



# FYI - Small Systems

Small Systems Committee  
INDIANA SECTION AWWA

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## FYI

Spring has arrived with a vengeance this year after our mild winter. This issue of *FYI-Small Systems* contains a lot of information to help keep you and your system ready to meet the demands of your customers.

- Valve Maintenance
- Filter Evaluations
- Upcoming NSF Standard 61 change regarding lead content in water works brass.
- Phase II of your Wellhead Protection Program
- Safety reminders and OSHA information
- Pharmaceuticals and personal care products in our water supply
- Standardized Monitoring Framework
- Lots of training opportunities

We hope to see you at the **IRWA/AWWA Operator Boot Camp** to be held on August 16, 2012 at the Miami County Fairgrounds in Peru. We hope to schedule additional Backflow Prevention / Cross Connection Control workshop in 2012; and, have scheduled a Motor Selection, Design, and Maintenance workshop (in conjunction with Indiana Rural Water Association) on October 30 at B.L. Anderson Co. in Lafayette.

Please let us know how we can best serve your needs!!

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## FYI FROM THE SECTION CHAIR

The State of Indiana is bursting into early bloom and spring is here! In my forty years of working on water main breaks through freezing weather I have never experienced a winter as mild as this winter was. In Evansville, we have very healthy weeds and an abundance of insects that flourished this winter instead of being killed off by our normal freezing temperatures. The abnormally warm temperatures brought strong tornados to Southern Indiana in early March that resulted in heavy damage in Henryville, Marysville and Jeffersonville. InWARN was on high alert however, and local utilities rose to the occasion as water industry professionals helped one another to survive this emergency. InWARN continues to grow with 85 utilities having signed agreements and continues to promote emergency preparedness through training. Please visit the new InWARN web-site at [www.inwarn.org](http://www.inwarn.org) for more information.

I am pleased to announce that the American Water Works Association is celebrating its 131st year of serving the water profession. On March 29, 1881, 22 men representing water utilities in Illinois, Indiana, Iowa, Kansas, Kentucky, and Tennessee met in Engineers' Hall on the campus of Washington University in St. Louis and founded the AWWA. They adopted a constitution that stated the purpose of the association as being "for the exchange of information pertaining to the management of local waterworks, for the mutual advancement of consumers and water companies, and for the purpose of

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## FYI FROM THE SECTION CHAIR *(Continued)*

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securing economy and uniformity in the operations of waterworks.” The first meeting of AWWA covered topics ranging from the “poisoning” of water by lead pipes to the efficacy of using corncobs for fuel. From 1881 until now, AWWA has become the association of choice for over 50,000 members, because of the Sections’ support and our members’ willingness to exchange information for the greater good.

The Indiana Section’s Young Professionals Committee has a very ambitious upcoming schedule this year under the leadership of Emily Nelson. If you are under 35 years of age or new to the Water Industry (10 years or less) please join the YPs to share knowledge, experiences and fun. You are the future of the Water Industry.

There are spring meetings in each District, scheduled in May, throughout the state of Indiana. ACE 2012 is scheduled for June 10-14 in Dallas, Texas. The keynote speakers for ACE this year will be political commentator Steve Roberts and former Dallas Cowboy Emmitt Smith. Tuesday, June 12 is Operator’s Day. ACE provides an outstanding learning experience that gets better every year.

So please start planning now to join us throughout this year at the district meetings, ACE 2012, the Indiana Section golf outing and the various Water for People events around the State to share these very special times with your peers, colleagues and friends.

I hope to see you at the meetings and events.

Have a great year,

Duane Gilles  
Chair Indiana Section AWWA

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## WHY HAVE A VALVE MAINTENANCE PROGRAM?

Some days things go as planned. Other days, it seems that everything goes wrong. As water industry ‘professionals’, we are all aware of this scenario on several fronts. Nothing can wreck the start of a day quicker than when a water superintendent is going into the office only to here there is a major water main break taking place. “Hmmm”... he thinks, “we just need to shut a few valves off to isolate the broken main, put a clamp on and then open the valves and we are back in business.” If it were always just that easy. Then he gets word of the location of the break; it is near the hospital and he starts to think about the last time the valves on those mains have been looked at. Then he thinks about the road repaving work on the streets near the hospital performed last year where the contractor never bothered to contact the water department about the work, so now the superintendent is thinking about the possibility that the valve boxes just may have been paved over. After a few moments of thinking this through, he realizes the water atlases may not have been updated from the new line that was run two years ago, the as-built drawings are still over at the engineer’s office. When the line was tied in, were the valves that were closed to facilitate the construction work re-opened? The superintendent thinks about years ago when he was on the crew and having to deal with the frustration of valve breakage when shutting the mains down for emergencies. It was frustrating to have to “drop back” to the next set of valves to attain control and closure over the system, then trying to remember which valves worked, which ones didn’t, which ones were closed for the emergency and so on...

Sound familiar? Every water system is subject to these scenarios. Furthermore, the emergencies that place demands on water systems are not always the common water main break. If there were an issue with a serious backflow problem or contamination event, having mainline valves that can be closed to help control the spread of the problem, as well as help with flushing the mains to clear the problem, is a must. The importance of having all the main line valves operational as well as being able to have the valve located cannot be understated.

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## WORKER INJURIES, ILLNESSES AND FATALITIES

4,547 workers were killed on the job in 2010 (BLS 2010 preliminary workplace fatality data), that is 3.5 per 100,000 full-time workers – more than 87 a week or 12 deaths everyday. (Slight decline from the 4,551 fatal work injuries in 2009)

682 Hispanic or Latino workers were killed from work-related injuries in 2010 – more than 13 deaths a week

“Every day in America, 12 people go to work and never come home. Every year in America, 3.3 million people suffer a workplace injury from which they may never recover. These are preventable tragedies that disable our workers, devastated our families and damage our economy.” – Secretary of Labor Hilda Solis, April 28, 2011

“A March 2010 Liberty Mutual Insurance company report showed that the most disabling injuries (those involving six or more days away from work) cost American employers more than \$ 53 billion a year – over \$1 billion a week – in workers’ compensation costs alone.” – OSHA Assistant Secretary David Michaels, April 14, 2011

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Out of 4,070 worker fatalities in private industry in calendar year 2010, one fifth (751 or 18.5%) were in construction. The leading causes of worker deaths on construction sites were: falls, electrocution, struck by object, and caught-in/between. These “Fatal Four” were responsible for nearly three out of five (57%) construction worker deaths in 2010. (Bureau of Labor Statistics)

Falls – 260 out of 751 total deaths in construction in CY 2010 (35%)

Electrocutions – 76 (10%)

Struck by Object – 63 (8%)

Caught-in/between – 32 (4%)

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Top 10 most frequently cited OSHA standards violated in FY 2011 (Federal OSHA Data)

1. Scaffolding, general requirements, construction (29 CFR 1926.451)
2. Fall Protection, construction (29 CFR 1926.501)
3. Hazard Communication Standard (29 CFR 1910.1200)
4. Respiratory Protection, General Industry (29 CFR 1910.134)
5. Control of Hazardous Energy (Lockout/Tagout), General Industry (29 CFR 1910.147)
6. Electrical, Wiring Methods, Components and Equipment, General Industry (29 CFR 1910.305)
7. Powered Industrial trucks, General Industry (29 CFR 1910.178)
8. Ladders, Construction (29 CFR 1926.1053)
9. Electrical Systems Design, General Requirements, General Industry (29 CFR 1910.303)
10. Machines, General Requirements, General Industry (Machine Guarding) (29 CFR 1910.212)

\* Facts taken from the US Department of Labor, Occupational Safety & Health Administration

## ROUTINE FILTER EVALUATIONS

Performing filter evaluations as part of a routine preventative maintenance program is one of the most important functions of the WT3 operator. This article will focus on basic aspects of filter evaluations for groundwater filtration plants. The potential benefits to conducting routine evaluations include: improved water quality, increased lifespan of the filter media, reduced maintenance and repair costs, and reductions in the backwash waste stream. Optimizing the filter backwash may also result in added savings in power and chemical costs.

It is crucial to follow all necessary safety precautions. In addition to the slip and fall hazard that working around a filter poses, filters can be considered confined spaces and require following confined space entry procedures. Never stand on a filter bed unless it is completely drained and a board is placed on top of the media. A fluidized filter bed may appear to be a solid surface, but behaves like quicksand. Working around a fluidized bed is extremely dangerous and requires very specific safety procedures.

Begin an evaluation by collecting and reviewing historical data. When available, obtain original design specifications. Design specifications may indicate the type of media used, depth of media, original freeboard measurements, design filtration rates, dimensions, and backwash rates. Review water quality and filter performance data. Is the filter producing water that meets the recommendations for secondary contaminants like iron (<0.3 mg/L) and manganese (<0.05 mg/L)? If not, then there may be room for improvement. Water exceeding those secondary standards can create discolored water issues for customers and complaints for the operator. Review any standard operating procedures for the filter's operation.

For a filter to work effectively there must be filterable sized particles to capture. Dissolved minerals must be oxidized prior to filtration. Most plants will use aeration, pre-chlorination, or a combination to achieve oxidation. Other benefits to pre-chlorination are disinfection and minimizing bacterial growth within the filter. Is the pre-chlorination dose adequate to overcome chlorine demand in the raw water and oxidize the minerals? Collect a filter effluent sample prior to any post-chlorination and test for free chlorine residual. A free chlorine residual greater than 0.2 mg/L will indicate that chlorine demand is being met, and will help oxidize nuisance minerals.

If the surface area of the filter bed can not be found in historical records then calculate the area by multiplying the length times the width. If there is a filter influent or effluent flow meter then the flow rate can be determined by dividing the rate of flow by the surface area. Typical flow rates for mixed media high-rate filters range between 4 and 6 gpm/ft<sup>2</sup>. If the flow rate exceeds the design rate then consider making adjustments.

Check any of the following devices that may be installed and determine if they are functioning properly: flow controllers, flow meters, head loss gauges, turbidimeters, automated valves, and backwash flow indicators.

Optimizing the filter run length can provide savings by reducing the frequency of a backwash. Filters require backwashing when any of the following occur: terminal head loss (typically at eight feet), iron or turbidity breaks through, or a predetermined time limit is reached. Backwashing based on a predetermined time limit is the least efficient method, unless the time limit is based on historical data of head loss and break through. Generate data on break through by monitoring turbidity or iron levels in the filter effluent on an hourly basis as the filter approaches the end of a filter run. Note the total amount of water treated during the entire filter run once turbidity or iron levels spike. Longer filter runs can be achieved during periods of low demand. Be careful not to exceed terminal head loss as this may damage the filter media.

The next process is observing a backwash. Filters should be backwashed until the backwash waste is a straw color. Over-washing can lead to poor filtration after the filter is placed back in service. Under-washing will cause short filter runs and more frequent backwashing. Check historical data to locate the intended backwash rate. Generally a mixed media high rate filter will require a rate of 15 – 20 gpm/ft<sup>2</sup> to adequately expand and clean the filter bed. If equipped, a backwash flow meter or a notched weir on the backwash effluent can be used to determine if the backwash flow rate is still meeting the design backwash rate. An open gravity filter will allow the operator to observe the bed expansion, check for carry over of media into the backwash troughs, and inspect surface wash systems.

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## PHASE II WELLHEAD PROTECTION

Protecting your groundwater resources is more than just an exercise to stay in compliance with the State and Federal regulations. Your customers, and typically your neighbors and colleagues, are relying on you to provide a safe and adequate supply of water to them everyday. Wellhead protection is the responsibility that is shouldered by Community Public Water Systems to ensure their customers are satisfied. Although your Phase I Wellhead Protection Plan has been completed (and has possibly collected some dust on the shelf!), your responsibility to uphold the Wellhead Protection measures will continue.

Wellhead Protection was established as a “phased in approach” to allow adequate time for implementing management measures. All community water systems were required to develop a plan (Phase I) to protect the areas around their wellheads. After a specified period of time depending on the system size and the Phase I approval date, systems are required to document implementation of the Phase I and update their management strategy. There are 71 community water systems that are due for the Phase II update in 2012. To find out if your system is due for an update, you can contact IDEM Drinking Water Branch, Ground Water Section (<http://www.in.gov/idem/4142.htm>).

The Indiana Wellhead Protection Rule (327 IAC 8-4.1) requires four components to your Phase II Wellhead Protection Plan submittal. These requirements include (1) a delineation update; (2) potential sources of contamination update; (3) results of the implementation of the Phase I management plan; and (4) documentation of training given to local responders as a part of the contingency plan.

If your system is capable of pumping more than 100,000 gpd, and you have increased pumping capacity by more than 10%, you will likely need to re-delineate the Wellhead Protection Area (WHPA). You can contact IDEM Drinking Water Branch, Ground Water Section to verify if the WHPA requires re-delineation. Your potential sources of contamination inventory should be re-visited. Consider locations such as cemeteries, and non-point sources such as agricultural fields, as these may have been overlooked during the Phase I plan submittal. Management measures can include a variety of activity, and perhaps the most effective is working with the local government to establish an ordinance regarding development within the WHPA. Perhaps more practical management measures could include upgrading your security with new fences and locks, or placing agricultural lands in a conservation reserve program. If your local emergency responders, such as the fire department, hold routine emergency exercises, make sure they have a copy of your WHPA and educate them on the location of your wellheads and the importance of Wellhead Protection. If the local emergency responders have not performed an exercise in recent years, encourage them to do so and participate as much as possible.

The examples provided here are just some of the possibilities for continuing your Wellhead Protection Activities. Other possibilities include water conservation programs, rain gardens, public education, such as distributing information to local schools or county fairs. The IDEM Drinking Water Branch encourages the proactive approach to Wellhead Protection, and awards those community public water systems that go “above and beyond” the call of duty with the Hoosier Guardian Award. More information can be found at the Drinking Water Branch website (<http://www.in.gov/idem/4142.htm>). Regardless of the exact means you go about complying with the Wellhead Protection Rule, the bottom line is that you are making a difference in your community by protecting the public water supply.

## REGULATORY OVERVIEW AND NSF 61

Mark Anderson, Ford Meter Box, Product Engineering Manager

In recent years standards and specifications for water works brass have changed, and more revisions are on the way. Here is a chronology of NSF/ANSI Standard 61 including the soon to implemented update to the Safe Drinking Water Act.

### SUMMARY

Standard: NSF/ANSI Standard 61 – Annex F

Change: Lead leach limit reduced from 15 ppb to 5 ppb for product certification

Implementation: July 1, 2012

Impact: Changes brass from C83600 leaded to C89833 no-lead to meet NSF Standard 61

Marking: No change to NSF Standard 61 mark

### DETAIL - Annex F

Starting in 2004 a push for stricter standards realized a change in NSF/ANSI Standard 61 from 15 ppb to 5 ppb. In order to give manufacturers time to prepare for the change this new requirement was added to NSF Standard 61 as Annex F with an implementation date of July 1, 2012.

This new lead content limit is a rolling certification change. In other words, product certified prior July 1, 2012, at 15 ppb remains certified after July 1st and may be used for NSF applications. Products produced after July 1, 2012, must meet the new 5 ppb requirement in order to maintain Standard 61 approval. There is no cut-off for product use, only product certification. There is no change to the NSF product certification marking.

### SUMMARY

Standard: NSF/ANSI Standard 61 – Annex G

Change: Maximum lead content of any product is 0.25%

Implementation: No mandatory date, this is an optional certification to NSF Standard 61

Impact: Limits all wetted materials to a 0.25% maximum lead content in addition to meeting all other NSF Standard 61 requirements

Marking: Annex G added to NSF Standard 61 mark

### DETAIL - Annex G

Annex G was added to NSF Standard 61 in 2008 in response to California's lead-free law as the certification vehicle to demonstrate compliance. Annex G follows California test requirements using a weighted average lead content formula where the sum of all components cannot exceed 0.25%. NSF added Annex G to Standard 61 as an optional certification. This combination format made it mandatory that products first meet NSF Standard 61 and then apply for Annex G approval. The problem with this pairing is it restricts products that cannot meet NSF 61 from obtaining Annex G certification. Many products do carry the NSF 61 classification and are listed to Annex G. Annex G classification is a unique mark and is part of the product certification information in addition to the NSF Standard 61 mark.

### SUMMARY

Standard: NSF/ANSI Standard 372

Change: Maximum lead content of any product is 0.25%

Implementation: No mandatory date, this is a new standard issued in early 2011

Impact: Limits all wetted materials to a 0.25% maximum lead content

Marking: New mark for NSF Standard 372

### DETAIL – Standard 372

To correct the dual certification limitation imposed by Standard 61 Annex G, NSF created the stand-alone NSF Standard 372 in 2011. Standard 372 eliminates Standard 61 preapproval requirements and opens certification to all potable water products. NSF 372 follows California law and Annex G requirements. The new national lead-free law directly parallels California law and as such promotes NSF 372 as the de facto independent third-party verification for demonstrating compliance. Within a short time period Annex G will be obsolete from NSF 61 and fully replaced by NSF Standard 372. While NSF Standard 61 lists products by specific groups such as valves,

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## REGULATORY OVERVIEW AND NSF 61 (CONTINUED)

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elbows, branches, etc., Standard 372 may list products by large groups such as all ball valves, all fittings, all meter setters, etc. Additionally, the restriction placed on assemblies under Standard 61 is not part of NSF 372 such that complex devices, meter setters, meter pits, and other assemblies may be classified under NSF 372. Products certified to NSF Standard 372 may show the 372 mark on the product certification marking.

### SUMMARY

Standard: National Lead Free Law and the Safe Drinking Water Act

Change: Maximum lead content of any product in contact with drinking water is 0.25%

Implementation: January 4, 2014

Impact: Limits all wetted materials to a 0.25% maximum lead content

Marking: No marking or identification requirements

### DETAIL – National Lead Free Law

Signed into law January 4, 2011, the “Reduction of Lead in Drinking Water Act” revises the Safe Drinking Water Act mandating the wetted surfaces of products in contact with drinking water have a 0.25% maximum lead content. This is either by the weighted average lead content formula or a pure no-lead/lead-free copper alloy product. Additionally, several products are exempted from the requirements including non-potable applications, large gate valves, and service saddles. The national law prohibits the installation or repair of drinking water products with a lead content greater than 0.25% after January 2014. Consequently, manufacturers will transition inventory well before the implementation date to avoid holding excess unsellable product. While the national law follows California law, it does not contain any provisions for certification. This is where NSF Standard 372 will act as the default third-party independent certification for customer specifications and state requirements where NSF Standard 61 Annex F or Annex G is not required or not achievable.

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## THIS IS WATER. THIS IS WATER ON DRUGS. ANY QUESTIONS? JAIMIE FOREMAN, CARMEL WATER UTILITIES

Looking back in time, drugs have always found their way into the news and into our history. For all of those that were for or against the use of legal, non legal or prescription drugs, one thing has held true and that is they have been available at our “disposal” through time. Studies have been performed for years on the side effects and health effects of their use. We, as a nation, are now taking this a step further and looking at the long term effects the use of these drugs are having on our environment.

For more than five years now, the government has been looking into the thoughts of, studies of, effects of, and methods to test for prescription drugs in our nation’s water ways. In this time, several reports have been written along with many articles about how this has come to be and what the concerns are for water and wastewater ‘utilities, and what we can do about it.

So how did this all come to be? Well, since the establishment of the United States Environmental Protection Agency (USEPA) in 1970, natural and manmade activities have been under review for the impact that they have on the environment and also on the humans that live in it. Contaminants to our water supplies can be naturally occurring as we all know, but this is not the case when it comes to pharmaceuticals and personal care products, PPCPs.

PPCPs are defined by the USEPA as any product used by individuals for personal health or cosmetic reasons or used by agribusiness to enhance growth or health of livestock. PPCPs comprise a diverse collection of thousands of chemical substances, including prescription and over-the-counter therapeutic drugs, veterinary drugs, fragrances, lotions, and cosmetics. The USEPA is continuously looking for new contaminants and making the regulations more stringent on contaminants that are more harmful than once determined. With new science, contaminants can now be detected or detected at much lower levels, parts per trillion in some cases, than in

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## STANDARDIZED MONITORING FRAMEWORKS - USE THEM AND ABUSE THEM

BY: LAURIE WEBB, ENVIRONMENTAL LABORATORIES, INC.

Does this scenario sound familiar? You get a “reminder” e-mail from IDEM letting you know that they haven’t received your 3<sup>rd</sup> quarter SOC sample yet. They must be wrong because you already collected your SOC sample in the 2<sup>nd</sup> quarter and you’ve always just done one sample in the past. You unsuccessfully dig through piles and piles of paperwork trying to find a letter from IDEM referencing the increased SOC sampling requirements. About to give up, you happen to glance to your left and see your Standard Monitoring Framework (SMF) pinned to the bulletin board. In bold letters, under the Column labeled 2011 and the Row labeled SOC, you see “2<sup>nd</sup> and 3<sup>rd</sup> quarters” listed in that little box. You could have saved yourself a lot of wasted time and headaches if you would have consulted your SMF right from the start. There is a reason why so many refer to them as an “Operator’s Best Friend”.

As many of you know, in the past, IDEM was kind enough to produce the SMFs for all Non-Transient, Community and Non-Community Water Systems. They scheduled the sampling for a 9-Year Compliance Cycle – so there was no confusion – and distributed them to the systems well in advance of the previous SMF running out. Unfortunately, when the last SMF expired in 2010, IDEM did not have enough staff on hand to provide this service anymore. So, many of you were scrambling to figure out what testing needed to be done, and when. If you were lucky, your lab may have offered to create one for you based on your previous sampling schedule. But, that wasn’t always the case. IDEM pointed everyone in the direction of the Drinking Water Watch website (<https://myweb.in.gov/IDEM/DWWW/>) to determine their testing requirements until they were able to create new SMFs for 2011-2019. If you visited this website, you probably realized that you have been spoiled by IDEM and the SMFs they developed, which concisely display your testing requirements for each year. Over the past couple months, IDEM has been trying to catch up and distribute updated SMFs for 2011-2019. If you have not received one from them yet, please contact Stacy Jones at 317-234-7454 or [sjones@idem.in.gov](mailto:sjones@idem.in.gov) and she will send it to you.

One test that is not on the SMF’s, but will be important to monitor very soon, are the Stage 2 Disinfection By-Products (TTHM/HAA5). The Stage 1 DBPs have been listed on the SMF’s for many years, but, effective 2012, many utilities will start to follow the Stage 2 Compliance Monitoring Program that they designed in their IDSE a few years ago. The Stage 2 DBP sampling schedules are not listed on the current SMF’s and are DIFFERENT FOR EVERY UTILITY. Therefore, it is very important that you let your lab know about the schedule you developed so they can send you the sample bottles prior to your scheduled sampling date. Unlike the Stage 1 DBP’s, these samples must be taken during a specific week of each quarter or each year. Again, if you have any questions about the Stage 2 DBP sampling, please contact Stacy Jones at IDEM.

Please remember that if you ever receive a letter from IDEM indicating that you have increased monitoring for a specific test, it will not be reflected on your SMF. The letters from IDEM “trump” what’s written on your SMF and you should follow the sampling requirements listed on the letter for that specific test. As a rule of thumb, if you are above the Action Level or Maximum Contamination Level for a specific test, you will be required to do quarterly monitoring for 1 year (4 consecutive quarters). If you show consistently good results, then you will be reduced to annual monitoring for 3 years. If that goes well, then you will be reduced to the standard monitoring schedule for that specific test, which is usually once every three years. Of course, there are exceptions, so please check with IDEM before changing your sampling frequency.

One more word of advice, please pay attention to the date that you collect the samples. If the SMF shows that you need to collect samples in the 2<sup>nd</sup> quarter, do not “jump the gun” and mistakenly collect on March 31 because you saw the bottles sitting on your desk. There is a very good chance that IDEM may not accept those samples and will require you to resample in the correct quarter – thus causing you to pay for the tests twice. Alternately, please do not wait until the last day of the quarter to collect your samples either. A broken bottle due to a lab accident, a missed holding time due to the commercial carrier’s delivery error, or QC failure by the lab equipment are all realistic scenarios that may require a resample. If you waited until the last day of the sampling period, you will now

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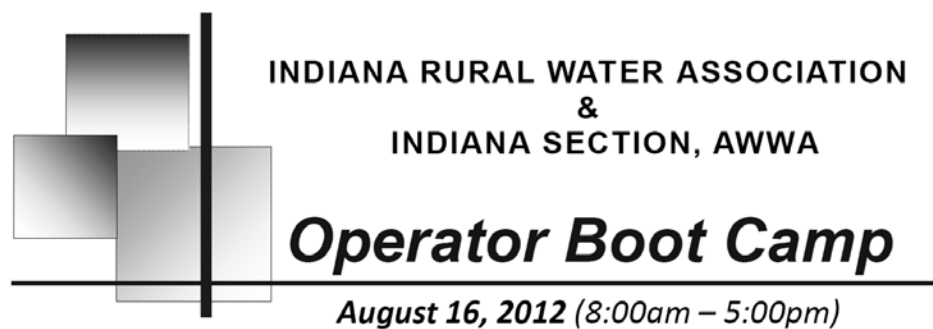
## STANDARDIZED MONITORING FRAMEWORKS - USE THEM AND ABUSE THEM (CONTINUED)

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be out of compliance and need to contact IDEM to let them know what happened. A little pre-planning on your part eases the stress on everybody.

Clearly, the SMF is a great resource to help you stay in compliance with your sampling. It's also a good idea to send a copy to your lab so they have the most updated version too. (Remember – IDEM doesn't send SMFs or increased/reduced monitoring letters to your lab, so the labs rely on you to keep them in the loop) If you keep it updated, you should have no problem keeping your sampling straight and your utility in compliance.

Happy Sampling!!



## ROUTINE FILTER EVALUATIONS (CONTINUED)

*(Continued from page 4)*

After backwashing is complete, drain the filter and inspect the surface of the media bed. Mudballs, cracks on the surface, and media separating from the walls are signs that something may be wrong with the backwash cycle. Boils or craters on the media bed surface may indicate a problem with either the gravel layer or the underdrain system. Also observe for microbial growth in the filter.

The next steps will require the use of a steel rod and a clear PVC pipe. These will be used within the filter, so they must be disinfected with a bleach solution prior to use. A steel rod can be pushed through the media to measure media depth, while a clear PVC pipe can be used to collect a core sample. Core samples can be used to check for mudballs within the filter, and to inspect media layers beneath the surface. Save the media sample in a plastic bag for comparison with future samples. Taking freeboard measurements will help determine if media is being lost between inspections. The freeboard is measured from the top of the backwash trough to the top of the media bed. It is the space allowed for bed expansion during the backwash process.

Now the filter can be backwashed and placed back in service. Record all measurements, data, and observations made, for future reference. If any serious issues were observed during the evaluation, the filter may require additional testing and resources beyond the scope of the basic filter inspection.

## THIS IS WATER. THIS IS WATER ON DRUGS. ANY QUESTIONS? (CONTINUED)

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previous studies. This is equivalent to a few drops in 20 two meter deep, Olympic-sized swimming pools. This is the case with pharmaceuticals in water sources. Scientists utilized new sciences and detected PPCPs and in 2007 the first guidance was published on *The Proper Disposal of Prescription Drugs* by the White House Office of National Drug Control Policy.

What does this mean to water and wastewater utilities? With regulations in place, we are required to plan for potential contaminants in our wellhead areas, plan for potential contaminants in our surface water sources and proactively take measures to ensure that these waterways are not disturbed by human activities. So how do we as utilities prevent prescription drugs from reaching our waterways when they are getting there the way our current treatment processes allow?

Starting with wastewater, consumers are prescribed these drugs by a physician, but not all chemicals are absorbed by the body and therefore are passed into our wastewater systems or septic tanks. Most importantly, a very poor, yet common disposal practice for prescription drugs is to dump them down the drain or flush them down the toilet. This raises an even greater threat, as none of the chemicals were absorbed or broken down by the body, releasing the drugs at higher chemical concentrations. No current treatment process to date will remove these types of chemicals from the water. This allows chemicals to pass out of the wastewater plant into our rivers and streams while still meeting all regulations. Any utility, ground water or surface water can be impacted by these chemicals.

Being utilities, we know that education is crucial. AWWA recommends that educating our consumers on the potential impacts that certain contaminants can have on their health can be helpful and also motivational. Educating our staff, by relying on EPA's science-driven Contaminant Candidate List (CCL) to process and identify candidates for new drinking water standards. This process relies upon both occurrence data and health effects data to make sure that utilities focus on contaminants that pose an actual threat to human health. Continue to rely upon the Unregulated Contaminant Monitoring Rule (UCMR) for decisions concerning testing and reporting to customers about contaminants that are not currently regulated.

Once you have established how to educate your consumers on the impacts of pharmaceuticals in drinking water supplies, it is recommended that setting up a collection point for these unwanted products will be the most beneficial way to remove this potential contaminant by deterring people away from improper disposal techniques. This sounds simple enough, but as this practice has been exercised over the years, fewer and fewer utilities are willing to take this liability on single handedly. In some communities local hospitals and police departments are willing to assist in these efforts, but in some areas, this might not be a possibility.

One of the most motivated women of the 1980's and early 1990's was Nancy Reagan, starting the "Just So No" campaign. The "Just Say No" program started a movement on the "war on drugs" getting them off of the streets and less likely in youth hands. I am asking the utilities to take these same simple principles that Nancy Reagan used in her campaign and use it locally here in the state of Indiana. With finances being a driving force behind the decline of our educational efforts, I propose that we use our networking capabilities and share the ideas that are working well for our communities and share these with the rest of the state. One utility is strong, but an entire state can start a movement. If Nancy was sitting beside me, she would tell us to "Just Say No" to pharmaceuticals in our drinking water supplies and "Get the drugs out of our streams".

Indiana Rural Water Association and Indiana Section AWWA is welcoming your input on the programs that are working well for community to collect any unwanted or unused pharmaceuticals, preventing them from being disposed of improperly.

Educational efforts and recommendations can be email to [OdieIRWA@aol.com](mailto:OdieIRWA@aol.com). A collection of your stories will be published in future issues of the *FYI-Small Systems* newsletter.

## WHY HAVE A VALVE MAINTENANCE PROGRAM? (CONTINUED)

*(Continued from page 2)*

A valve location and exercising program is a must. Period. A valve location and exercising program is the heart of a well managed and well run distribution system. Valves can exhibit some “human” characteristics. As we all age, we become old and stiff, creaky, unable to move the way we used to. We have been told the way to keep ourselves from becoming that way is to exercise and eat right. Valves need to be exercised as well in order to keep them operational. When distribution valves leave the factory, they are able to be operated by hand. If the valves are operated regularly, that ability to be operated by hand is greatly enhanced.

The AWWA M-44 manual for “Distribution Valves, Selection, Installation, Field Testing, and Maintenance” states in chapter 5 that “...it is difficult for water providers to consider an annual scheduling of operation and maintenance of each valve in their system.” In this same chapter, there is no suggestion on the interval of valve exercising from year to year. It leaves that open to each utility to figure out the frequency of maintenance. However, as a part of “Best Management Practices” for water utilities, regular scheduled valve location and exercising should be a critical part of the maintenance work for a distribution system. The implementation of a well documented valve program will keep a water utility ready to prepare for and respond to any level of emergency where access to water is an absolute must. Valve maintenance should be considered an integral part of the emergency planning for any water system.

Valves for distributions systems date back over 5,000 years. Prior to the 1930’s most valves were manually operated. Today, depending on the size of the system, some valves are operated remotely. Common valve issues in distribution systems range from turbulence, water hammer, Venturi effect (from partially closed valves), broken and inoperable valves, paved over, and not documented (not on the water atlas). In many cases the water utility has depended on someone’s personal knowledge of valve locations in cases of emergency. “Old Joe” who has been with the utility over 30 years knows where all the valves are. In a couple of months, Joe is going to retire and move out of state. What are we going to do now?

In today’s computer age, it is easy to get the valve records into the computer in a database. It is also easy to get the water distribution maps into the computer as well. Imagine a laptop computer in every water system truck capable of accessing the water maps and valve records whenever there is an emergency. As a valve is operated, the closure and subsequent reopening are tracked and documented. This is not far fetched. Some water systems already have this level of sophistication in place. Police cars have computers; water system maintenance vehicles can also have similar tools.

So, if the water system does not have a regular valve location and exercising program in place, how should such a program be implemented? The utility needs to devise a plan. The plan starts with the budget. The saying that “an ounce of prevention is worth a pound of cure” comes into play. By setting funds aside to cover a valve maintenance program and becoming proactive, the cost can be spread across time. Reactive maintenance is often expensive and places demands on “borrowing” from other parts of the budget. Once the budget for a program has been set, stick to it.

The next part of the plan is to set a schedule of what needs to be done and when. This part of the plan involves a two part assessment of the valves in the system. The current condition of each valve needs to be determined. This is accomplished by gathering all the known records of the valves, including maps, as built, old valve cards, and even distribution folks who have personnel knowledge of valve locations not currently documented. The next step is to plan the area where the valves are to be assessed. Once this is done a crew can be sent to locate and identify each valve. Today it is common to take GPS coordinates of the valve location so that the water atlas can be updated and the valves can be located whenever needed. Condition of the valve enclosure should be performed. The valve then needs to be operated.

Valve operation needs to be done with care. Proper safety practices and traffic control need to be followed in the field as many valves are located in roadways and along right of ways. The set up of a work zone for valve assessment can be challenging and great care needs to be exercised so that utility staff is not exposed to excessive risk. The valves should be fully operated throughout the full cycle of the valve. This involves operating the valve by cycling the valve a few turns then returning to the original position. The operator needs to determine

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## WHY HAVE A VALVE MAINTENANCE PROGRAM? (CONTINUED)

*(Continued from page 11)*

the valve position; open or closed. Then the valve needs to be turned up to five turns then reversed two, then five more turns, reversed two, until the valve has been cycled fully. The valve should be completely cycled a few times to insure its full operation. The information of the valve should be documented in a database and needs to include all information about the valve such as location, size, number of turns, whether the valve is normally open or closed, and if the valve needed to have extra torque applied in order for it to be operated. Extra torque should be applied in the form of a hydraulic operator instead of two people on the valve key. This way, the amount of torque can be controlled and the valve does not get over torqued. This is a process that should not be hurried or forced. When the valve operation is hurried or forced, that is when valve breakage usually occurs. Valves that remain difficult to operate even after being exercised need to be documented as to the level of effort needed to operate the valves. That way in case of an emergency, utility staff will know what is needed to facilitate a shutdown. Also, the bad valve can be scheduled for replacement if it is in really bad shape.

The second area that needs to be looked at is valve criticality. This is done by looking at the consequences of valve failure for each valve in the system. If a particular valve fails (broken, inoperable, etc) what critical water service will be affected? This assessment can be made by identifying critical water users, critical choke points in the distribution system such as valves near the treatment plants or pump stations, or any other critical need. The purpose for this assessment is to allow for a prioritization of the valve maintenance schedule such as regular valve exercising as well as potential valve replacements. Regular valve exercising on larger valves, as well as valves that control flows in areas of critical users should be frequent enough to insure those valves can be used when needed. Valves needing replacements can be scheduled for replacement as well as the surrounding valve exercised to insure their reliability during the shutdown for the valve replacement.

The documentation of valve records should be an easy task, given today's computerized record keeping. Many water utilities have begun to employ the use of laptop computers in the field as well as hand held devices. The implementation of the data gathering and data recording should be kept simple enough that it is easily used by all utility staff, yet functional enough that the data contained within those records can be used to help with other functions such as engineering and planning. Some valve databases not only have the usual "name, rank, serial number, etc." for each valve, but also have diagrams and drawings showing details where the valve is located. This database can also be used to assist with the creation of work orders for the distribution system. A tracking system can be assigned to insure the maintenance is completed. The level of sophistication of the database is solely up to the desires of the water utility.

Once the valve assessment program has been set up and implemented, it should be run as an ongoing maintenance practice for the utility. The first time through the entire system, the utility can expect issues. There may be some valve breakage. However, if the utility staff plans ahead, many of the issues can be mitigated. The utility may be pleasantly surprised as to how smooth the valve program really was.

The benefits of a well run valve program are numerous. The water system gets a good field assessment as to what really exists. The utility staff become better educated about their system and how it operates. Valves now operate easily and allow for ease of location under extreme circumstances. Valve records are updated as well as work orders. The water system can respond better under emergency and non-emergency situations with shorter response times. Water quality can be enhanced as some unintentional dead ends are eliminated. Energy efficiency is improved as the pumps no longer have to pump against dead ends.

Valves are critical capital assets. They are needed for reliable distribution system operations. The consequences of failure are numerous, including poor PR. When valve failure occurs especially in an emergency, the costs can become staggering. Even under the best of conditions, valve failure is not cheap. What does it cost to replace a valve? Let us assume that the average cost is \$5,000 including excavation, the cost of the valve itself, restoration of the work site, labor costs, and possibly pizza for the crew. If a water system has 1,000 valves, the cost to replace all of the valves is estimated at \$5,000,000! There are other costs that are not so easily identified, such as the inconvenience to the water customers or lost production to manufacturing or other issues. It is easy to see why a valve maintenance program is so important.

Without a regular valve program, the risk of valve failure goes up. The water superintendent at the beginning would like each day to begin without fear of critical infrastructure failure. The implementation of a regular valve program is one key to having a well run water system.

## MARK YOUR CALENDARS (CONTINUED)

(Continued from page 16)

**August 1, 2012** – Indiana Rural Water Association – Water Treatment Plant Design & Emerging Technologies Workshop – Indianapolis, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**August 6, 2012** – InWARN Generators 101 & Emergency Response Plans Workshop – Lawrenceburg. Contact: Jaimie Foreman at [jforeman@carmel.in.gov](mailto:jforeman@carmel.in.gov) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**August 16, 2012** – IRWA/AWWA Operator Boot Camp – Miami County Fairgrounds; Peru, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**August 20, 2012** – Wastewater Treatment Plant Operator Certification Examination Application submission must be post-marked by this date. The application can be downloaded from IDEM's website at <http://www.in.gov/idem/5088.htm>. The Wastewater Treatment Plant Operator Certification Examination will be given October 4, 2012. Contact: Rebecca McMonigle, IDEM, 317-232-8791, [rmcmonig@idem.in.gov](mailto:rmcmonig@idem.in.gov).

**August 28, 2012** – Indiana Rural Water Association – Water Storage Tank Inspection and Maintenance Basics Workshop – Austin, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**August 29, 2012** – Indiana Rural Water Association – Water Storage Tank Inspection and Maintenance Basics Workshop – Southwest Indiana location TBD. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**September 5, 2012** – InAWWA Southwest District Meeting – Location TBD. Contact: Tim Nelson (Midwestern Engineers), Southwest District Trustee at 812-295-2800 or [tnelson@midwesterneng.com](mailto:tnelson@midwesterneng.com) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**September 6, 2012** – InAWWA Southeast District Meeting – Lawrenceburg (location TBD). Contact: Kurt Riedman (Brookville Utilities), Southeast District Trustee at 765-649-2906 or [kriedman@etczone.com](mailto:kriedman@etczone.com) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**September 12, 2012** – InWARN Generators 101 & Emergency Response Plans Workshop – Shelbyville. Contact: Jaimie Foreman at [jforeman@carmel.in.gov](mailto:jforeman@carmel.in.gov) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**September 13, 2012** – Alliance of Indiana Rural Water – Scholarship Golf Outing – Winding Ridge Golf Course; Lawrence, Indiana. Contact: LeighAnn Cross or Laura Vidal at 888-937-4992 or visit the Alliance website at [www.inh2o.org](http://www.inh2o.org)

**September 14, 2012** – InAWWA Central District Meeting – Sterrett Center at Old Fort Harrison; Lawrence, Indiana. Contact: Tim Hill (Peerless-Midwest), Central District Trustee at 317-896-2987 or [tim.hill@peerlessmidwest.com](mailto:tim.hill@peerlessmidwest.com) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**September 17, 2012** – Water Works Operator Certification Examination Application submission must be postmarked by this date. The application may be downloaded from the drinking water website: <http://www.in.gov/idem/5103.htm>. Contact: Ruby Keslar at [RKESLAR@idem.in.gov](mailto:RKESLAR@idem.in.gov) or 317/234-7431 or Dennis Henderson at [DRHENDER@idem.in.gov](mailto:DRHENDER@idem.in.gov) or 317/234-7429. Water Works Operator Certification Examination will be given November 1, 2012.

**September 20, 2012** – InAWWA Northeast District Meeting – Goshen, Indiana (location TBD). Contact: Jim Clevenger (Dixon Engineering), Northeast District Trustee at 260-740-1360 or [jimclevenger@dixonengineering.net](mailto:jimclevenger@dixonengineering.net) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**September 21, 2012** – InAWWA Northwest District Meeting – Tiebol's in Schererville. Contact: Mark Nye (DLZ Indiana), Northwest District Trustee at 574-236-4400 or [mnye@dlz.com](mailto:mnye@dlz.com) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**September 25, 2012** – Indiana Rural Water Association – Wastewater Math Workshop – Location TBD. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**September 27, 2012** – Indiana Rural Water Association – Wastewater Math Workshop – Location TBD. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**October 1, 2012** -- Consumer Confidence Reports (CCR) certification of delivery report due to IDEM.

**October 1, 2012** – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving 50,000-99,999 people – Comply with additional LT2 treatment technique requirements. Contact: Yasser Elkhatib at 317-234-7451, [yelkhati2@idem.in.gov](mailto:yelkhati2@idem.in.gov) OR Adrian Lugo-Martinez at 317-234-7456, [alugomar@idem.in.gov](mailto:alugomar@idem.in.gov) OR Stacy Jones at 317-234-7454, [sjones@idem.in.gov](mailto:sjones@idem.in.gov). Other information on the LT2 Rule can be obtained from [www.epa.gov/safewater/disinfection/lt2](http://www.epa.gov/safewater/disinfection/lt2)

**October 1, 2012** – Stage 2 Disinfection By-Products Rule Deadline – Systems serving 50,000-99,999 people – Begin Stage 2 Compliance Monitoring. Contact: Peter Poon at 317-234-7441, [ppoon@idem.in.gov](mailto:ppoon@idem.in.gov) OR Stacy Jones at 317-234-7454, [sjones@idem.in.gov](mailto:sjones@idem.in.gov). Other information on the DBPR can be obtained from [www.epa.gov/safewater/disinfection/stage2](http://www.epa.gov/safewater/disinfection/stage2)

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## MARK YOUR CALENDARS (CONTINUED)

(Continued from page 13)

**October 4, 2012** – Wastewater Treatment Plant Operator Certification Examination. Application submission must have been postmarked by August 20, 2012. Contact: Rebecca McMonigle, IDEM, 317-232-8791, [rmcmonig@idem.in.gov](mailto:rmcmonig@idem.in.gov).

**October 9, 2012** – Indiana Rural Water Association – Water Storage Tank Inspection and Maintenance Basics Workshop – Northeast Indiana location TBD. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**October 17-18, 2012** – Alliance of Indiana Rural Water – Fall Conference – Grand Wayne Convention Center; Fort Wayne, Indiana. Contact: LeighAnn Cross or Laura Vidal at 888-937-4992 or visit the Alliance website at [www.inh2o.org](http://www.inh2o.org)

**October 18, 2012** – InWARN Generators 101 & Emergency Response Plans Workshop – Fairmount. Contact: Jaimie Foreman at [jforeman@carmel.in.gov](mailto:jforeman@carmel.in.gov) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**October 25, 2012** – Indiana Rural Water Association – Water Storage Tank Inspection and Maintenance Basics Workshop – Cambridge City, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**October 30, 2012** – Indiana Rural Water Association / Indiana Section AWWA – Motor Selection, Design, Maintenance Workshop – B.L. Anderson Co.; Lafayette, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**November 1, 2012** – Water Works Operator Certification Examination. Application must have been postmarked by September 17, 2012. Contact: Ruby Keslar, IDEM, 317-234-7431, [rkeslar@idem.in.gov](mailto:rkeslar@idem.in.gov) or Denny Henderson, 317-234-7429, [drhenders@idem.in.gov](mailto:drhenders@idem.in.gov)

**November 8, 2012** – InWARN Generators 101 & Emergency Response Plans Workshop – Bainbridge. Contact: Jaimie Foreman at [jforeman@carmel.in.gov](mailto:jforeman@carmel.in.gov) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**December 3 – 5, 2012** – Indiana Rural Water Association – 2012 Water Institute (Fall Conference) – Clarion Conference Center (formerly Holiday Inn); Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**December 4, 2012** – InWARN Generators 101 & Emergency Response Plans Workshop – New Castle. Contact: Jaimie Foreman at [jforeman@carmel.in.gov](mailto:jforeman@carmel.in.gov) or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**February 12 – 14, 2013** – Indiana Section American Water Works Association – Annual Conference – Indianapolis, Indiana. Contact: InAWWA at 866-213-2796 (toll free); or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

**March 11, 2013** – Wastewater Treatment Plant Operator Certification Examination Application submission must be post-marked by this date. The application can be downloaded from IDEM's website at <http://www.in.gov/idem/5088.htm>. The Wastewater Treatment Plant Operator Certification Examination will be given April 25, 2013. Contact: Rebecca McMonigle, IDEM, 317-232-8791, [rmcmonig@idem.in.gov](mailto:rmcmonig@idem.in.gov).

**April 15 – 17, 2013** – Indiana Rural Water Association – 2013 Spring Conference – Clarion Conference Center (formerly Holiday Inn) Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**April 25, 2013** – Wastewater Treatment Plant Operator Certification Examination. Application submission must have been postmarked by March 11, 2013. Contact: Rebecca McMonigle, IDEM, 317-232-8791, [rmcmonig@idem.in.gov](mailto:rmcmonig@idem.in.gov).

**October 1, 2013** – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving 10,000-49,999 people – Comply with additional LT2 treatment technique requirements. Contact: Yasser Elkhatib at 317-234-7451, [yelkhati2@idem.in.gov](mailto:yelkhati2@idem.in.gov) OR Adrian Lugo-Martinez at 317-234-7456, [alugomar@idem.in.gov](mailto:alugomar@idem.in.gov) OR Stacy Jones at 317-234-7454, [sjones@idem.in.gov](mailto:sjones@idem.in.gov). Other information on the LT2 Rule can be obtained from [www.epa.gov/safewater/disinfection/lt2](http://www.epa.gov/safewater/disinfection/lt2)

**October 1, 2013** – Stage 2 Disinfection By-Products Rule Deadline – Systems serving 10,000-49,999 people – Begin Stage 2 Compliance Monitoring. Contact: Peter Poon at 317-234-7441, [ppoon@idem.in.gov](mailto:ppoon@idem.in.gov) OR Stacy Jones at 317-234-7454, [sjones@idem.in.gov](mailto:sjones@idem.in.gov). Other information on the DBPR can be obtained from [www.epa.gov/safewater/disinfection/stage2](http://www.epa.gov/safewater/disinfection/stage2)

**October 1, 2013 (October 1, 2014 if Crypto monitoring is required under LT2)** – Stage 2 Disinfection By-Products Rule Deadline – Systems serving fewer than 10,000 people and not connected to a system that serves 10,000 or more people – Begin Stage 2 Compliance Monitoring. Contact: Peter Poon at 317-234-7441, [ppoon@idem.in.gov](mailto:ppoon@idem.in.gov) OR Stacy Jones at 317-234-7454, [sjones@idem.in.gov](mailto:sjones@idem.in.gov). Other information on the DBPR can be obtained from [www.epa.gov/safewater/disinfection/stage2](http://www.epa.gov/safewater/disinfection/stage2)

**December 9 – 11, 2013** – Indiana Rural Water Association – 2013 Water Institute (Fall Conference) – Clarion Conference Center (formerly Holiday Inn) Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**February 18 – 20, 2014** – Indiana Section American Water Works Association – Annual Conference – Indianapolis, Indiana. Contact: InAWWA at 866-213-2796 (toll free); or visit the InAWWA website at [www.inawwa.org](http://www.inawwa.org)

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Susie Fulford		BFULFORD	234-7435			
Sandra DeCastro		SDECASTR	234-7444			
Yasser Elkhatab		YELKHATI	234-7451			
David Forsee		DFORSEE	234-7442			
David Koehler		DKOEHLER	234-7445			
Ceazar Natividad		CNATIVID	234-7446			
Dennis Pace		DPACE	234-7440			
Sara Pierson		SPIERSON	234-7452			
Peter Poon		PPOON	234-7441			
Matthew Prater		MPRATER	234-7437			
April Swift		ASWIFT	234-7453			
Wayne Wang		WWANG	234-7455			
<b>PERMIT, CERTIFICATION &amp; CAPACITY SECTION</b>						
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Arnold Bockrand		ABOCKRAN	234-7419			
Devrelle Dumas		DDUMAS	234-7421			
Denny Henderson		DRHENDER	234-7429			
Phil Hiestand		PHIESTAN	234-7428			
Jackie Holland		JHOLLAND	234-7425			
Mary Hoover		MHOOVER	234-7433			
Judy Kennedy		JKENNEDY	234-7427			
Ruby Keslar		RKESLAR	234-7431			
Lance Mabry		LMABRY	234-7423			
Heidi Nassiri		HNASSIRI	234-7422			
Lynn Pace		LPACE	234-7432			
<b>Technical Assistance/CCC</b>						
Rick Miranda		RMIRANDA	234-7443			
<b>Regulatory Development</b>						
Stacy Jones		SJONES	234-7454			
<b>Compliance Assistance</b>						
Marc Hancock		MHANCOCK	234-7434			
<b>Security &amp; Counter-Terrorism</b>						
Adam Watts		AWATTS	234-7428			
<b>FAX NUMBER</b>						
Drinking Water #1			234-7462			
Drinking Water #2			234-7449			
Drinking Water #3			234-8106			
Compliance			234-7436			
Ground Water			234-7424			
Inspection			234-7462			
Permit Section			234-7424			
<b>GROUND WATER SECTION</b>						
James Sullivan, Chief		JSULLIVA	234-7476			
Julie Vanaman		JVANAMAN	234-7477			
Travis Cole		TCOLE	234-5025			
Mitt Denney		MDENNEY	233-0314			
James Harris		JHARRIS	234-1221			
Connie Cousins-Letherman		CCOUSINS	232-8728			
Gregg Lemasters		GLEMASTE	234-7478			
Paul Levy		PLEVY	234-8016			
Rebecca Travis		RTRAVIS	234-3243			

All phone numbers are area code 317 unless otherwise indicated.  
To email employees at IDEM, take their user ID (located between their name & phone number) followed by @Idem.in.gov

(NRO)=Northern Regional Office  
(SWRO)=Southwest Regional Office  
(SRO)=South Regional Office

**Small Systems Committee  
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[www.inawwa.org](http://www.inawwa.org)

**American Water  
Works Association:**  
[www.awwa.org](http://www.awwa.org)

**EPA Drinking  
Water Hotline:**  
[www.epa.gov/OGWDW](http://www.epa.gov/OGWDW)



## MARK YOUR CALENDARS!!

To add dates to this section,  
contact any Small Systems  
Committee Member.

**May 31, 2012** – Indiana Rural Water Association – First Aid / CPR / Automated External Defibrillator (AED) Workshop – Hamilton, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**June 5, 2012** – Indiana Rural Water Association – W3 Operator Symposium – Culy Contracting; Winchester Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**June 7, 2012** – InWARN Generators 101 & Emergency Response Plans Workshop – Fort Wayne. Contact: Jaimie Foreman at [jforeman@carmel.in.gov](mailto:jforeman@carmel.in.gov) or visit the InAWWA Website at [www.inawwa.org](http://www.inawwa.org)

**June 21, 2012** – Indiana Rural Water Association – Sewer Separation vs. Sewer Storage Workshop – Osgood, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**June 27, 2012** – Indiana Rural Water Association – Water Storage Tank Inspection and Maintenance Basics Workshop – Rochester, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**July 1, 2012** -- Consumer Confidence Reports (CCR) must be in your customers' hands.

**July 17, 2012** – Indiana Rural Water Association – Water Storage Tank Inspection and Maintenance Basics Workshop – Bainbridge, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free); or visit the IRWA website at [www.indianaruralwater.org](http://www.indianaruralwater.org)

**July 18, 2012** – InWARN Generators 101 & Emergency Response Plans Workshop – Jasper. Contact: Jaimie Foreman at [jforeman@carmel.in.gov](mailto:jforeman@carmel.in.gov) or visit the InAWWA Website at [www.inawwa.org](http://www.inawwa.org)

**July 27-28, 2012** – Alliance of Indiana Rural Water – Management Conference – The Seasons Lodge; Nashville, Indiana. Contact: LeighAnn Cross or Laura Vidal at 888-937-4992 or visit the Alliance website at [www.inh2o.org](http://www.inh2o.org)

*(Continued on page 13)*

Please visit AWWA's website ([www.awwa.org](http://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.