



**Small Systems Committee
INDIANA SECTION AWWA**

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FYI - Small Systems

FYI - Small Systems

December, 2010

FYI

Winter Greetings!!

With the snow and ice falling and the temperatures plunging, we hope you are all prepared and safely dealing with the issues this cold weather brings. You will find some helpful information inside to assist you.

You should have received a copy of **“Small Systems Handbook for Board Members, Owners, Elected Officials, and Operators of Indiana Water Systems”** in the mail. This little book, with a big title, is loaded with information of benefit to you and your Board. If you have not received your copy as yet, please call the AWWA office (toll free at 866-213-2796) to request one..

The Small Systems Committee needs your input on what type of projects or programs we could undertake that would be most beneficial to you. Please take a few minutes to share your ideas and suggestions with any of the Committee members listed to the left. Would you like to see FYI-Small Systems continue to be published? Would you like to see more workshops? What are your challenges that we could help address? How can we best assist you?

From all of us on the AWWA Small Systems Committee, we wish you and yours the best of Holiday Seasons and a happy, safe, and prosperous New Year!!

WHAT'S UP

The summer and fall of 2010 was extremely dry, how dry? Well, it was dry enough that the Indiana Department of Natural Resources and the Indiana Department of Homeland Security Issued a Water Shortage Warning. A water shortage warning is the second most severe stage of the alerts, with a watch being the lowest and an emergency the most extreme. The warning was issued on October 8, 2010 to select counties located mostly south of Indianapolis. The objective was to prepare for and head off potential water supply shortages and problems by initiating voluntary conservation measures. The goal was to reduce current water usage by 10-15% in the selected counties. It was also a call to public water systems to immediately update their water shortage contingency plans. Indiana's water shortage plan is located on the internet at www.in.gov/dnr/water/files/watshplan.pdf. At this site you can view lists of voluntary water conservation measures and programs for various categories of water users. This site also contains suggested model ordinances for municipalities. As a follow up to the water shortage warning, IDEM will also send out a questionnaire to the effected public water suppliers requesting a current status of the system. This article is a summary of the Water Shortage Alert System, for more detailed information you can contact Mark Basch by e-mail at mbasch@dnr.in.gov or at 317-232-0154, or Jerry Unterreiner at gunterreiner@dnr.in.gov or at 317-232-4222.

FYI FROM THE SECTION CHAIR

Where has the time gone? It seems like yesterday when I hit the road and traveled to all the AWWA Spring District meetings. Now as I write this article, I've traveled to all the Fall District meetings and my tenure as AWWA's Section Chair is beginning to wind down. My travels around the State have been most enjoyable. The best part is meeting so many dedicated water professionals and sharing thoughts and ideas about our industry and AWWA.

There is a trend that is developing and it is a cause for concern. Our attendance at meetings is going in the wrong direction. I'm also seeing membership in AWWA and other associations decline and that is also a concern. I believe that we are doing ourselves a disservice by not attending meetings and an even bigger disservice by dropping your memberships.

Our profession is only as good as those who are a part of it and everyone is needed, now more than ever. I am painfully aware of the economic conditions within our State and I do understand how budgets have been squeezed, if not flattened, because of what has transpired over the last twenty-four months. Even with our economic problems we should all be concerned that the direction we're heading in is one that will cause us to lose our connection with each other and then lose our standing as the professionals that provide safe water. I had this discussion with a friend and we were trying to decide what our meetings/conferences were all about. Are they educational and networking opportunities or are they networking and educational opportunities? It's the chicken vs. the egg syndrome. I believe that education and networking are the keys to our success no matter which emphasis or order you put them in. Attending workshops and/or the State Conferences gives every water professional an opportunity to learn from the presentations in the classrooms and learn from the experts in the exhibit hall. You will also have an opportunity to network with your peers from across this great State and share what each other is doing to make water safe to drink. I've been a party to discussions with folks from around the State trying to help someone solve an issue with their system. What's amazing is there's always someone in the group that had that similar problem and had a solution. This cannot happen if we don't belong and participate. As you prepare your 2011 budgets, please fight for your education, membership, training and conference line items and let your leaders know how valuable you are and your profession really is.

Education matters, Membership matters, YOU matter. We are water professionals and we are the profession that protects the public health through safe water.

Mark your calendars now for the Section's Annual Conference and Exhibition in Indianapolis at the Marriott Downtown, February 22nd through 24th. While you're marking your calendar check the AWWA website, www.inawwa.org, for workshops and seminars.



Indiana Section AWWA 103rd Annual Conference February 22nd thru 24th, 2011

Hotel Reservation:

Marriott Hotel
350 West Maryland Street
Indianapolis, Indiana

- Reservations (800) 266-9432

- You can also reserve a room online at:

https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=2560595

Conference Registration:

- Forms: www.inawwa.org
- Indiana Section AWWA
P.O. Box 534
Nashville, IN 47448
Telephone: 866-213-2796
Fax: 866-215-5966

FINDING WAYS TO STRETCH SOME \$\$\$

With the economy as it is, it helps to stretch any money you can. But where can you start. Haven't your budgets been cut enough and you are doing more with less?

We looked at different ways of buying chemicals at bulk to help cut costs. I know this sounds elementary but, the more you buy the cheaper it is. For example, look at the big warehouse clubs out there. You know there you can buy larger bags of chips for the same price as the smaller bags at the regular stores. By the ounce it's a great deal, but you waste money because it either goes bad or there is not enough storage space to keep from damaging the product, or you have to move it every time you need something.

Keeping the perspective of buying more and paying less, a few years ago (2006 to be exact) Westfield Public Works put together a bid proposal and contract to purchase Hydrofluorosilicic, Chlorine (Ton and 150 pound cylinders), Aluminum Sulfate, Sodium Fluoride, and Sulfur Dioxide for our water/wastewater plants. Knowing that other utilities use the same chemicals that we do, we sent out this proposal to some of our surrounding communities and asked if they wanted to partner with us. Needless to say some jumped on right away, but others wanted to wait to see how we did. Once everyone provided all required documentation, such as the chemicals needed and poundage per year, we sent the packet out for bid.

By all the communities coming together in this joint venture, the gross poundage of chemicals that are up for bid has increased dramatically. The bidder now has to bid on the higher poundage which in turn gives us a lower cost per utility. The reality of the group's chemical bid this year based solely on the 150 pounds cylinder of chlorine, Westfield Public Works went from a 12,700 pound chlorine user to a 41,700 pound user. This is the same for the smallest user as well. They also went from a 1,000 pound chlorine user to a 41,700 pound user. Remember the bag of chips? Except, the 1,000 pound user is still buying his 1,000 pounds at the cheaper price, without losing storage space, buying more than needed, or even changing his ordering schedule. He is just saving some money. (WOW, I sound like an infomercial)

Alright, I know if you're still reading this, the question is how much can I save. Well if the kettle is black, let's call it black. Are you going to save enough to hire someone? Buy that new truck or backhoe? I don't think so. Westfield Public Works saved \$1,397.00 on 150 pound cylinder of chlorine alone. Did I forget to mention that per the contract you don't pay deposit or those nasty surcharges that someone comes up with? As a community, subtract those surcharges and deposits to see what you might save without them. I haven't paid them since 2005. Then if you're still interested or have questions, e-mail me at bforkner@westfield.in.gov.

Who knows you might be a 1,000 pound user today but next year be considered a 1,000,000 pound user.

RIVERS, STREAMS AND DITCH CROSSINGS

Leak detection, what method do you have in place? This is one idea that a utility might think about incorporating even if there is not a method in place. This method would be the inspection of your water mains that cross rivers, streams and large ditches. What better place to prevent a leak or failure than where a main is most likely to become uncovered. Think about it, if the main becomes uncovered, it is exposed to the elements (i.e. winter elements, storms and debris from the river) this puts it at a greater risk for failure. Below are a few ideas to think about if one is going to incorporate the inspection as part of their leak detection program:

- pipe size and material
- location (x-ft. from centerline)
- accessibility
- problem condition – if any problems are obvious
- markers – has the main been marked, if not now would be a good time to do it
- bank condition – Excellent, Good, Fair or Poor
- bank slope – 10-25%, 25-40% 40-60% or 60-90%
- stream width – can be a general description (< x feet, > x feet)
- water width – either use a professional measuring wheel or estimated distance by stepping it off

Now, the time of the year this is done has become important. What is occurring during the summer months? Everything is growing and growing very fast and dense at places that are not regularly maintained (creeks, ditches and streams). After doing this inspection between April and June it has become more prevalent that an ideal time would be when the vegetation is dead or just starting to come out of hibernation, if you wait until late spring or summer you might not be able to reach the bed of the crossing to thoroughly inspect it. Another issue is the total amount of crossings a utility might have and the manpower to perform this inspection. My suggestion is to first do all of them (if at all possible) and get a baseline, the following year only inspect mains over a certain size and the year after that, from x size to y size. Maintain this rotation year after year, also catalog the

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ANSI 107-2004 & YOU

As of October 2009 the American National Standards Institutes rule 107-2004 has become the law of the land. Is your company complying?

ANSI 107-2004 is the high visibility garment standard being enforced by OSHA and DOT. The standard discusses what type of vest shall be worn and under what conditions it is authorized. There are three different types of vests. While the vest is always required, there are also numerous other garments which may be worn to increase visibility.

Type I vests are: Mesh or solid, orange or fluorescent yellow/green in color, with orange or silver stripes, light weight & cheap. This style may be used for parking lots but are not road legal. These vests generally have two stripes going up and over the body with no stripes around the sides (some do) and the stripes do not connect.

Type II vests are: Mesh or solid, orange or fluorescent yellow/green in color, with orange or silver stripes, light weight. These can be used for work on or near the right of way for roads where the speed limit does not exceed 45mph. These generally have two stripes going up and over the body & one stripe going 360 degrees around the body.

Type III vests are: Mesh or solid, orange or fluorescent yellow/green in color, with orange or silver stripes, light weight. These may be used for work on or near the right of way for roads in day or night conditions. Generally they have two stripes going up and over the body, two stripes going 360 degrees around the body, and a stripe located on the arm of the wearer.

When trying to decide what type of vest is needed there are several considerations to be made. You should consider the location of the worker, the traffic near the worker, the time of day the worker will be exposed, and the workers comfort while wearing the vest. For more information visit www.fhwa.dot.gov/



RIVERS, STREAMS AND DITCH CROSSINGS *(Continued)*

(Continued from page 3)

inspections with pictures and a spreadsheet, both electronically and a hard copy, to determine what needs worked on and if the person is at the right crossing. Use this as a guideline, develop it to your liking and go about inspecting the main crossings. You never know how much money you will be saving in the long run if you find a main that is uncovered before the next large storm or before the freezing temperatures of winter set it.

SOUNDING

It is important that once you have identified and visually inspected your creek and river crossings that you come up with a plan to sound the mains. This can be done using just a valve key and earphone, or more sophisticated equipment like mics and correlators. Many times it can be done with the least amount of expensive equipment depending on the location of the crossing. For example if it is in high traffic areas it may be difficult to distinguish whether or not it is a leak because of the surrounding noises. In this case it may be necessary to purchase the sounding equipment or contract out the work to a company that specializes in leak detection.

HOW IMMUNE ARE WE?

Now when you read this headline you are probably thinking that I am talking about colds, diseases, or even epidemics that could occur. Yeah, those are things I worry about as well, but this time I am talking about an earthquake.

Earthquakes here in the Midwest have been pretty minor in the recent years. Though we have had some, we here in Central Indiana have not felt much, Southwestern Indiana has felt more than we have. The reason behind this is the New Madrid fault, earthquakes here have the potential to threaten at least seven states. They are Illinois, Indiana, Missouri, Arkansas, Kentucky, Tennessee and Mississippi. Now again, you may be asking why I am talking about this, if you recall a few months ago in Southern California they had an earthquake that registered a 7.2 magnitude on the Richter scale. To give an idea on how powerful this earthquake was, compare it to the Tsar Bomba, the largest thermonuclear weapon ever tested (Wiki), which has the combined power of two nuclear explosives used in World War II, the bombs that destroyed Hiroshima and Nagasaki.

In El Centro, the local public and private interests sustained at least 25 million dollars in damage when four of six, 2 inch diameter anchor bolts sheared off an empty landmark water tower and an operating 5 million gallon tank ruptured. The water from this ruptured tank did not spill but just drained away to the relief of the nearby homes. (ENR, April 2010)

At an 8 mgd wastewater plant, four of the six clarifiers were damaged along with cracked concrete and a baffle that was shook loose. The city was in process of replacing a 16 mgd water treatment plant prior to the earthquake, this quake caused this plant to go off-line due to sediment plugging the ferric-sulfate pipe system. The new 21 mgd water treatment plant that was being built was immediately certified for operation. Although, after sustaining some aftershocks at the new facility, a rack drive failed and the rotating center structure was damaged, causing the new plant to operate at half capacity. (ENR, April 2010)

In a border city of Calexico, the damage is much worse. The city is using a back-up 5 mgd water treatment plant as the toppling of a clarifier in the 10 mgd facility put it out of commission. It is stated that the repairs could take as long as three months and 17 million dollars to repair. (ENR, April 2010)

This leads to the main topic for this article, how safe are our water/wastewater treatment facilities here in Indiana? Some are obviously safer than others, those being the newest buildings/facilities built. But what about the water towers that were built back in the 40's, 50's and even 60's that are used by our small towns and cities? What about our treatment facilities that have concrete filters, concrete tanks? What could happen to these? I recently spoke with an engineer that designs these facilities and he said that the obvious safety factors are taken into account when designing treatment structures and for the water towers/tanks they do account for some movement, whether it is vertical or horizontal loads/movement.

I am not saying that a major earthquake is going to hit our region tomorrow, but a person always hears about the New Madrid earthquake that happened in 1811-1812 and the possibility and probability that it will happen again. Will we be ready?

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 when a water superintendent is going into the office only to here that 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 the 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...

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WHY HAVE A VALVE MAINTENANCE PROGRAM? *(Continued)*

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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.

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 distribution 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 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 builts, 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 the valve position; open or closed. Then the

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WHY HAVE A VALVE MAINTENANCE PROGRAM? *(Continued)*

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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.

WINTERIZING TIPS FOR WATER UTILITIES

Are you prepared for the bitter cold weather that has arrived and can cause you so many problems? The purpose of this article is to get you brainstorming what areas you might have in your water system or community that could be potential problems or risk due to the cold weather. Here are a few areas that we need to check in our community and water utility, we call it our winterizing checklist.

- Start working on your winterizing checklist before the cold weather sets in. Set a deadline for when this checklist should be completed. (we use October 31.)
- Check for fire hydrants that do not drain properly. You may have notes on these from your flushing program; if not, it may take awhile to check all of your fire hydrants so start early. Once you have identified the problem hydrants, you need to pump them down at least 3' below ground level. You will want to check these problem hydrants a couple of days after pumping them down to see if water is leaking by the main seat and filling the barrel of the fire hydrant back up. You can also use sounding equipment to see if you have a leak after you pump the hydrant out. If you consistently have the same hydrants each year that do not drain or have water in them, you should probably look at relocating or replacing them.
- Check any areas in which you may use heat tape. You will want to make sure that the heat tapes are working properly. If the heat tape is 3-4 years old you may want to strongly consider replacing that heat tape.
- Does your community have park restrooms, irrigation systems, or water fountains that need drained or winterized?
- Your water tower is one of your biggest assets and should be a concern during the winter months. You can vary the water level in your tank on a daily basis to keep from having major freezing problems. If your tank overflows on a regular basis, you need to correct the problem before the hard winter gets here. (A water tank can collapse with excess ice build-up, not to mention the damage to interior ladders and cathodic protection equipment that can result from ice in the tank.) You may want to put a flow switch in the overflow pipe that alerts the operator if the tank is overflowing. Overflow screens should be checked periodically during the winter to make sure they are not frozen or clogged.
- Do you have an auxiliary heat source available in your well house in case power would go off for more than a couple hours?
- Test generators and transfer switches which should be done on a regular basis throughout the year. Inspect the batteries for the generators to be sure they create enough cold cranking amps to start a cold motor. You should also check any engine heaters.
- If you have any machinery that stays out in the weather or is in an unheated garage, be sure to check antifreeze strength, it should be down to at least -25 degrees F. If the equipment is diesel, be sure that the block heater and its power supply are functioning properly.
- Winterize mowers and equipment that will sit all winter. Gas stabilizer in October makes things so much easier in April.
- Check insulation and weather-stripping on all facilities in order to reduce the cost of heating those spaces.
- Inspect your facilities for small openings where mice and other small animals could find their way into the facility. In addition to the health concerns from their droppings, mice can cause a lot of damage. Make sure rodent control is maintained.
- On your wells, check drain backs if you have them.
- Utilize heat lamps or other insulation sources for your variable frequency drives.
- On your wells, utilize heat tape on above ground discharge lines or bad insulation.
- Review your Emergency Response Plan with your staff so everyone is informed of procedures and expectations during winter emergencies. Check that all emergency phone numbers and contacts are accurate.
- Inspect meter pits to make sure that they are closed properly, and if necessary, insulated to prevent frozen meters.
- Inspect vehicle tires, wiper blades and fluids, including anti-freeze.
- Have furnaces inspected and cleaned, if necessary.

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WINTERIZING TIPS FOR WATER UTILITIES (Continued)

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While conducting winterizing inspections, this would be a good time to check security needs for each site.

- Secure accessways with chains and/or locks
- Clear fences and make sure they are properly maintained
- Close and lock gates
- Make provisions for proper snow removal if access is needed during the winter
- Make sure any security or freeze alarms are all operational
- Remind your seasonal customers of some winterizing tips for their home when they call in for their seasonal disconnect. (Draining of water line, *if they don't have hot water heat of course*, turn back thermostat on furnace and hot water heater.)
- Find out an approximate return time of your seasonal customer to be verified with a phone call. Just in case of a problem you should see if they will give you a phone number so they can be contacted in case of an emergency.

I hope this article has helped in making your winterizing task go smoother for your utility. If you have tips you would like to share with others you can email Odetta or one of the committee members with your suggestions.

MARK YOUR CALENDARS!! (Continued)

April 28, 2011 - Wastewater Treatment Plant Operator Certification Examination. Application must have been post-marked by March 14, 2011. Contact: Rebecca McMonigle, IDEM, 317-232-8791, rmcmonig@idem.in.gov.

May 12, 2011 – Alliance of Indiana Rural Water – Northern Operator Expo; Culver, Indiana (tentative). Contact: Jim Soper or Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

May 19, 2011 – Alliance of Indiana Rural Water – Southern Operator Expo; Huntingburg, Indiana. Contact: Jim Soper or Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

June 7, 2011 – Indiana Rural Water Association – W3 Operator Symposium; Culy Construction Co.; Winchester, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free) or 812-988-6631; or visit the IRWA website at www.indianaruralwater.org

August 22, 2011 – 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 6, 2011. Contact: Rebecca McMonigle, IDEM, 317-232-8791, rmcmonig@idem.in.gov.

September 22, 2011 – Alliance of Indiana Rural Water – Scholarship Golf Outing; Phil Harris Golf Course. Contact: Jim Soper or Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

October 6, 2011 - Wastewater Treatment Plant Operator Certification Examination. Application must have been post-marked by August 22, 2011. Contact: Rebecca McMonigle, IDEM, 317-232-8791, rmcmonig@idem.in.gov

October 19-20, 2011 – Alliance of Indiana Rural Water – Fall Conference; Swan Lake Golf Resort; Plymouth, IN. Contact: Jim Soper or Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

December 5 – 7, 2011 – Indiana Rural Water Association – 2011 Water Institute (Fall Conference) – Holiday Inn Conference Center; Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free) or 812-988-6631; or visit the IRWA website at www.indianaruralwater.org

April 1, 2012 – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving 100,000 or more people – Comply with additional LT2 treatment technique requirements. Contact: Yasser Elkhatib at 317-234-7451, yelkhati2@idem.in.gov OR Adrian Lugo-Martinez at 317-234-7456, alugomar@idem.in.gov OR Stacy Jones at 317-234-7454, sjones@idem.in.gov. Other information on the LT2 Rule can be obtained from www.epa.gov/safewater/disinfection/lt2

April 1, 2012 – Stage 2 Disinfection By-Products Rule Deadline – Systems serving 100,000 or more people – Begin Stage 2 Compliance Monitoring. Contact: Peter Poon at 317-234-7441, ppoon@idem.in.gov OR Stacy Jones at 317-234-7454, sjones@idem.in.gov. Other information on the DBPR can be obtained from www.epa.gov/safewater/disinfection/stage2

April 16 – 18, 2012 – Indiana Rural Water Association – 2012 Spring Conference – Holiday Inn Conference Center; Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free) or 812-988-6631; or visit the IRWA website at www.indianaruralwater.org

OWQ Drinking Water Inspection Areas

Regional Office Areas

Drinking Water Inspectors

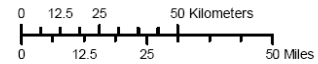
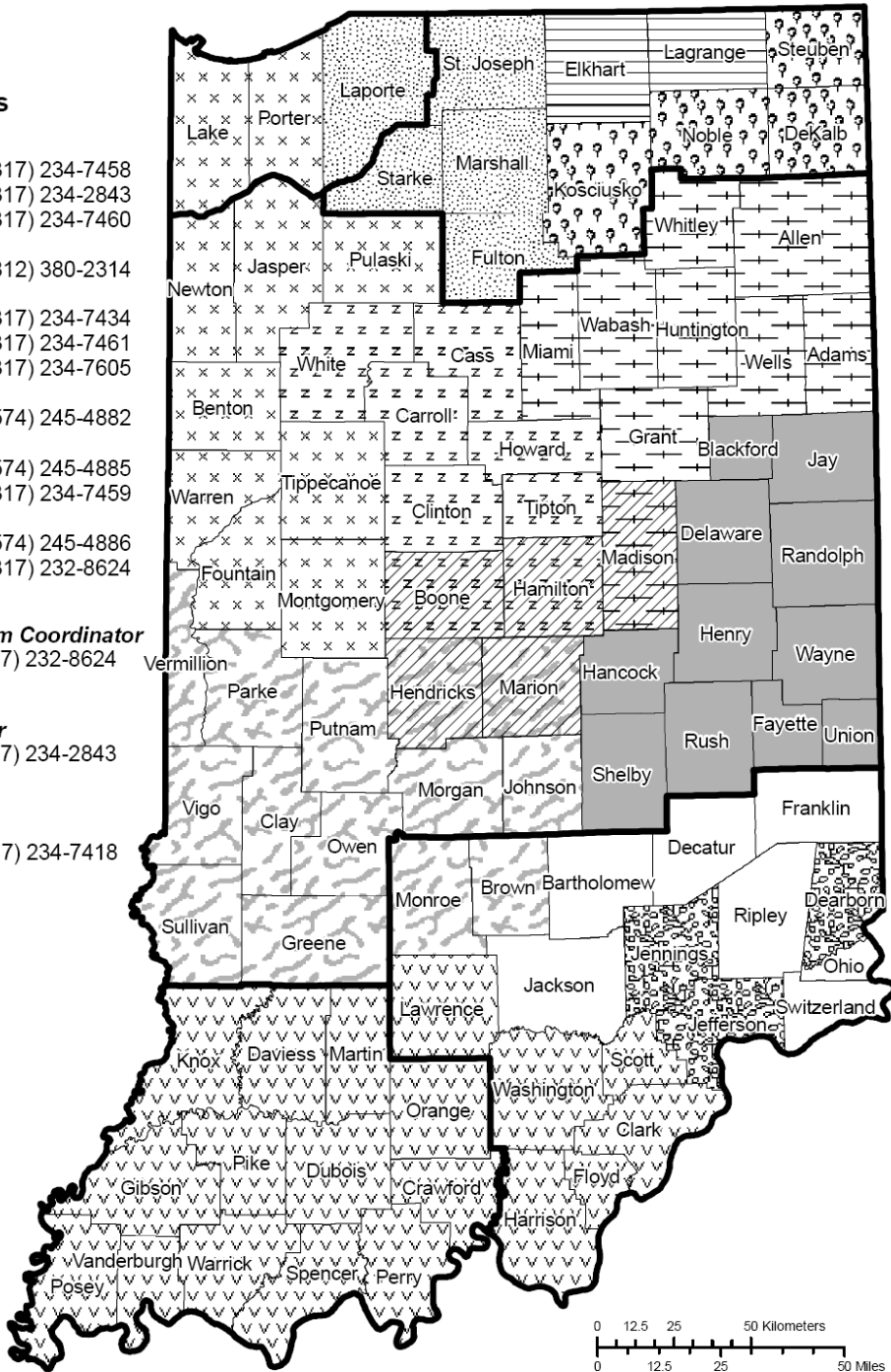
- Carolyn C. Chappell (317) 234-7458
- Larey Conquergood (317) 234-2843
- Paul Dick (317) 234-7460
- Karla Goodman
Southwest Office (812) 380-2314
- Marc Hancock
Transient Inspector (317) 234-7434
- Craig Lawson (317) 234-7461
- Alan Melvin (317) 234-7605
- Bill Morgan
North Office (574) 245-4882
- Lambda Mort
North Office (574) 245-4885
- Tamara Ratliff-Roberts (317) 234-7459
- Lucio Ternieden
North Office (574) 245-4886
- Sherri Winters (317) 232-8624

Security and Counter Terrorism Coordinator
Sherri Winters (317) 232-8624

Senior Environmental Manager
Larey Conquergood (317) 234-2843

Section Chief
Liz Melvin (317) 234-7418

Mailing Address:
Mail Code 66-34
IDEM - Office of Water Quality
Drinking Water Branch
Field Inspection Section
100 North Senate Avenue
Indianapolis, IN 46204



This map is intended to serve as an aid in graphic representation only. This information is not warranted for accuracy or other purposes.
Mapped By: Adam B. Watts, Office of Water Quality
Date: 09/23/2010
Sources:
Data: Obtained from the State of Indiana Geographic Information Office Library



Indiana Department of Environmental Management

Drinking Water Inspection Assignments by County

Cty. No.	County Name	Inspector	Cty. No.	County Name	Inspector
1	Adams	Paul Dick	47	Lawrence	Karla Goodman
2	Allen	Paul Dick	48	Madison	Paul Dick
3	Bartholomew	Larey Conquergood	48	Madison	Marc Hancock (NC)
3	Benton	Craig Lawson	49	Marion	Tamara Ratliff-Roberts
5	Blackford	Carolyn Chappell	49	Marion	Marc Hancock (NC)
6	Boone	Alan Melvin	50	Marshall	Lambda Mort
6	Boone	Marc Hancock (NC)	51	Martin	Karla Goodman
7	Brown	Tamara Ratliff-Roberts	52	Miami	Paul Dick
8	Carroll	Alan Melvin	53	Monroe	Tamara Ratliff-Roberts
9	Cass	Alan Melvin	54	Montgomery	Craig Lawson
10	Clark	Karla Goodman	55	Morgan	Tamara Ratliff-Roberts
11	Clay	Tamara Ratliff-Roberts	56	Newton	Craig Lawson
12	Clinton	Alan Melvin	57	Noble	Lucio Ternieden
13	Crawford	Karla Goodman	58	Ohio	Larey Conquergood
14	Daviess	Karla Goodman	59	Orange	Karla Goodman
15	Dearborn	Sherri Winters	60	Owen	Tamara Ratliff-Roberts
16	Decatur	Larey Conquergood	61	Parke	Tamara Ratliff-Roberts
17	Dekalb	Lucio Ternieden	62	Perry	Karla Goodman
18	Delaware	Carolyn Chappell	63	Pike	Karla Goodman
19	Dubois	Karla Goodman	64	Porter	Craig Lawson
20	Elkhart	Bill Morgan	65	Posey	Karla Goodman
21	Fayette	Carolyn Chappell	66	Pulaski	Craig Lawson
22	Floyd	Karla Goodman	67	Putnam	Tamara Ratliff-Roberts
23	Fountain	Craig Lawson	68	Randolph	Carolyn Chappell
24	Franklin	Larey Conquergood	69	Ripley	Larey Conquergood
25	Fulton	Lambda Mort	70	Rush	Carolyn Chappell
26	Gibson	Karla Goodman	71	St. Joseph	Lambda Mort
27	Grant	Paul Dick	72	Scott	Karla Goodman
28	Greene	Tamara Ratliff-Roberts	73	Shelby	Carolyn Chappell
29	Hamilton	Alan Melvin	74	Spencer	Karla Goodman
29	Hamilton	Marc Hancock (NC)	75	Starke	Lambda Mort
30	Hancock	Carolyn Chappell	76	Steuben	Lucio Ternieden
31	Harrison	Karla Goodman	77	Sullivan	Tamara Ratliff-Roberts
32	Hendricks	Tamara Ratliff-Roberts	78	Switzerland	Larey Conquergood
32	Hendricks	Marc Hancock (NC)	79	Tippecanoe	Craig Lawson
33	Henry	Carolyn Chappell	80	Tipton	Alan Melvin
34	Howard	Alan Melvin	81	Union	Carolyn Chappell
35	Huntington	Paul Dick	82	Vanderburgh	Karla Goodman
36	Jackson	Larey Conquergood	83	Vermillion	Tamara Ratliff-Roberts
37	Jasper	Craig Lawson	84	Vigo	Tamara Ratliff-Roberts
38	Jay	Carolyn Chappell	85	Wabash	Paul Dick
39	Jefferson	Sherri Winters	86	Warren	Craig Lawson
40	Jennings	Sherri Winters	87	Warrick	Karla Goodman
41	Johnson	Tamara Ratliff-Roberts	88	Washington	Karla Goodman
42	Knox	Karla Goodman	89	Wayne	Carolyn Chappell
43	Kosciusko	Lucio Ternieden	90	Wells	Paul Dick
44	Lagrange	Bill Morgan	91	White	Alan Melvin
45	Lake	Craig Lawson	92	Whitely	Paul Dick
46	Laporte	Lambda Mort			

NC=Non Community

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Small Systems Committee
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www.awwa.org

EPA Drinking
Water Hotline:
www.epa.gov/OGWDW



MARK YOUR CALENDARS!!

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

January 20, 2011 – Indiana Rural Water Association – Leak? - Find It - Fix It - Be Safe! Workshop – Cricket's Cafe; Sellersburg, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free) or 812-988-6631; or visit the IRWA website at www.indianaruralwater.org

February 22 – 24, 2011 – 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

March 14, 2011 – 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 April 28, 2011. Contact: Rebecca McMonigle, IDEM, 317-232-8791, rmcmonig@idem.in.gov.

March 16-17, 2011 – Alliance of Indiana Rural Water – Spring Conference – Bloomington Convention Center; Bloomington, Indiana. Contact: Jim Soper or Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

April 1 & 2, 2011 – Alliance of Indiana Rural Water – Management Conference – Seasons Lodge, Nashville, Indiana. Contact: Jim Soper or Laura Vidal at 888-937-4992 or visit the Alliance website at www.inh2o.org

April 18 – 20, 2011 – Indiana Rural Water Association – 2011 Spring Conference – Holiday Inn Conference Center; Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free) or 812-988-6631; or visit the IRWA website at www.indianaruralwater.org

April 18, 2011 – Indiana Rural Water Association – 2011 Annual Golf Outing – Otter Creek Golf Course; Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Miller at 866-895-4792 (toll free) or 812-988-6631; or visit the IRWA website at www.indianaruralwater.org

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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.