



Small Systems Committee  
INDIANA SECTION AWWA

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# FYI - Small Systems

FYI - Small Systems

May , 2007

## FYI

Greetings from the Small Systems Committee!! I am honored to let you know the dedicated folks that served on the SSC last year have agreed to serve once again.

One of our initiatives this year is to continue bringing you **FYI-Small Systems**. In this issue you'll find a lot of valuable information – everything from what's new at IDEM to removing iron and manganese to upcoming events and deadlines. Please check the Water Utility Council page of AWWA's website ([www.inawwa.org](http://www.inawwa.org)) for the latest on legislative issues.

As always, we encourage your input on this publication and other activities the Small Systems Committee can undertake to assist you and your system.

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## WHAT'S UP WHAT'S NEW - IDEM

IDEM is moving toward an electronic File Room. The Drinking Water Branch was among the first to go electronic. What this means is that all incoming mail is scanned as an image and filed in what is called the Virtual File Cabinet (VFC). You can now see electronic copies of documents. Documents in the VFC can be viewed or requested for viewing. On our home page you will find a link to access the VFC. Currently it is the third bullet point under the What's New heading. Please give this a try. We have been receiving many more records requests since this system has gone on line. You may be getting questions from the public as they review records. It would be helpful to you to get a look at the site so that you have some idea of what is out there for your system and the types of documents the public can view or request. Sensitive information is still kept confidential. Give it a try. You can access our home page at [www.in.gov/idem](http://www.in.gov/idem).

We have been gearing up for spring and construction season to get into full swing. Please make sure you are submitting your construction appli-

(Continued on page 2)

## FYI FROM THE SECTION CHAIR

The Indiana Section held another successful annual conference at the Marriott Hotel in downtown Indianapolis. There were so many educational opportunities it was hard to take it all in. With concurrent sessions going in four classrooms there was something for everyone. We had sessions ranging from Automatic Screen Filtration, Communication (for the workplace), Deterioration (of pump impellers), Discrimination (how not to), all the way to Ultra Violet Disinfection (Analysis), Vulnerability Assessments (Oops), Water Meters (of course), and "You Did What?..." (Accident Causation)!

Once again, I'd like to thank all of the Speakers, Moderators and Blue Coats who made this year's meeting another successful one. One of our attendees told me that our whole meeting ran so smoothly you would never guess that it was all done by volunteers. I have to agree. To all of you a sincere "well done"!

The MAC did another exceptional job. The exhibit hall was packed with exhibits, staffed by knowledgeable professionals from all fields. Once again the booth presentations were educational and informative and allowed attendees another viable option for continuing education credits. I doubt that there was a water industry question that couldn't be answered in that building. We had engineers, scientists, teachers, certified operators in water and waste water, plus folks who just know how to fix stuff. It's mind boggling to think that there had to be better than Twenty Thousand Years of combined water industry experience in that building. That's awesome!

Our Association dignitary this year was one of the Vice-Presidents of AWWA and the Michigan Section Director, Janice M. Skadsen. She shared her insights on AWWA and of course said nice things about us. She said that she has heard so much about our section meetings over the years and that she has always wanted to attend one. She left us with some good ideas and hopefully took a few back with her. We are a sharing organization after all. Our other visitor, Nina Miller, Community Outreach Manager from Water-For-People, came to talk about their program model and to say thanks for all that the Indiana Section does for Water-for-People. Tuesday's, very successful, Silent Auction and the YP's & friends delicate solicitation of donations at each of the evening receptions are just a couple of examples.

Congratulations to our director and friend Jim Williams who will always remember this year's conference as the best of his life time. Jim had major events at both Tuesday's reception and Wednesday's luncheon. If you were there you know exactly what I'm talking about. If you don't, then I guess you should have been there and now you had better ask around. There will be a quiz later.

The Safety Committee succeeded once again in emphasizing the importance of safety, while making it fun and educational. Every time I walked by I heard the safety wheel spinning. If you answered the question correctly you received your choice of a prize and if you answered incorrectly you received a short personalized safety lesson. That's a win, win situation! I lucked out with an M.S.D.S. question and walked out with a "Think Safety" hat. I always hope I don't get one of those ladder questions. I'm not concerned with one about maintaining three points of contact, that I can remember. I'm always uncertain about the ratio of the horizontal distance from the bottom of the ladder to the top of the ladder in comparison to the length of the ladder. I just looked it up and it's 1 to 4, just in case you forgot too.

The committee booth row of Membership, Small Systems, Water-For-People, and Young Professionals in the lobby next to I.D.E.M and Board of Health booths was continuously staffed by committee volunteers looking to educate the young less experienced members to the benefits of Committee involvement and they seemed to be having a pretty good time doing it. Now the Membership Committee, they were looking to convert those non-members into members. Are you one of those who's still on the outside looking in? Wouldn't you like to join an organization that can take a young man who's new to the water industry and in a short twenty years grow him into Chair of the Indiana Section and the president of a multi-state company? I know I did!

I hope to see each of you at one of the spring district meetings starting in May. ~Dan

FYI From The Section Chair - Reflections from the Recliner

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## WHAT'S UP WHAT'S NEW - IDEM (Continued)

*(Continued from page 1)*

cations in a timely manner. If you are looking to drill a new well, we will need to have your well site survey information to the inspector so that the visit can be scheduled. Since our mail is scanned and transmitted to us electronically through the Virtual File Cabinet network, we do not get the actual paper. You may want to call your inspector and find out how you can get the material to him or her if you are pushing a deadline.

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## “WATER EVERYWHERE, BUT NOT A DROP TO DRINK”

*This is the second in a series of articles authored by Vince Griffin, vice president of environmental and energy policy for the Indiana Chamber of Commerce. The Indiana Chamber is an organization of over 4,000 members that advocates a pro-business agenda for our state. The Chamber aggressively works with all groups in many areas including environmental and energy. This segment discusses an issue near and dear to the hearts of the American Water Works Association – water.*

In 1797, poet Samuel Taylor Coleridge in his “Rime of the Ancient Mariner” coined the now famous line “Water, water everywhere but not a drop to drink”. Our Hoosier state is blessed with adequate, reliable and cost-effective water resources. In fact, many of our businesses and industries are here because of the water resources. But how secure are those precious resources?

Indiana has experienced various levels of drought/water shortage in the 1940s, 60s and 80s. The most recent event was in 1988 when water reached critically low levels in most parts of the state. Even as bad as that drought event was, it was only one-fourth the severity of the shortages in the 40s and 60s. Recognizing the considerable growth of our state and the significant rise in water use and demand since 1988, if we should experience a drought of that magnitude today, the results would be catastrophic for every Hoosier and every business and industry. With that in mind, in 1991 the Indiana General Assembly directed the Indiana Department of Natural Resources (IDNR) through House Bill 1260, to develop an “Indiana Water Shortage Plan.” In 1994, that plan was released.

The “Water Shortage Plan,” which can be found on the IDNR web site, is a compilation of critical data and information that would aid in directing the state’s actions in the event of a drought. However, it did not do the heavy lifting – who actually gets the water in the event of a drought and in what priority order. Should it be drinking water, agricultural, electric power generation, industry, etc.? All perspectives can make a case as to why their interest should get the water.

After a number of years and a couple resolutions directing the IDNR to finish the plan, state Sen. Richard Young of Milltown authored Senate bill 369 which passed the 2006 legislature that tells IDNR to establish a Water Shortage Task Force (WSTF) and develop a priority-use schedule to be used at various stages of drought. That task force is to complete its mission by July 1, 2009. Senator Young has been a long-time member of the Legislature’s Water Resources Study Committee that meets during the summer to study important water issues.

The Director of the IDNR appointed the WSTF members and they have recently completed their second meeting. They are focused on the gathering of data and studying what other states have done to guide them in finalizing Indiana’s plan. The WSTF meeting and subcommittee meetings are open to the public. You may view the agendas and meeting dates on the IDNR web site.

The current 2007 General Assembly is considering legislation that would direct the state to examine and recommend a direction for the future of Indiana’s water resources. The final language of that legislation is still in the works but it is likely that the Water Resources Study Committee will look into this at their regular meetings this summer. The Indiana Legislature is scheduled to adjourn April 29, 2007. It will likely not be until that time that we will have a firm handle on the exact words that will direct the future of our state’s water resources and make sure that we don’t share in the ancient mariner’s “water, water everywhere” plight.

## PRINCIPLES OF IRON AND MANGANESE REMOVAL FROM A RAW DRINKING SOURCE

Art K. Umble, Ph.D., P.E., BCEE  
Greeley and Hansen LLC

The removal of iron (Fe) and manganese (Mn) from a drinking water source has been a common practice for decades. Though the technologies used for these removals are well known and proven, they are at times misunderstood and misapplied. The consequences are poorer water quality, inefficient operations and unhappy customers.

The presence of Fe/Mn in drinking water does not pose public health threats. Rather, it is an aesthetic concern. The presence of insoluble Fe and Mn in a drinking water can cause discoloration, stain plumbing fixtures and laundry items and cause metallic tastes. To address these water quality issues, the EPA recommends a Maximum Contaminant Level (MCL) of 0.3 mg/L for Fe and 0.05 mg/L for Mn. In the US, only about 55% of the Fe/Mn removal plants currently meet this standard consistently.

As water containing dissolved Fe/Mn is treated, a change in the physical chemistry of the Fe and Mn occurs. The result is that these come out of solution, or precipitate as solid material. This change involves an electron that orbits the Fe or Mn atom to be stripped away, a process known as oxidation. Once oxidized, the mineral's ability to remain in solution weakens significantly. In water treatment, the amount of mineral that actually comes out of solution is dependent on several factors, including the power of the agent causing the oxidation, the pH of the water and the amount of time the dissolved mineral is exposed to the oxidizing process.

In order to oxidize dissolved Fe and Mn, there must first be some kind of "oxidizing agent" present for the Fe and Mn to react with. An oxidizing agent is simply any substance that, when brought into contact with the mineral, has the strength to strip one or more electrons away from their "orbits" around the mineral atom. In groundwater treatment systems, the most common substance used to oxidize Fe is oxygen (O<sub>2</sub>). For Mn, a common oxidizing agent is potassium permanganate (KMnO<sub>4</sub>).

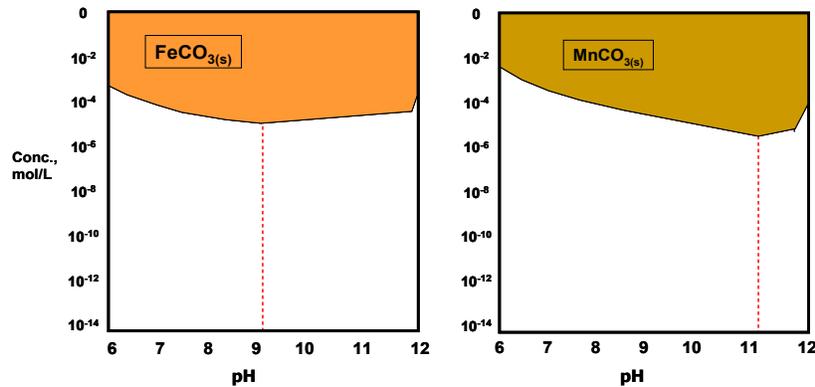
When the oxidizing agent is introduced to the solution, two key elements influence the degree to which the reaction with the dissolved Fe and Mn can go forward. The first of these is the pH. To appreciate this influence of pH, we must understand "solubility." The degree of solubility of the Fe and Mn is a measure of how much of the dissolved mineral will react to form the solid and fall out of solution. This amount changes as the pH changes. In natural groundwaters, Fe and Mn are present predominantly in the form of dissolved bicarbonates: Fe(HCO<sub>3</sub>)<sub>2</sub> and Mn(HCO<sub>3</sub>)<sub>2</sub>. For example, at a pH ~ 6.5, the Fe present in solution will remain in solution as long as the total Fe concentration is less than approximately 10<sup>-4</sup> M/L (5.6 mg/L). But if the total Fe concentration exceeds this, Fe will begin to precipitate out of solution in the solid form as iron carbonate, FeCO<sub>3</sub> (s), and will continue to precipitate until the dissolved concentration reaches the 10<sup>-4</sup> M/L (5.6 mg/L). At a pH of about 9, Fe reaches its "minimum solubility." At this point, the total concentration that can remain in solution without precipitating out is approximately 10<sup>-5</sup> M/L (0.6 mg/L). Manganese, on the other hand, will precipitate out of solution at pH ~6.5 if its total concentration exceeds about 10<sup>-3</sup> M/L (54.9 mg/L), and, like Fe, will precipitate in the form of a carbonate solid.

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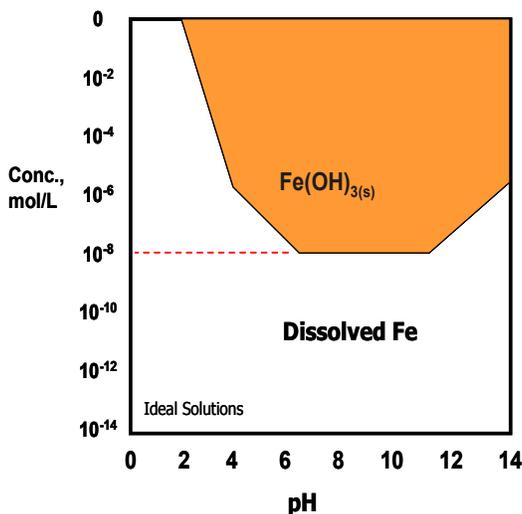
## PRINCIPLES OF IRON AND MANGANESE REMOVAL (Continued)

(Continued from page 4)

The minimum solubility for Mn occurs above pH ~11, where the solution can hold a concentration of only about  $10^{-8}$  M/L (0.5 µg/L). This is illustrated in Figure 1. The graphs delineate the separation between the dissolved and solid phases of the minerals.



Because the concentration of Fe and Mn in most natural groundwaters is less than the solubility lines, simply raising the pH of the raw water to the points of minimum solubility would not result in effective removals. For example, for a raw water Fe concentration of 2 mg/L ( $3.5 \times 10^{-5}$  M/L) and a pH of 7, we see that this concentration falls below the solubility limit, meaning the Fe will not form a precipitate and will not come out of solution. Therefore, in order to cause the precipitate to form, an oxidizing agent must be added to the solution.



When an oxidizing agent comes in contact with a mineral such as Fe or Mn, it has the power to strip the outer electron from the atom. This paves the way for the solid to form and is removal from solution. This is illustrated in Figure 2 below where the effect of oxidizing Fe in an ideal solution (i.e., no carbonates present) results in the minimum solubility dropping to nearly  $10^{-8}$  M/L (0.6 µg/L).

The oxidizing agent provides the means for removing the Fe or Mn to concentrations well below their respective solubility limits for a given pH. In conventional treatment applications, the most commonly applied oxidizing agents, in the order of increasing oxidizing strength and speed of reaction are: oxygen ( $O_2$ ); chlorine ( $Cl_2$ ); potassium permanganate ( $KMnO_4$ ); ozone ( $O_3$ ); and chlorine dioxide ( $ClO_2$ ). Higher strength oxidants tend to be effective over wide pH ranges. Because the natural solubilities of Fe and Mn decrease with increasing pH, theoretically, high removal efficiencies are possible if a high-strength oxidant is applied along with an elevated pH. From a practical standpoint, however, removals well below the secondary standard are usually achievable simply by only adding the oxidant without the concomitant elevation in pH elevation.

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## HOW TO BUILD A BENEFICIAL RELATIONSHIP WITH YOUR LEGISLATOR

by Kassie Mills, Borshoff Johnson Matthews and John Hardwick,  
Indiana Section AWWA Water Utility Council Chair

The key to building relationships with legislators is to remember that it's a situation of give and take. Regular communication offers mutual benefits. Legislators will listen more willingly to your concerns on a particular issue if a relationship has been established. On the other hand, your input provides them with an understanding of how certain issues affect their constituents. Particularly, when there's a controversial issue on the table, you most likely have an opinion and legislators need to hear your concerns.

There are a few different ways you can communicate with legislators. The most effective form of communication is face-to-face meetings. Communicating in person shows how committed you are to a particular issue and allows the legislator to put a human face to the issue.

Other than face-to-face meetings, personal letters have the most impact. Taking time to write on an issue demonstrates the depth of your concerns and allows you to explain your position in more detail. Furthermore, a personal letter serves as a permanent record of your position. Although not as effective as written or face-to-face communication, telephone calls can be especially useful once the relationship has already been established. Telephone calls are appropriate when a critical vote is imminent and there is not enough time to write.

Regardless of how you contact your legislator, there are several guidelines for making your communication effective so that it will lead to a valuable relationship:

- Communicate on a periodic basis, not just when you need something. Regular communication will encourage legislators to consider your thoughts and concerns on important issues that arise in the future. Make an effort to keep in contact throughout the year.
- Tell them who you are and your affiliations, and be sure to include that you are a constituent in their district.
- Keep your correspondence brief, simple and specific, and avoid including irrelevant information. Be sure to include the bill number and a short explanation of the bill.
- Explain how the proposed legislation affects you or your organization and give reasons why the legislator should support, oppose or change the bill.
- Use credible sources and hard facts to lend support to your argument. If legislators see that you can deliver reliable information, they will be encouraged to refer to you in the future.
- Be friendly and understanding. If you need to make a negative point, do so with a positive argument. Remember that legislators have many competing interests to consider. You must be acceptable of other opinions and be willing to compromise. Offer more praise than criticism.
- Comply with reasonable requests from your legislator. You can serve as a valuable resource to them, which sets the course for a mutually beneficial relationship.
- Request action from the legislator and make specific suggestions. Should they oppose or accept a bill? Are there certain amendments they should make to a bill?

Always thank your legislator for his or her time and consideration.

For more helpful materials about the legislative process and bills of interest to the Indiana drinking water industry, visit [www.inawwa.org](http://www.inawwa.org) and click WUC/Legislative Info. You can also contact John Hardwick ([jahvwd@netnitco.net](mailto:jahvwd@netnitco.net), 219-462-8412) or Beth Millett ([bmillett@bjmpr.com](mailto:bmillett@bjmpr.com), 317-631-6400) for more information.

## METER MADNESS COMPETITION

By: Jeff Morris; Competition Chair.

The 2006 Meter Madness Competition was held February 21, 2007 in Indianapolis during AWWA's Annual Conference. The contest was very close again this year. The following participants, representing each of the five districts, competed and won at the district competitions held at the individual fall meetings:

- Dan Smith, City of Ft. Wayne
- Steve Russell, the 2005 returning champ from Logansport Municipal Utilities
- Michael Sims, Logansport Municipal Utilities
- Scott Ham, Silver Creek Water Corp.
- Stacy Jones, IDEM
- Tim Sensibaugh, the 2004 returning champ from the City of Ft. Wayne Utilities

First place went to Scott Ham with a time of 1 minute 10.61 seconds with no penalties, Scott's arch rival, the nimble fingered Stacy Jones, delivered an assembly time of 1 minute 9.45 seconds with a 10 second penalty for a non-registering meter earning her a second place finish. Michael Sims, one of Indiana's longest competing competitors, came in a respectable 3<sup>rd</sup> place.

Scott Ham will proudly represent the Indiana Section at the national competition held at AWWA's National Conference in Toronto, Canada in June of this year. GO SCOTT!!!

Thanks to all of the contestants and their supervisors for allowing them to attend the meetings and participate in the competition.

A big thank you also goes to Bob Johnston, Marc Medina and the late Bob Hauser of HD Waterworks Supply for supplying the Hersey meters, shirts and outstanding trophies for the 2006 competition.

Thanks, again to everyone involved with this great competition.

Note: The 2007 Meter Madness preliminary competitions will be held at each of the fall district meetings, This year's meter will be the Badger, Model 25 so get your meters and get practicing...

**NATIONWIDE, INDIANA RANKS 49<sup>th</sup>  
IN TERMS OF THE AMOUNT OF DRINKING WATER  
SRF MONEY AVAILABLE PER PERSON**

**If you have been asked to respond to a survey from SRF,  
please do so and help bring more monies to Indiana**

## GRANDPARENTED OPERATOR TRAINING SPONSORS

We wish to recognize the following for helping to sponsor refreshments and lunch at our 2007 Indiana Water Operator Training Workshops:

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**PARTNERS IN  
 WATER QUALITY**

We thank these vendors for their generosity and continued support of the water and wastewater industry thru their involvement with Indiana Section AWWA and Indiana Rural Water Association.

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## WHAT'S UP WHAT'S NEW - IDEM (Continued)

*(Continued from page 2)*

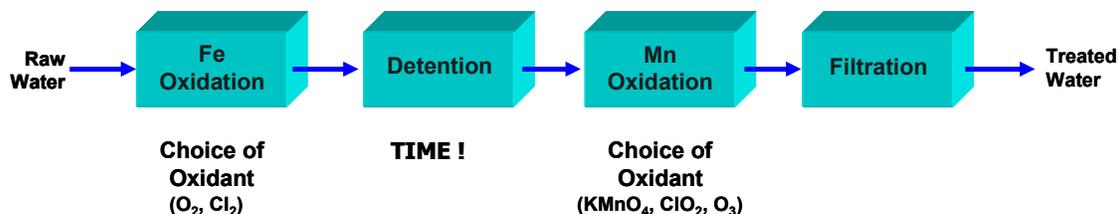
For those of you with operator certifications expiring this year, be sure to be on the lookout for your renewal notice. They should be going out by the first of June. The rule requires that we send out renewal notices at least thirty (30) days before the end of the renewal period. If you do not get your renewal notice by the middle of June, check back with us. You can contact Ruby Keslar, [rkessler@idem.in.gov](mailto:rkessler@idem.in.gov) or Mary Hollingsworth, [mholling@idem.in.gov](mailto:mholling@idem.in.gov). If you have moved, you need to get your new address information to us now. We send the renewal notice to the last address we have in our database for you. Certifications are good for three years. Some of you may have moved in that time. If you allow your certification to expire, you cannot continue acting in the position of certified operator in responsible charge. This is a violation of rule and statute. It is your responsibility as a professional to keep up your certification. We are here to help you, but it is your certification.

## PRINCIPLES OF IRON AND MANGANESE REMOVAL (Continued)

(Continued from page 5)

Each of these “agents” is capable of oxidizing Fe or Mn provided an adequate amount of time is allocated for the reaction to take place. Thus, reaction time is the second key element influencing the removal of Fe and Mn from a raw drinking water source. In the case of oxygen, reaction times in the order of 20 to 50 minutes are needed to oxidize Fe for pH levels typical of natural waters (6.9 – 7.2). This is why typical treatment process flow sheets show detention required immediately following an aerator, sized for about 60 minutes of detention time, and located ahead of filtration. However, the time required to oxidize Mn using  $O_2$  is far too long to be practical for conventional treatment, even if the pH is elevated. Therefore, for Mn removal, it is necessary to use a higher strength oxidant, such as  $KMnO_4$  which has a very rapid reaction time (less than 5 minutes). This is why a treatment process flow sheet designed for Mn removal typically includes a feed point for a high-strength oxidant ahead of filtration.

The use of chlorine gas is also commonly applied as an oxidant for Fe because of its reasonable effectiveness and acceptable rate of reaction. This is not the case, however, for Mn in natural waters. To achieve reasonable oxidation of Mn using chlorine, the pH must be elevated to at least 9 or higher, and even then, the amount of chlorine needed can be more than 400% its theoretical requirement. Figure 3 summarizes the issues of oxidation time and location within the treatment scheme for a typical groundwater source.



This illustrates that it is best to oxidize the Fe first because of the time required for the reaction to go to completion. Then Mn is oxidized just ahead of the filter using an oxidant that reacts quickly. This oxidation of Mn actually serves two purposes. First, it creates the insoluble oxide that can precipitate out of solution. But secondly, and perhaps just as importantly, it triggers a set of secondary reaction that produces a “less oxidized” form that provides an oxide coating on the downstream filter media. This coating provides a surface chemistry that enhances the overall removal of manganese.

To summarize, several points should be emphasized.

- Fe is generally oxidized more rapidly than Mn for most conventional oxidants.
- For both Fe and Mn, the oxidation rate increases as pH is increased.
- $O_2$  oxidation of Mn is unacceptably slow below pH of 9 and thus is not practical for conventional water treatment.
- Oxidation of Mn is usually done with higher strength oxidants that operate over a wide pH range because of the relatively slower reaction times.

Oxidant feed for Mn should be immediately upstream from the filter so that any Mn oxide formed can serve as a regenerate for the filter media that promotes Mn removal.

## MARK YOUR CALENDARS!! (Continued)

(Continued from page 12)

**June 20, 2007** – Indiana Rural Water Association Workshop – Water Tower Issues: Cell Antennas, Tank Comparisons, Re-painting Issues and Options – Valparaiso, 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](http://www.indianaruralwater.org)

**June 24 – 28, 2007** – AWWA National Conference – Toronto, Ontario, Canada. Contact: American Water Works Association at American Water Works Association at 1-800-926-7337 or [www.awwa.org/ace07](http://www.awwa.org/ace07).

**July 10, 2007** – IDEM deadline (water) – reports due for quarterly samples collected in 2<sup>nd</sup> quarter 2007 or samples collected in June 2006.

**July 12, 2007** – Indiana Rural Water Association Workshop – Excavation Safety / Competent Person Training – Peru, 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](http://www.indianaruralwater.org)

**July 17, 2007** – Indiana Rural Water Association Workshop – New Water and Sewer Maintenance Techniques To Save You Time and Money – North Vernon, 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](http://www.indianaruralwater.org)

**July 25, 2007** – Indiana Section AWWA – Annual Golf Outing – Eagle Creek Golf Course; Indianapolis, Indiana. Contact: Dan Hood at 800-255-1521 or [danhood@mesimpson.com](mailto:danhood@mesimpson.com); or visit [www.inawwa.org](http://www.inawwa.org)

**August 10, 2007** – IDEM deadline (water) – reports due for samples collected in July 2007.

**August 21, 2007** – Wastewater Treatment Plant Operator Certification Examination Application submission must be post-marked by this date. The application can be downloaded from IDEM's website at <http://www.in.gov/idem/compliance/water/wastewater/certconted/index.html>. The Wastewater Treatment Plant Operator Certification Examination will be given October 4, 2007. Contact: Rebecca McMonigle, IDEM, 317-232-8791, [rmcmoniq@idem.in.gov](mailto:rmcmoniq@idem.in.gov).

**August 21-23, 2007** – Indiana Street Commissioners Association Conference – Clarksville, Indiana. Contact: Larry Lee at 765-482-8870 or Rob Roberts at 317-745-5970.

**August 23, 2007** – Indiana Section AWWA – Southwest District Meeting – Boonville. Contact: Darrell Heisler at 812-853-3356 or [dheisler@amwater.com](mailto:dheisler@amwater.com); or visit [www.inawwa.org](http://www.inawwa.org)

**August 23, 2007** – Indiana Section AWWA – Southwest District Golf Outing to benefit Water For People – Quail Crossing in Boonville. Contact: Duane Gilles at 812-305-6684 or [dgilles@amwater.com](mailto:dgilles@amwater.com); or visit [www.inawwa.org](http://www.inawwa.org)

**September 8, 2007** – Water For People 5K Fun Run/Walk – Water Canal in Downtown Indianapolis by the NCAA Hall of Champions. Contact: Sarah Hudson or visit [www.inawwa.org](http://www.inawwa.org)

**September 10, 2007** – IDEM deadline (water) – reports due for quarterly samples collected in 3<sup>rd</sup> quarter 2007 or samples collected in August 2007.

**September 13, 2007** – Indiana Section AWWA – Central District Meeting – Location TBA. Contact: Gary Reynolds at 765-427-7028 or [greynolds@water-group.com](mailto:greynolds@water-group.com) or visit [www.inawwa.org](http://www.inawwa.org)

**September 14, 2007** – Indiana Section AWWA – Southeast District Meeting – Clarksville. Contact: Tony Alley at 317-402-7942 or [talley@ortmandrilling.com](mailto:talley@ortmandrilling.com); or visit [www.inawwa.org](http://www.inawwa.org)

**September 15, 2007** – Water For People Wright Brothers Concert – Indianapolis, Indiana. Contact: Steve Hadley or visit [www.inawwa.org](http://www.inawwa.org)

**September 17, 2007** – Water Works 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/idem/compliance/water/index.html>. Water Works Operator Certification Examination will be given November 1, 2007. Contact: Ruby Keslar, IDEM, 317-308-3305, [rkeslar@idem.in.gov](mailto:rkeslar@idem.in.gov) or Denny Henderson, 317-308-3304, [dhenders@idem.in.gov](mailto:dhenders@idem.in.gov)

**September 20, 2007** – Indiana Section AWWA – Northeast District Meeting – Decatur. Contact: John Mugford at 260-982-2993 or [jmugford46962@mchsi.com](mailto:jmugford46962@mchsi.com); or visit [www.inawwa.org](http://www.inawwa.org)

**September 25, 2007** – Indiana Rural Water Association Workshop – Wellhead Protection Phase II -- Portland, 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](http://www.indianaruralwater.org)

**October 1, 2007** – Stage 2 Disinfection By-Products Rule Deadline – Systems serving 10,000-49,999 people – Submit IDSE SM Plan, IDSE SSS Plan, 40/30 Certification, or Receive VSS Waiver. Contact: Peter Poon at 317-308-3328, [ppoon@idem.in.gov](mailto:ppoon@idem.in.gov) OR Laura Spriggs at 317-308-3160, [lspriggs@idem.in.gov](mailto:lspriggs@idem.in.gov) OR Stacy Jones at 317-308-3292, [sjones@idem.in.gov](mailto:sjones@idem.in.gov). Other information on the DBPR can be obtained from [www.epa.gov/safewater/disinfection/stage2](http://www.epa.gov/safewater/disinfection/stage2)

**October 1, 2007** – Stage 2 Disinfection By-Products Rule Deadline – Systems serving 100,000 or more people – Begin SM or SSS Monitoring. Contact: Peter Poon at 317-308-3328, [ppoon@idem.in.gov](mailto:ppoon@idem.in.gov) OR Laura Spriggs at 317-308-3160, [lspriggs@idem.in.gov](mailto:lspriggs@idem.in.gov) OR Stacy Jones at 317-308-3292, [sjones@idem.in.gov](mailto:sjones@idem.in.gov). Other information on the DBPR can be obtained from [www.epa.gov/safewater/disinfection/stage2](http://www.epa.gov/safewater/disinfection/stage2)

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

## INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



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All phone numbers are area code 317 unless otherwise indicated.

**To email employees at IDEM, take their user ID (located between their name & phone number) followed by @idem.in.gov**

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

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



## MARK YOUR CALENDARS!!

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

**Indiana Water Operator Training** for Grandparented Operators – Please visit [www.indianawateroperatortraining.org](http://www.indianawateroperatortraining.org) for a schedule of workshops. *ALL grandparented operators are required to take one of these workshops.*

**May 24, 2007** – Indiana Section AWWA – Northeast District Meeting – Auburn. Contact: John Mugford at 260-982-2993 or [jmugford46962@mchsi.com](mailto:jmugford46962@mchsi.com); or visit [www.inawwa.org](http://www.inawwa.org)

**June 1, 2007** – Long Term 2 Enhanced Surface Water Treatment Rule Deadline – Systems serving 50,000-99,999 people – Submit grandfathered data (if applicable). Contact: Mehul Sura at 317-308-3303, [msura@idem.in.gov](mailto:msura@idem.in.gov). Other information on the LT2 Rule can be obtained from [www.epa.gov/safewater/disinfection/lt2](http://www.epa.gov/safewater/disinfection/lt2)

**June 5, 2007** – Indiana Rural Water Association Workshop – Tank Inspection – Fowler, 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](http://www.indianaruralwater.org)

**June 6, 2007** – AWWA Webcast – USEPA Regulations-What To Do With Your Residuals. Contact: American Water Works Association at 1-800-926-7337 or [www.awwa.org/education/webcasts](http://www.awwa.org/education/webcasts).

**June 9, 2007** – AWWA Water Celebration Day – Intech Park -- Indianapolis, Indiana. Contact: Stan Diamond at 317-924-3380 or [sdiamond@greeley-hansen.com](mailto:sdiamond@greeley-hansen.com); or visit [www.inawwa.org](http://www.inawwa.org)

**June 10, 2007** – IDEM deadline (water) – reports due for samples collected in May 2007.

**June 12, 2007** – Indiana Rural Water Association Workshop – New Water and Sewer Maintenance Techniques To Save You Time and Money – Monticello, 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](http://www.indianaruralwater.org)

**June 13, 2007** – Indiana Rural Water Association Workshop – Water Tower Issues: Cell Antennas, Tank Comparisons, Re-painting Issues and Options – Fort Wayne, 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](http://www.indianaruralwater.org)

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