plan subject to state review and revision.

- For PWSs collecting more than one sample per month, collect total coliform samples at regular intervals throughout the month, except that ground water systems serving 4,900 or fewer people may collect all required samples on a single day if the samples are taken from different sites.
Routine Sampling Requirements (cont.)

- Each total coliform-positive (TC+) routine sample must be tested for the presence of E. coli.
- If any TC+ sample is also E. coli-positive (EC+), then the EC+ sample result must be reported to the state by the end of the day that the PWS is notified.
- If any routine sample is TC+, repeat samples are required.
  - PWS on quarterly or annual monitoring must take a minimum of three additional routine samples (known as additional routine monitoring) the month following a TC+ routine or repeat sample.
- Reduced monitoring may be available for PWSs using only ground water and serving 1,000 or fewer persons that meet certain additional PWS criteria.

Repeat Sampling Requirements

Within 24 hours of learning of a TC+ routine sample result, at least 3 repeat samples must be collected and analyzed for total coliform:

- One repeat sample must be collected from the same tap as the original sample.
- One repeat sample must be collected from within five service connections upstream.
- One repeat sample must be collected from within five service connections downstream.
- The PWS may propose alternative repeat monitoring locations that are expected to better represent pathways of contamination into the distribution system.

If one or more repeat sample is TC+:

- The TC+ sample must be analyzed for the presence of E. coli.
- If any repeat TC+ sample is also EC+, then the EC+ sample result must be reported to the state by the end of the day that the PWS is notified.
- The PWS must collect another set of repeat samples, unless an assessment has been triggered and the PWS has notified the state.

Assessments and Corrective Action

The RTCD requires PWSs that have an indication of coliform contamination (e.g., as a result of TC+ samples, E. coli MCL violations, performance failure) to assess the problem and take corrective action. There are two levels of assessments (i.e., Level 1 and Level 2) based on the severity or frequency of the problem.

Purpose of Level 1 and Level 2 Assessments

To find sanitary defects at the PWS including:
- Sanitary defects that could provide a pathway for entry for microbial contamination, or
- Sanitary defects that indicate failure (existing or potential) of protective barriers against microbial contamination.

Guidance on how to conduct Level 1 and Level 2 Assessments and how to correct sanitary defects found during the Assessments can be found at: http://water.epa.gov offices/health/s8regulators/assessment_regulations.cfm

Deadline for Completing Corrective Actions

When sanitary defects are identified during a Level 1 or Level 2 Assessment, they should be corrected as soon as possible to protect public health. The PWS must complete corrective actions by one of the following timeframes:
- No later than the time the assessment form is submitted to the state, which must be within 30 days of triggering the assessment, or
- Within state-approved timeframe which was proposed in the assessment form.

Level 1 Assessments

Conducting Level 1 Assessments

- Performed by the PWS owner or operator each time a Level 1 Assessment is triggered.
- Upon trigger of a Level 1 Assessment, the Level 1 Assessment form must be submitted within 30 days to the state.

Level 1 Assessment Triggers

Level 1 Assessment is triggered if any of the following occurs:
- A PWS collecting fewer than 40 samples per month has 2 or more TC+ routine/repeat samples in the same month.
- A PWS collecting at least 40 samples per month has greater than 50 percent of the routine/repeat samples in the same month that are TC+.
- A PWS fails to take every required repeat sample after any single TC+ sample.

Level 2 Assessments

Conducting Level 2 Assessments

- Performed by the state or state-approved entity each time a Level 2 Assessment is triggered.
- The PWS is responsible for ensuring that the Level 2 Assessment is conducted regardless of the entity conducting the Level 2 Assessment.
- Upon trigger of a Level 2 Assessment, the Level 2 Assessment form must be submitted within 30 days to the state.

Level 2 Assessment Triggers

Level 2 Assessment is triggered if any of the following occurs:
- A PWS incurs an E. coli MCL violation.
- A PWS has a second Level 1 Assessment within a rolling 12-month period.
- A PWS on state-approved annual monitoring has a Level 1 Assessment trigger in 2 consecutive years.
### Seasonal System Provisions

The RTCR defines seasonal systems and specifies additional requirements for these types of PWSs:
- A seasonal system is defined as a non-community water system that is not operated as a PWS on a year-round basis and starts up and shuts down at the beginning and end of each operating season.

### Start-up Procedures for Seasonal Systems

At the beginning of each operating period, before serving water to the public, seasonal water systems must:
- Conduct state-approved start-up procedures.
- Certify completion of state-approved start-up procedures.
- An exemption from conducting state-approved start-up procedures may be available for seasonal systems that maintain pressure throughout the distribution system during non-operating periods.

Examples of state-approved start-up procedures, which need to be completed prior to serving water to the public, may include one or more of the following:
- Disinfection.
- Distribution system flushing.
- Sampling for total coliform and E. coli.
- Site visit by state.
- Verification that any current or historical sanitary defects have been corrected.

### Routine Monitoring for Seasonal Systems

- The baseline monitoring frequency for seasonal systems is monthly.
- A reduced monitoring frequency may be available for seasonal systems that use ground water only and serve fewer than 1,000 persons.

### Other Provisions for the State Drinking Water Agency

#### Special Monitoring Evaluation

The state must perform a special monitoring evaluation at all ground water systems serving 1,000 or fewer persons during each sanitary survey to review the status of the PWS and to determine whether the sample sizes and monitoring schedule need to be modified.

### Major Violations

A PWS will receive an E. coli MCL violation when there is any combination of an EC+ sample result with a routine/repeat at TC+ or EC+ sample result:

<table>
<thead>
<tr>
<th>E. coli MCL Violation Occurs with the Following Sample Result Combination</th>
<th>Routine</th>
<th>Repeat</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC+</td>
<td>TC+</td>
<td></td>
</tr>
<tr>
<td>EC+</td>
<td>Any missing sample</td>
<td></td>
</tr>
<tr>
<td>EC+</td>
<td>EC+</td>
<td></td>
</tr>
<tr>
<td>TC+</td>
<td>EC+</td>
<td></td>
</tr>
<tr>
<td>TC+</td>
<td>TC+ (but no E. coli/analysis)</td>
<td></td>
</tr>
</tbody>
</table>

#### Treatment Technique Violation

A PWS will receive a Treatment Technique violation when any of the following occur:
- Failure to conduct a Level 1 or Level 2 Assessment within 30 days of a trigger.
- Failure to correct all sanitary defects from a Level 1 or Level 2 Assessment within the state-approved timeframe.
- Failure of a seasonal system to complete state-approved start-up procedures prior to serving water to the public.

### Key Points for Public Water Systems to Remember

Find and correct sanitary defects as soon as you become aware of them.
- This can help reduce E. coli/MCL violations, which trigger a Level 2 Assessment.
- This can help reduce TC+ sample results, which may trigger a Level 1 Assessment.

Make sure to collect all routine and repeat samples as required.
- Timely and correct monitoring can help reduce triggering a Level 1 or Level 2 Assessment because:
  - Failure to conduct repeat monitoring triggers a Level 1 Assessment.
  - A Level 1 Assessment triggered twice within a certain timeframe triggers a Level 2 Assessment.
May 6, 2015 – InAWWA Southwest District Meeting – Montgomery, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

May 7, 2015 – Water Works Operator Certification Exam. Application submission must have been postmarked by March 23, 2015. Contact: Ruby Keslar, IDEM, 317-234-7431, rkeslar@idem.in.gov or Denny Henderson, IDEM, 317-234-7429, drhender@idem.in.gov

May 7, 2015 – InAWWA Southeast District Meeting – Jeffersonville, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

May 13, 2015 – InAWWA Central District Meeting – Danville, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

Please visit AWWA’s website (www.awwa.org) for additional information regarding continuing education and professional development offerings. Materials and instruction are available through a variety of media, from traditional seminars to online courses, teleconferences, and webcasts.

MARK YOUR CALENDARS!!

May 14, 2015 – Alliance of Indiana Rural Water – Southern Expo – Huntingburg, Indiana. Contact: Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

May 15, 2015 – InAWWA Northwest District Meeting – Monticello, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

May 21, 2015 – InAWWA Northeast District Meeting – Fort Wayne, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

May 21, 2015 – Wine Into Water To Benefit Water For People – South Bend, Indiana. Contact: Dawn Keyler at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org

May 21, 2015 – Alliance of Indiana Rural Water – Northern Expo – Akron, Indiana. Contact: Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

June 3, 2015 – Indiana Rural Water Association – W3 Operator Symposium – Culy Contracting; Winchester, Indiana. Contact: MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

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