FYI - Small Systems

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FYI

Greetings from the InAWWA Small Systems Committee!!

There is a lot of information in this issue of FYI-Small Systems, including updates from IDEM ... testing production wells … resources for water operator quiz questions … well-head protection … pipe marking and color coding for your water plant … color coding for in-ground utilities … antennas on your storage tank … recordkeeping requirements … winterizing tips checklist … water operator certification test guidelines … Joint Utility Management Seminar details … deadlines and events … and a current listing of IDEM inspectors…..whew!!!

The Small Systems Committee would like to get your input on how we can better assist. We are looking at ideas for workshops in 2014 and will continue to publish FYI-Small Systems. What other types of assistance would benefit you and your utility?

Please contact any of our SSC members listed to the left.

Have a safe winter!!

JOINT UTILITY MANAGEMENT SEMINAR
presented by ...

Indiana Section American Water Works Association &
Indiana Water Environment Association

When: October 31, 2013 --Where: Marriott Indianapolis North

Web links:

inawwa.org

indianawea.org

WHAT'S UP WHAT'S NEW - IDEM

As they say the only constant is change. Once again the Field Inspection Section is experiencing personnel changes. This seems to be a recurring theme. Lambda Mort of the Northern Regional Office, South Bend, left IDEM for a position with InDOT working on the I-69 project. We have conducted interviews and hope by the time this reaches you we will have a new inspector in place. Then the training period. A county listing is being provided for our current assignment areas.

Since launching our electronic inspection program, known as Digital Inspector (DI), in July 2012, we have been steadily making progress, but still find ourselves behind in getting letters out to systems. However, after the survey, you should be provided with an exit interview during which the inspection results will be communicated to you and you are given an opportunity to ask questions. With DI, copies of the report will not be left on site. A letter with the survey report will follow the inspection. Once you receive the inspection letter you have 30 days to submit a response. Under our new rules and EPA reporting requirements you must submit a response for any deficiencies. Failure to respond may result in further administrative action by our Office. You may submit your response electronically. If you are stating corrections, we would appreciate it if you provide photo documentation along with a narrative description of corrections. Such documentation could save us all some time and effort.

(Continued on page 8)

FROM THE CHAIR

The fall season is here once again. Section District meetings have just been completed throughout the state. I had the opportunity to make all five, this time, to see members and hear very good information from very qualified and informed presenters, at all of the district meetings.

The presentations, from operators teamed with their engineers or with other operators from their utilities, were of most interest to me. I like to hear the side of the operator, just as much as, from the engineer or sales rep point of view. Good or bad, I believe a presentation from an operator is better received by other operators with similar situations than from the sales rep or engineer. Why don't we have more operators give presentations at the state section meeting in Indianapolis?

We are currently accepting abstracts for presentations at the February meeting. I believe it would improve our program greatly to hear more from our operators. You can do it individually or combine your presentation with your engineers or sales rep on an issue you believe will be of interest to all operators. The engineer might have the knowledge, the sales rep might have the product but without the operators input on how or why his plant isn't performing to his satisfaction, the help from the other two is of very little value to the plant operation. Everyone needs the operator's point of view, on the design, as well as, the effectiveness of the product to find a solution to the problems under discussion. As an operator, if you have had a problem that might have been unique or unusual, most likely another operator has had the same problem, at some time, or soon will have. Let them know through your presentation how you handled it. Your ideas and input may help solve some of their problems.

Two other issues that seem to be out there and receiving a lot of attention are infrastructure challenges and water resources.

(Continued on page 7)

PRODUCTION WELLS - HOW & WHEN TO TEST

Well production tests are a very pertinent part of keeping a water utility healthy and efficient. Every utility should know how much water their well or wells will produce so that they can meet the peak demand of the system or make arrangements to have access to additional water if that need is necessary. During construction, the well was tested to determine how the permanent pump would be sized to maximize the long term production capabilities of that particular well. As with everything around us, the long term production needs to be monitored and maintained to extend the useful life of that asset.

How do you monitor and maintain a production well? One aspect is to perform annual performance tests on the production wells in the system by means of a step drawdown test. At a minimum, this should be conducted annually. If after the first few years there is not a large change in data then a person could look at scaling back the testing to a comfortable time table, but that would increase the diligence of employees to monitor the available data at the well itself to watch for any indications of change.

The step drawdown test consists of pumping the well through a discharge pipe that is connected to the well while it is disconnected from the rest of the system. Generally, it is pumped through a measured orifice plate with a piezometer tube and a scale to show the correlation between measurements and gallons per minute. The testing usually starts with the contractor getting the static water level, which is the level of the water in the well when the pump is not running and has been off for a few hours or until recovery levels indicate minimal changes.

The production testing steps usually start at a low rate to get water flowing up and out the pump and then a discharge valve is shut to determine the pumps shut off head. This data will allow the contractor to see how close the pump is to original shut off and whether or not the pump is showing initial signs of wear.

Never leave the valve completely closed for very long, usually just enough to get good data and then crack the valve to allow water to flow. If it is closed for too long, the pump could start to get hot from not moving any water and this, along with other things, could cause damage to the pump.

(Continued on page 3)

WATER OPERATOR QUIZ CORNER

Bridget Murphy; IDEM

We all know that studying for the certified operator exam can get cumbersome and sometimes you feel like you can't read any more text. Another good option for studying is taking quizzes to see how you have progressed and what you have retained from reading the text. A simple Google search provides several quizzes you can take to help you study. Below are a few good ones I found.

I liked the "proprofs" quizzes because they provide the answers right away and give you a score. These come from www.smallwatersupply.org and have several "Water Treatment quizzes." It is important to note that some of the quizzes are from other states so the regulation questions may not be the same, but basic water treatment principles are the same.

http://www.proprofs.com/quiz-school/story.php?title=water-treatment-processes

http://www.proprofs.com/quiz-school/story.php?title=kansas-water-treatment-1 (Kansas)

http://www.proprofs.com/quiz-school/story.php?title=ca-water-treatment-plant-operator-quiz-chapter-7 (California)

Another valuable website that has some quizzes but more importantly a great deal of reading material is The Montana University System Water Center. (http://watercenter.montana.edu/default.asp)

There is a general quiz about clean water which would be good for those just beginning, (http://www.proprofs.com/quiz-school/story.php?title=clean-water-quiz). A link about facts and water trivia is also found on this website. (http://www.lenntech.com/water-trivia-facts.htm)

The following link is a complete training course designed by the University of Montana: http://watercenter.montana.edu/training/ob2005/.

The Minnesota Rural Water Association has an entire page of quizzes at the following link: http://www.mrwa.com/quizpage.htm

The Florida Rural Water Association has entire practice quiz from their Small Water Systems Training Manual. The link is: http://www.mrwa.com/quizpage.htm

PRODUCTION WELLS - HOW & WHEN TO TEST (CONTINUED)

(Continued from page 2)

From there the well/pump is pumped at an initial low rate and is progressively opened to higher rates. During each step it is recommended to hold at that step for a predetermined amount of time, this allows the pumping level to equal out and give a more accurate reading. The contractor will take measurements and data at each step, this information usually consists of the pumping rates, pumping levels, pressure readings and amp draw of the pumps' motor. With this information, the contractor can calculate the drawdown, total dynamic head (TDH) and the well's specific capacity.

All this information is very important because it allows comparison from year to year to see how healthy the well is and if it has started to plug. This data can also be plotted on the original pump curve to see how near original the pump is currently. While this information seems straight forward, it does take a little investigation to determine if a pump is starting to wear or clog ,versus the well starting to plug, as well as, what is the best direction to go to remedy this problem and get back to the most efficient usage of the well. Nowadays there are a number of things that can be added to the testing such as vibration analysis of the motor (if it is a vertical turbine) and power consumption compared to power costs. All this stuff can be discussed with a contractor to see how it best suits that utility.

The main thing to get from this article is to be proactive on maintenance, do not wait too long or what was once a great producing well could now be the worst one in the well field because it cannot be recovered to near original production.

WELLHEAD PROTECTION PLANNING

Protecting Indiana's ground water, and our sources of drinking water from becoming contaminated, is the primary objective of Indiana's Wellhead Protection Program which is overseen by the Indiana Department of Environmental Management (IDEM). Protecting ground water begins with the awareness of the benefits of protecting resources and the consequences of poor resource management practices. Beyond awareness, achieving true protection of the resource requires local awareness and your participation to make it happen. Your tool to make it happen is through the implementation of your Wellhead Protection Plan.

As a refresher, all community water systems that utilize ground water as a source of drinking water are required by IDEM to develop a Wellhead Protection Plan (Phase I). Phase I describes the steps and activities a community will implement to preserve ground water quality and prevent contamination from reaching their sources of drinking water. After the development of a Wellhead Protection Plan (Phase I) the planning in place transitions into actions and implementation of the Wellhead Protection Plan. This is also referred to as Phase II. Think of Phase II as daily activities you perform that provide stewardship of the drinking water resources served to your community/customers. As you perform these activities note them for future reference and inclusion in your Plan.

Though there is a reporting requirement to IDEM on your Wellhead Protection Plan implementation progress, reporting is not IDEM's overall goal. Please do not think of Phase II as only a reporting requirement. Phase II is ongoing for the life of your community water system. Integrating daily elements of planning and source water protection activities found within your Wellhead Protection Plan is vital to a meaningful effort.

IDEM recommends that you meet regularly with your local planning team to keep your delineations, source inventories, public education plans, emergency response plans, and other management strategies up to date. Keeping copies of changes, meeting minutes, and other documentation will make your Phase II reporting to IDEM much easier and meaningful as a viable ground water protection effort. As a reporting requirement to IDEM, your Community's Wellhead Protection Plan, Phase II could come due anytime between now and 2016. Your specific Phase II due date depending upon the approval date of your Phase I Plan. For more information, contact Jim Sullivan with IDEM's Ground Water Section at jsulliva@idem.IN.gov, also refer to IDEM's Wellhead Protection web page: http://www.in.gov/idem/4289.htm

WATER PLANT PIPE MARKING & COLOR CODING

JOE LARR & JIM RUSSELL

Why color code and mark your water plant pipes?

- Probably the best reason is organization. You, as superintendent, must have an exact understanding of how your plant operates. Without having to pull plant schematics, each line will tell you what it contains (by color) and where it goes (by marking).
- From a safety stand point, when a line needs to be repaired, just by looking at a properly marked line, it will give you a better understanding of how to go about it.
- For new employees, what a great training tool. For current employees a reminder of how things work.
- Great teaching tool for school field trips, it will give you a life size power point presentation.
- Lastly, has it ever happened, that you are at an out of town meeting and are called with a plant emergency. How much easier it will be to explain a solution rather than have to drive home.

The materials to achieve this are easily attainable. Below are some color codes to get you started.

Water Lines:

1. raw water/olive green
2. settled (clarified) water/aqua
3. potable water/dark blue

Each pipe should be marked with arrows to show direction of flow.

For a complete list (including chemicals etc.) email: barjalco@netzero.net

WATER STORAGE TANK ANTENNA INSTALLATION CONSIDERATIONS

IRA M. GABIN, P.E., VICE PRESIDENT
DIXON ENGINEERING

The rapid expansion of wireless communication services throughout the United States has resulted in the construction of many cellular antenna towers. To save on the cost of erecting these towers, communications companies look for existing structures that are suitable for locating their antennas. Also, in some areas zoning restrictions have severely limited the ability of cellular companies to locate their towers. For these reasons, water storage tanks are prime sites for antennas. Existing tanks are often the highest structure in a community and obviously do not need FAA and zoning approvals.

Leasing revenue from antenna installations has been a welcome development for hard pressed water utility budgets. Leasing rates range from a few hundred dollars to over $1,000 per month depending on the location and suitability of the storage tank. Since tanks usually have room for multiple antenna installations, leasing revenue can be doubled, tripled, or more by adding additional cellular carriers. In some cases, it is possible to pay for all future tank maintenance and painting with these revenues. While the income provided to water utilities from placement of antennas is certainly worth considering, care must be taken to avoid the adverse affects of these installations.

Many problems have occurred from antenna installations that were improperly designed and constructed. Many installers view the tank as simply a platform for their antennas, without understanding the important function the tank serves and the purpose of tank appurtenances. Problem areas include:

1) Structural damage.

2) Coating and corrosion damage.

3) OSHA violations.

4) Restriction of access to ladders, manholes and hatches with resultant confined space and safety concerns.

5) Contamination of water supply through improperly sealed penetrations.

6) Potential for interference with future painting

7) Poor aesthetic appearance.

Structural damage can occur from improper reinforcement of base bell and column penetrations and roof attachments. Since the steel plate in most tank roofs is fairly thin, heavy antenna frames can buckle the plates if not properly attached and reinforced. In extreme cases, damage to the tank structure and foundations can occur from poor design.

Coating damage occurs from welding operations. While exterior paint is usually repaired, the interior paint which has also been burned is usually ignored. Severe corrosion damage can occur on the wet interior of tanks if the affected areas are not power tool cleaned and recoated with a fast curing coating. Coatings are also subject to damage from cable bracket clamps and set screws that move and abrade the paint. The dissimilar metals between the clamp material and the tank steel can also establish an active corrosion cell at these locations.

Cable routing is a major problem with many installations. Installers often route the cables in a manner that is the easiest for them to install. This frequently causes access restrictions to hatches, ladders, and manholes. OSHA violations for confined space access and ladder standards are common. The cables are also often installed so that they are difficult or impossible to paint around when exterior or dry interior repainting is required. This increases costs to the water utility as painting contractors must factor cable removal and reinstallation into their bids.

(Continued on page 6)

WATER STORAGE TANK ANTENNA INSTALLATION CONSIDERATIONS (CONTINUED)

(Continued from page 5)

Contamination of the water supply is a major concern. Cable roof penetrations are often improperly sealed or in some cases left completely open. Roof vents have also been used as penetrations with their screens removed and cables routed through them. It is also common for roof hatches to be left open after work is completed.

Aesthetics are another important consideration. A wide range of mounting designs are available which should be reviewed for appearance by the utility. The routing of the cables on the exterior of legged tanks should be selected on a side of the tank that is least visible. Damaged exterior paint should be properly repaired and color matched. Horizontal cables laid flat on the roof should be avoided as they act as dams for bird droppings. When a heavy rainfall causes the accumulated material to flow over the cables, it can stain the exterior of the tank and can also run through a nearby roof opening such as a misaligned cathodic cap and cause contamination. Vandalism is another important consideration. Cables attached to legged tanks should have vandal guards to prevent climbers from using them to access the tank to express their deepest thoughts with spray paint.

A few basic steps should be followed by storage tank owners to avoid these problems. First, the cellular company should be required to provide a drawing of its complete installation including site utilities, ground structures, equipment panels, cable routing, and antenna structures. Secondly, a qualified engineering firm experienced with both storage tanks and antenna installations should be retained to inspect the tank, and review the drawings, welding procedures and coating repair specifications. Structural analysis should be performed to ensure that the tank can safely support the antennas. Also, care must be taken that the new installation does not interfere with existing cellular or utility antennas.

Only after all necessary drawing and specification revisions are completed should the installer be allowed to begin. Keys to the tank or tank site should be returned when the project is finished. It is not recommended that antenna companies be allowed to access the tank to service their equipment without utility personnel providing authorization and access.

The final step is inspection of the completed installation. The same firm that reviewed the drawings should inspect the entire installation including the interior paint repairs. In some cases, paint repairs can only be completed during low demand times of the year. In other cases the repairs must wait for warmer weather. This will require coordination with the cellular company to ensure that the interior paint is properly repaired.

When negotiating a lease with the cellular company, the design review and inspection services should be included in the contract at the company's expense. Most cellular companies are very cooperative in including these services in the lease. It is a minimal expense and also provides them with the assurance that their equipment will be properly installed.

A number of other legal and financial considerations should be carefully evaluated including length of contract, cost of living adjustments, access, liability, exclusivity clauses, and future painting expenses. Since many of your neighboring utilities may already have antenna installations, it would be worthwhile to inquire about their leases and hopefully benefit from their experience.

Water storage tank antennas are certainly worth investigating. By following these steps you should be able to obtain the benefit of this new source of revenue while avoiding the problems that can be caused by deficient antenna design and installation.

IDEM RECORD KEEPING REQUIREMENTS

A question we frequently get during surveys is how long do records of actions and results have to be kept.

As part of the regulatory requirement of 327 IAC 8-2-20 there are certain requirements for record keeping. During your routine sanitary survey, the drinking water inspector will ask to see your records to ensure you are keeping them for the proper length of time. Below is a table of contaminants and reports and the length of time they have to be kept.

Contaminant	Length of Time Required
Documentation of Corrective Action	12 years
Documentation of Public Notice	3 years
Consumer Confidence Report	5 years
Total Coliform Results	5 years
Nitrate	10 years
VOCs	10 years
IOCs	10 years
SOCs	10 years
Radionuclides	10 years
Lead and Copper	12 years
DPB (TTHM and HAA5)	10 years
Sanitary Surveys	10 years

It is advised that if you choose to get rid of these documents once the time frame has expired, that you recycle them.

FROM THE CHAIR (CONTINUED)

(Continued from page 2)

AWWA (**www.awwa.org**) has published a report title “Buried No Longer”, it addresses infrastructure challenges throughout the industry. The report is well written and can be a valuable tool to all of the AWWA members, in supporting requests for funding of infrastructure improvements. Challenge your leaders to read it and see what they, as leaders, are facing now, as well as in the immediate future within the industry to provide not only a safe water supply and delivery system but an adequate supply of water to those who need it.

Another report just out. It is the one all operators in Indiana should take a keen interest in and follow closely now and in the future. Each and everyone of the water systems in Indiana had a chance to contribute to the report. Issued by the Indiana Utility Regulatory Commission (IURC), the report titled “2013 Water Utility Resource Report, A Look at Indiana’s Water Supply & Resource Needs” **(http://www.in.gov/iurc/files/Water_Utility_Resource_Report-_FINAL-_8282013_with_cover(2).pdf)**. Get it and Read it. Make sure you follow this report in the years ahead. It will affect all of the water industry in the state of Indiana in some manner. Go to the IURC site and review or download the report. Give a copy to your board or council, as well. Knowledge of all the issues within the industry is a primary responsibility of an operator.

Hopefully, I will see some of you at a training meeting soon or possibly in Indy in February, up front, giving a presentation from the point of view as an operator. Bring a new attendee with you, to a training meeting and also to Indy.

By the way, contact Mary Wessler at Wessler Engineering (**mwessler@wesslerengineering.com**) or go to InAWWA’s website (**www.inawwa.org**), for information to submit your presentation request.

As a Navy Veteran, may all of you have calm seas ahead and loved ones at home to support you on your journey wherever your vessel may take you.

WINTERIZING TIPS FOR WATER UTILITIES

Before long the cold winter air will be hitting us in the face. The question is: Are you prepared for the bitter cold weather that will come and can cause you so many problems? The purpose of this article is to get you brainstorming on what areas you might have in your water system or community that could be potential problems or risk due to the cold weather.

As the weather turns colder and the leaves start turning their brilliant fall colors, and especially before the snow flies, you need to prepare your system.

Here are a few areas that should be checked in your 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.
- ☐ Be sure your employees have appropriate cold weather gear if they will be working out in cold weather conditions.
- ☐ 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.
- ☐ 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 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.)

(Continued on page 9)

WHAT'S UP, WHAT'S NEW (CONTINUED)

(Continued from page 1)

Please remember the new lead free requirements go into effect in January. You will not be allowed to install any system components containing lead except for a few exceptions. Field staff will be checking your inventories for compliance. If you have leaded products they must be used before the January effective date.

On the horizon, the Revised Total Coliform Rule (RTCR) will go into effect in 2017. Here is what EPA says about the need for the RTCR.

> The Safe Drinking Water Act, as amended, requires EPA to review and revise, as appropriate, each National Primary Drinking Water Regulation (NPDWR) not less often than every six years. The outcome of the review of the 1989 Total Coliform Rule (TCR) determined that there was an opportunity to reduce implementation burden and improve rule effectiveness, and that revising the rule offered an opportunity for greater public health protection against waterborne pathogens in the public drinking water distribution systems.

You will be hearing more about this over the next few years, but you can visit the EPA website for more information at http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation.cfm .

If you have any questions you can contact me at lmelvin@idem.in.gov or at 317/234-7418.

WINTERIZING TIPS FOR WATER UTILITIES (CONTINUED)

(Continued from page 8)

- ☐ Do you have an auxiliary heat source available in your well house in case power would go off for more than a couple hours?
- ☐ 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.
- ☐ 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.
- ☐ Check pits for leaks, insulators, and conduct an overall inspection.

SECURITY:

- ☐ Secure access ways 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.

WELLS and PUMPING EQUIPMENT:

- ☐ Check your pump houses to make sure there is an adequate heater with a thermostat to maintain enough heat in the building so the discharging piping and any sensing lines in the building will not freeze.
- ☐ If there is a vertical turbine pump in the pump house, there will be a small amount of water trickling out of the stuffing box, which is normal. You must make sure the water has proper drainage away from the pump house.
- ☐ On a submersible pump, you want to maintain proper heat in the building so when the pump is off, it will not freeze.
- ☐ For wells and pumps on pit less adapters, you must ensure the wells are covered properly and protected against snow, hail, and ice getting in them, yet allowing them to be vented to atmosphere.
- ☐ If there is a pit for booster pumps or check valves, ensure the top is sealed as with the pit less adapters.
- ☐ To avoid accidents with snowmobiles and snow plows, make sure that if you have test wells or wells with pit less adapters, they are very visibly marked so they may be located easily in deep or drifting snow.
- ☐ When spring arrives, do not forget to shut off your heaters to prevent overheating and save fuel.

STORAGE TANKS:

- ☐ The leading causes of tank freeze ups in Indiana are a lack of circulation and operator awareness.
- ☐ Ice formation occurs when water sits in a tank long enough to have heat transfer through the tank wall lower the temperature to freezing. Smaller tanks are more susceptible to freezing as their surface area to volume ratio is lower. A 100,000 gallon elevated tank has approximately 30 gallons of water stored for every square

(Continued on page 10)

WINTERIZING TIPS FOR WATER UTILITIES (CONTINUED)

(Continued from page 9)

foot of surface area, while a 1,000,000 gallon elevated tank has approximately 68 gallons per square foot. The more steel surface area there is per gallon, the faster heat will transfer. The same relationship applies to pipes. A 4-inch diameter pipe has 0.62 gal/sq.ft., while a 24-inch diameter has 3.75 gal/sq.ft. That is why a small pipe without circulation will freeze solid much faster than a large one. There is much less water to freeze and the heat transfer rate is much higher.

- ☐ Groundwater systems have a major advantage as the incoming water is around 46-48 degrees F and adds heat to the tank every time it is filled. As a rule of thumb, if the volume of a tank can be turned over at least every two days during the winter, freezing should not be a concern for a groundwater system. Surface water supplies have a more difficult time as for several months they are pumping water that is 33-34 degrees F and will freeze quickly if circulation is not adequate.
- ☐ Make sure any water towers or ground storage tanks have their sensing lines properly insulated or heat taped to prevent false readings and to allow the water to be turned, keeping it fresh.
- ☐ Adjust pump cycles as needed to ensure that water circulates frequently each day. Demands in the winter are lower, so the pump operating levels may need adjustment.
- ☐ Consider changing filling operations to lower demand times. This ensures most of the new warmer water enters the tank first instead of being used directly to meet system demands.
- ☐ Consider reducing overall tank volumes. As long as the fire flow minimum storage volume is maintained, the tank volume can usually be reduced without a noticeable effect on system pressures.
- ☐ Insulate fill pipes and use heat tape where practical. Without adequate circulation, the fill pipe will freeze before the tank due to its high heat transfer rate.
- ☐ Install temperature alarms on the fill pipe and riser. These can be tied into your control or SCADA system to warn of impending freezing.
- ☐ Use warmer water sources where possible. If you have dual sources, try to use ground water instead of surface water during the winter.
- ☐ If altitude values are used on multiple tank systems, they should be serviced routinely to ensure proper operation.
- ☐ For worst cases, consider installing a recirculation system. These are commonly found on industrial tanks that are only used for fire protection. A new municipal tank built for future service demands could also temporarily have this problem, as can school water supply systems. Recirculation systems are effective, but require close monitoring to ensure they work properly.
- ☐ Most importantly, be sure that your control system provides a continuous reading of tank levels. The old fashioned circular chart recorders work fine, as do the more modern computerized telemetry. Paying close attention to this data will help to identify circulation concerns.

BACKFLOW:

- ☐ The best way to prevent freezing on an irrigation system is to have the assembly removed for the winter months then re-install and test the assembly in the Spring when it is warmer. Another option is to turn off the shut-off valve and drain the assembly by opening the test cocks.
- ☐ Whether your assembly stays in use for the winter, be sure the backflow cover fits securely to the ground to prevent air infiltration. Check the cover for any cracks, holes, splits, etc.
- ☐ Cover the assembly with insulation inside the enclosure.
- ☐ If electricity is available, install a damp rated heat tape around the assembly and piping inside the cover.

(Continued on page 11)

TAKING OPERATOR CERTIFICATION TEST IN NOVEMBER?

You should report to the test site for which you are approved. Test sites are set up only for those persons approved for that site. There are no extra tests available. If you show up at a site for which you are not approved, you will not be able to take the test. Your test site location will be in your letter of approval. You may bring your books, pencils and a non-texting calculator. You may not bring the AWWA Operator Certification Study Guide, paper (loose leaf or notebooks), cell phones, electronic devices, or other writing implements. Pencils, test booklets with room for calculations, and formula sheets will be provided at the test site. You will be asked to remove any head apparel and sunglasses. Please contact IDEM if you have any questions.

WINTERIZING TIPS FOR WATER UTILITIES (CONTINUED)

(Continued from page 10)

EMERGENCY PREPARATION:

- ☐ Take out your emergency management plan and review.
- ☐ Update emergency contact phone numbers.
- ☐ Place emergency management plan with emergency contact phone numbers in a prominent location in your office. Label it so that if you are not there, others who may be called on to fill in for you will be able to find it and use it.
- ☐ Get permission from your board, town manager, or mayor to identify and cross-train two or three individuals so that they can operate the system safely during an emergency. Then get them cross-trained. TIP: Look for suitable retirees in your community to fill this need if you do not have access to other personnel within your organization.
- ☐ Write down your critical operating procedures and maybe even put labels on some of the equipment and controls. Have the people who you are cross-training help you write the procedures and identify what needs to be labeled.
- ☐ Make a list of your current chemical suppliers, including phone numbers, and a list of the specific chemicals you purchase on a regular basis.
- ☐ Assemble a set of spare keys and put them in a location where the folks you cross-trained can gain access to them.

EMERGENCY STOCK ITEMS:

- ☐ Repair Clamps
- ☐ MJ Sleeves
- ☐ Compression Fittings
- ☐ Roll Plastic
- ☐ Lids and Rings
- ☐ Saddles(3/4 and 1")
- ☐ Valve Boxes (tops and bottoms)
- ☐ Back-Up Generators (pull behinds, portables, etc.)
- ☐ Drinking water safe hose and fittings for interconnecting houses, if needed, due to frozen pipes.
- ☐ Pipe thawing equipment – own, rent, or borrow
- ☐ Meter Pit Insulators

Have a safe, enjoyable winter! Remember, Indiana has quick and unexpected weather changes, so start your cold weather preparedness now!

PARTNER WITH US TO OPTIMIZE OPERATIONS: THE PARTNERSHIP FOR SAFE WATER

The Partnership for Safe Water is a voluntary utility program with a mission of improving the quality of drinking water delivered to customers by optimizing treatment plant and distribution system operations. The program is sponsored by six prestigious drinking water organizations including: AWWA, US EPA, Association of Metropolitan Water Agencies (AMWA), Association of State Drinking Water Administrators (ASDWA), National Association of Water Companies (NAWC) and the Water Research Foundation (WRF). The Partnership's comprehensive self-assessment and optimization programs provide utilities with the tools they need to improve performance beyond even proposed regulatory levels.

The Treatment Plant Optimization Program is open to surface water filtration plants of all sizes and process configurations and is focused on reducing treated water turbidity to protect public health. The Distribution System Optimization Program is open to any water utility that applies a distribution system disinfectant and is focused on evaluating and optimizing distribution system performance based on a variety of parameters, including disinfectant residual. Low annual subscriber fees are based on population served and cost utility customers less than a penny per year, while providing a measureable improvement in drinking water quality.

Partnership utilities receive public recognition as they progress through the program's phases and reach optimization milestones, demonstrating their commitment to improving water quality and protecting public health. Join the more than 220 Partnership utilities that participate in and benefit from the Partnership for Safe Water's utility optimization programs. To learn more, visit www.awwa.org/partnership or contact the Partnership at 303-347-6169.

NO LEAD - IT IS HERE

We've all been talking about it for the past couple of years. All current waterworks brass inventory containing lead becomes obsolete and ***CAN NOT*** be sold or used after January 4, 2014. If you have not done so already, you should cycle out your current lead brass inventory and replace it with new no-lead brass inventory.

Again, the deadline is January 4, 2014. Will you be in compliance? If you have questions, contact your supplier.

AIR PERMITS REQUIRED - GENERATORS/RECIPROCATING INTERNAL COMBUSTION ENGINES/ STATIONARY ENGINES

OPPTA has developed a new website for air permitting of generators / reciprocating internal combustion engines / stationary engines -- http://www.in.gov/idem/ctap/2403.htm. This can be used as the first stop for facilities trying to determine their applicability or compliance with the air permit and NESHAP requirements.

MARK YOUR CALENDARS (CONTINUED)

(Continued from page 16)

October 9 - 18, 2013 – Indiana Public Employer Plan (IPEP) 2013 Annual Safety Seminar – Visit www.ipep.net/loss-control/training-and-events.aspx for seminar dates and locations.

October 29, 2013 – InAWWA Small Systems Committee – Water Operator Math Refresher Workshop – Hammond, Indiana. Contact: Odetta Cadwell (odieirwa@aol.com) or Neal McKee (neal.mckee@amwater.com), or visit the InAWWA website at www.inawwa.org, click on "What's New".

October 31, 2013 – Indiana Section American Water Works Association / Indiana Water Environment Association – Joint Utility Management Conference – Marriott North, Indianapolis, Indiana. Contact: InAWWA at 866-213-2796 (toll free); or visit the InAWWA website at www.inawwa.org or the IWEA website at www.indianawea.org

October 31, 2013 – InAWWA Small Systems Committee – Water Operator Math Refresher Workshop – Warsaw, Indiana. Contact: Odetta Cadwell (odieirwa@aol.com) or Neal McKee (neal.mckee@amwater.com), or visit the InAWWA website at www.inawwa.org, click on "What's New".

November 3 - 7, 2013 – AWWA Water Quality Technology Conference (WQTC) – Long Beach, California. Contact: www.awwa.org

November 5 - 7, 2013 – 2013 Midwest Damage Prevention Conference – French Lick, Indiana (IRWA is presenting a session as part of this event conducted by Indiana 811/Kentucky 811) – Visit: www.Midwest811Conference.com

November 7, 2013 – The Water Works Operator Certification Exam will be given November 7, 2013. Applications were to be postmarked by September 23, 2013. Contact: Ruby Keslar, IDEM, 317-234-7431, rkeslar@idem.in.gov or Denny Henderson, IDEM, 317-234-7429, drhender@idem.in.gov.

November 12, 2013 – Indiana Rural Water Association – GIS / Water Loss Audits / Meters / Software – Greenfield, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

November 13, 2013 – Indiana Rural Water Association – Dealing With Biofilms, Phosphates, and Organics in Your System and Towers – New Pekin, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

November 20—22, 2013 – Indiana Water Environment Association — Annual Conference — Westin Downtown; Indianapolis, Indiana. Contact: www.indianawea.org

December 9 – 11, 2013 – Indiana Rural Water Association – 2013 Water Institute (Fall Conference and 45th Anniversary Celebration) – Clarion Hotel & Conference Center; Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

February 10 – 13, 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 **Note: Corrected Dates**

February 25 – 28, 2014 – AWWA Utility Management Conference – Savannah, Georgia. Contact: www.awwa.org

March 10 – 13, 2014 – AWWA/AMTA Membrane Technology Conference & Exposition – Las Vegan, Nevada. Contact: www.awwa.org

March 17, 2014 – Water Works Operator Certification Exam Application submission must be postmarked by this date. The Water Works Operator Certification Exam will be given May 1, 2014. Contact: Ruby Keslar, IDEM, 317-234-7431, rkeslar@idem.in.gov or Denny Henderson, IDEM, 317-234-7429, drhender@idem.in.gov

March 30 – April 2, 2014 – AWWA Sustainable Water Management Conference – Denver, Colorado. Contact: www.awwa.org

April 28 – 30, 2014 – Indiana Rural Water Association – 2014 Spring Conference – Clarion Hotel & Conference Center; Columbus, Indiana. Contact: Odetta Cadwell at 317-402-7349; MaryJane Peters at 866-895-4792 (toll free); or visit the IRWA website at www.indianaruralwater.org

(Continued on page 14)

MARK YOUR CALENDARS (CONTINUED)

(Continued from page 13)

May 1, 2014 – Water Works Operator Certification Exam will be given May 1, 2014. Applications were to be postmarked by March 17, 2014. Contact: Ruby Keslar, IDEM, 317-234-7431, rkeslar@idem.in.gov or Denny Henderson, IDEM, 317-234-7429, drhender@idem.in.gov

June 8 - 12, 2014 – AWWA Annual Conference and Exposition (ACE'14) – Boston, Massachusetts. Contact: www.awwa.org

September 22, 2014 – Water Works Operator Certification Exam Application submission must be postmarked by this date. The Water Works Operator Certification Exam will be given November 6, 2014. Contact: Ruby Keslar, IDEM, 317-234-7431, rkeslar@idem.in.gov or Denny Henderson, IDEM, 317-234-7429, drhender@idem.in.gov

October 1, 2014 – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving less than 10,000 people (monitoring for *Cryptosporidium*) – Comply with additional LT2 treatment technique requirements. Contact: Yasser Elkhatib at 317-234-7451, yelkhati2@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

November 6, 2014 – Water Works Operator Certification Exam will be given November 6, 2014. Applications were to be postmarked by September 22, 2014. Contact: Ruby Keslar, IDEM, 317-234-7431, rkeslar@idem.in.gov or Denny Henderson, IDEM, 317-234-7429, drhender@idem.in.gov.

November 16 - 20, 2014 – AWWA Water Quality Technology Conference (WQTC) – New Orleans, Louisiana. Contact: www.awwa.org

December 8 – 10, 2014 – Indiana Rural Water Association – 2014 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 visit the IRWA website at www.indianaruralwater.org

February 9 – 12, 2015 – 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

April 2015 – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving 100,000 or more people – Begin second round of source water monitoring. Contact: Yasser Elkhatib at 317-234-7451, yelkhati2@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

October 2015 – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving 50,000-99,999 people – Begin second round of source water monitoring. Contact: Yasser Elkhatib at 317-234-7451, yelkhati2@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, 2016 – Revised Total Coliform Rule Implementation – Public water systems and primacy agencies must comply with the revised requirements by this date -- http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation_revisions.cfm

October 2016 – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving 10,000-49,999 people – Begin second round of source water monitoring. Contact: Yasser Elkhatib at 317-234-7451, yelkhati2@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

October 1, 2017 - Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving less than 10,000 people (monitoring for *E. coli*) – Begin second round of source water sampling. Contact: Yasser Elkhatib at 317-234-7451, yelkhati2@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, 2019 – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving less than 10,000 people (monitoring for *Cryptosporidium*) – Begin second round of source water monitoring. Contact: Yasser Elkhatib at 317-234-7451, yelkhati2@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

IDEM INSPECTORS

COUNTY	COUNTY NAME	INSPECTOR	COUNTY	COUNTY NAME	INSPECTOR
1	ADAMS	ROB MCLAUGHLIN	47	LAWRENCE	SUSIE HUTSLER
2	ALLEN	ROB MCLAUGHLIN	48	MADISON	ALAN MELVIN
3	BARTHOLOMEW	SUSIE HUTSLER	49	MARION	JEFF GUINN GW
4	BENTON	GLEN LECHLITNER	49	MARION	PAUL MAHONEY sw
5	BLACKFORD	CAROLYN CHAPPELL	50	MARSHALL	ADRIANNE VOGLER
6	BOONE	ALAN MELVIN	51	MARTIN	KARLA GOODMAN
7	BROWN	JEFF GUINN	52	MIAMI	ROB MCLAUGHLIN
8	CARROLL	ALAN MELVIN	53	MONROE	JEFF GUINN
9	CASS	ROB MCLAUGHLIN	54	MONTGOMERY	GLEN LECHLITNER
10	CLARK	KARLA GOODMAN	55	MORGAN	JEFF GUINN
11	CLAY	JEFF GUINN	56	NEWTON	GLEN LECHLITNER
12	CLINTON	ALAN MELVIN	57	NOBLE	LUCIO TERNIEDEN
13	CRAWFORD	KARLA GOODMAN	58	OHIO	SUSIE HUTSLER
14	DAVIESS	KARLA GOODMAN	59	ORANGE	SUSIE HUTSLER
15	DEARBORN	SUSIE HUTSLER	60	OWEN	JEFF GUINN
16	DECATUR	SUSIE HUTSLER	61	PARKE	JEFF GUINN
17	DEKALB	LUCIO TERNIEDEN	62	PERRY	KARLA GOODMAN
18	DELAWARE	CAROLYN CHAPPELL	63	PIKE	KARLA GOODMAN
19	DUBOIS	KARLA GOODMAN	64	PORTER	WENDY SCHAFER
20	ELKHART	ADRIANNE VOGLER	65	POSEY	KARLA GOODMAN
21	FAYETTE	CAROLYN CHAPPELL	66	PULASKI	ROB MCLAUGHLIN
22	FLOYD	KARLA GOODMAN	67	PUTNAM	JEFF GUINN
23	FOUNTAIN	GLEN LECHLITNER	68	RANDOLPH	CAROLYN CHAPPELL
24	FRANKLIN	SUSIE HUTSLER	69	RIPLEY	SUSIE HUTSLER
25	FULTON	ROB MCLAUGHLIN	70	RUSH	CAROLYN CHAPPELL
26	GIBSON	KARLA GOODMAN	71	ST. JOSEPH	WENDY SCHAFER
27	GRANT	ALAN MELVIN	72	SCOTT	SUSIE HUTSLER
28	GREENE	JEFF GUINN	73	SHELBY	CAROLYN CHAPPELL
29	HAMILTON	ALAN MELVIN	74	SPENCER	KARLA GOODMAN
30	HANCOCK	CAROLYN CHAPPELL	75	STARKE	ROB MCLAUGHLIN
31	HARRISON	KARLA GOODMAN	76	STEUBEN	LUCIO TERNIEDEN
32	HENDRICKS	JEFF GUINN	77	SULLIVAN	JEFF GUINN
33	HENRY	CAROLYN CHAPPELL	78	SWITZERLAND	SUSIE HUTSLER
34	HOWARD	ALAN MELVIN	79	TIPPECANOE	GLEN LECHLITNER
35	HUNTINGTON	ROB MCLAUGHLIN	80	TIPTON	ALAN MELVIN
36	JACKSON	SUSIE HUTSLER	81	UNION	CAROLYN CHAPPELL
37	JASPER	GLEN LECHLITNER	82	VANDERBURGH	KARLA GOODMAN
38	JAY	CAROLYN CHAPPELL	83	VERMILLION	GLEN LECHLITNER
39	JEFFERSON	SUSIE HUTSLER	84	VIGO	JEFF GUINN
40	JENNINGS	SUSIE HUTSLER	85	WABASH	ROB MCLAUGHLIN
41	JOHNSON	JEFF GUINN	86	WARREN	GLEN LECHLITNER
42	KNOX	KARLA GOODMAN	87	WARRICK	KARLA GOODMAN
43	KOSCIUSKO	LUCIO TERNIEDEN	88	WASHINGTON	SUSIE HUTSLER
44	LAGRANGE	ADRIANNE VOGLER	89	WAYNE	CAROLYN CHAPPELL
45	LAKE	WENDY SCHAFER	90	WELLS	ROB MCLAUGHLIN
46	LAPORTE	WENDY SCHAFER	91	WHITE	GLEN LECHLITNER
			92	WHITLEY	ROB MCLAUGHLIN

6/27/2013

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Small Systems Committee
INDIANA SECTION AWWA

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American Water Works Association:
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.

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 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

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 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

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.

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 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

October 3, 2013 – Wastewater Treatment Plant Operator Certification Examination. Application submission must have been postmarked by August 19, 2013. Contact: Rebecca McMonigle, IDEM, 317-232-8791, rmcmonig@idem.in.gov.

October 6 - 8, 2013 – Indiana Association of Cities and Towns Annual Conference – Indianapolis, Indiana. Contact: Matt Greller at 317-237-6200 or visit the IACT's website at www.citiesandtowns.org.

(Continued on page 13)