



Digester/Over the Spillway

"for optimum operation/maintenance of all water and wastewater facilities" Vol. 64 - No. 3 Fall 2005

IEPA Bureau of Water Staffers Assist Hurricane Katrina victims in Louisiana

Four Illinois EPA Bureau of Water staff members were part of Taskforce Illinois that assisted water supplies in completing damage assessments in the New Orleans area after the devastation from Hurricane Katrina. Dave McMillan, field operations section manager in the Division of Public Water Supply in Springfield, Dean Studer, Division of Water Pollution Control Permit Section in Springfield, Jon Lam, Division of Public Water Supply in

the Marion Regional Office and Allen Anderson, Water Pollution Control in the Des Plaines Regional Office volunteered to join seven Illinois Department of Public Health staffers and more than 130 Illinois law enforcement officers on the Taskforce.

"We worked with the Louisiana Rural Water Association and various parish sanitarians and they were out with us almost every day. So part of the damage assessment was to give them a feel for where they needed to go back and provide technical assistance," said McMillan.

The damage assessments were being used as a basis for getting resources like funding from the Federal Emergency Management Agency (FEMA).



Assessing water supply hurricane damage in St. Tammany Parish, La.

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“We were fortunate on a few occasions to be in the right place at the right time when power was being restored at some of these community water supplies, so we were actually able to help them bring their disinfection equipment back up online, go out and help them flush their system, monitor their chlorine disinfection residuals, make sure that they were getting their system cleaned up and ready to use,” said McMillan, “Obviously if those systems had been out of water for a number of days, there was no pressure in the distribution system. So there were immediate boil water orders that were issued and we tried to help them get samples and their systems cleared so that people could begin using the water again.”

Each morning, the IEPA team would leave their surroundings at Southeastern Louisiana University and drive 25 miles west to Livingston Parish where the fairgrounds were serving as a staging area for the environmental response team.

“The environmental response teams primarily went to drinking water establishments in the neighboring parishes. We had the ability to call back to the staging areas, and that’s assuming that we could get through on cell phones, as land lines were still down, to bring in truckloads of drinking water,” said Studer.

“Typically these would be the 1-liter bottles that they would bring for facilities that were still down in more remote areas, and also if the facility wasn’t operating, to look at what was actually needed to get it up and going,” he added.

Originally, the team focused on the parishes immediately surrounding Livingston Parish. But as time went on, the team ventured out into more remote areas, which according to Studer, was slightly more problematic. “As we got into more remote areas, it became more of a challenge to do the assessments. First, because just getting to the facilities was a little difficult. But secondly and more important, communications were next to impossible in remote areas, as a lot of the cell towers were still down. These facilities in remote areas also did not have electricity, so the need for generators was a big issue. In addition to that, we also had some of these remote areas where you could not do a complete assessment because of the lack of power,” said Studer.

Despite branching out to those more remote locales, the team exercised caution in entering some areas. “We tried

not to go to areas where there was still standing water because you don’t know what’s in the water itself, not only from a physical standpoint but also from a public health standpoint. When we went out, we started out in areas that were local to us that hadn’t had as much damage. And as time went on, we went out into more and more remote areas,” said Studer.

Hurricane Katrina was not Dave McMillan’s first encounter with substantial floodwaters. He also assisted with the 1993 Mississippi River Floods, and he notes the differences between the floods in Illinois and those resulting from Katrina. “In Louisiana, a lot of the systems that we worked with there were not victims of the inundation; they were victims of the high winds and power outages, and those types of things. The scale was just completely different. You know, we were working with county ESDAs as the flood progressed in ’93. And then in Louisiana, you had a large percentage of the water supplies out. While they may not have been inundated, they just had no way to operate because they had no electricity,” said McMillan.

And McMillan hopes to put some of his Louisiana experiences to practical use now that he is back in Illinois. “I think whenever you are involved in one of these things or respond to one of these things, you always walk away with lessons learned. We really saw the need for backup power supplies.

“We in Illinois have requirements for backup power sources or interconnections with other power supplies, and I’d like to say that every water supply in Illinois has a backup source, but it’s not the case. Because of the scale, we’ve not aggressively pursued that aspect of our regulations. Those may be things that change in the future based on what we saw,” said McMillan. He said that many of the smaller systems in Louisiana probably started out as mom-and-pop operations, which progressively grew into water supplies as the subdivisions grew. Those water supplies did not necessarily have backup power sources, and that is a problem he sees for places like subdivisions and mobile home parks in Illinois.

“We have a lot of those types of systems in Illinois: subdivisions and mobile home parks, and those types of places that honestly probably need backup generators, dedicated backup generators, not things that are hauled around on skids, but things that are fixed units at the water systems,



Katrina devastation in Slidell, La.

either that or interconnections with other water supplies,” said McMillan.

For the IEPA team, assisting the relief effort in Louisiana was a memorable experience. But the IEPA team members were a part of a larger team that went down to help in the aid. Dave McMillan said, “We were down there with IDPH; I can’t say enough about the way their food inspectors and their water supply inspectors handled themselves. I was once again very proud of the way our police officers responded; we went down with over 130 police officers that just did a tremendous job. And the go-to folks that went down from the Illinois EPA all handled themselves in a very professional manner, and I think we did the best we could in the circumstances and I am very proud of Illinois’ response.”

“With some suggestions from a couple of us from Illinois, we were able to get needed information that allowed the teams quicker access to locating the water systems and people to communicate with associated with the water systems. Each team was given assessment forms that were used to assimilate information on each water system’s status as to whether it was in operation or not, causes for inoperation, any physical damage observed or reported and whether immuno-sensitive people were known to be served; whether any samples had been taken

since the hurricane and if any complaints had been logged from customers. Select employees in our group provided insight on where to find information from federal records on water systems and then suggested coordinating with the parish level,” said Lam.

“In traveling in devastated areas and coming across people sifting through what was left of their homes, just handing them a case of bottled water left us with very appreciative thank-you’s,” Lam added.

“New Orleans and the parishes are coming online faster than people projected. I personally could see that when we sampled various wells in the parishes, especially when the contract linesman and tree trimmers were right behind us where ever we sampled and approved the wells. Power and gasoline services were amazing and rapidly restored. When we first got down there, no gas, no power except generators, and no cell towers,” said Anderson.

“I personally would go back in a minute or would be ready for future assignments of this nature because I felt that we (Illinois) made a difference by being there. In retrospect, I particularly remember when the coach of the Southeastern Louisiana University Football team came over to the school cafeteria table where Dean Studer, a couple of Secretary of State Police and I were sitting, and personally thanked us for our efforts,” Anderson said.

Wastewater Certification Applications

There are currently three separate application forms provided for wastewater certification. The three application forms correspond to the three categories of wastewater certification, which are municipal/domestic wastewater operator, industrial wastewater operator, and collection system operator. The respective applications are:

Application For Certification As A Wastewater Treatment Works Operator (*Revised 5/2000*);
Application For Certification As A Class K (Industrial) Wastewater Treatment Works Operator (Revised 01/2002); and **Application For Certification Under The Voluntary Wastewater Collection System Operator Program** (*Revised 01/2002*).

When applying for wastewater certification be sure that you (1) complete the application for the certification you desire to obtain, and, (2) that the application you submit is the current version of the application.

If you do not have the application version(s) indicated above, recycle the ones you have and get the current one(s).

You can obtain the current application version(s) either by calling our office at 217/782-9720 and requesting the current application version be sent to you; or if you have a computer and internet access, you can visit the website listed below, select ‘Forms’, select the application you need, and then print the application directly from the website with your printer.

<http://www.epa.state.il.us/water/operator-cert/wastewater/index.html>

Call the above telephone number or send an e-mail to Bob.Voss@epa.state.il.us with any questions or comments you may have regarding the wastewater certification applications or any other aspect of the wastewater operator certification program.

74th Annual Fall Conference of the Illinois Potable Water Supply Operators Association Held in September

The 74th Annual Illinois Potable Water Supply Operators Association Fall Conference was held in Springfield on September 16-18, 2005. Operators gathered to learn about a wide variety of changes and new procedures, and to share experiences and operational tips. A blend of topics was selected by the Program Committee to interest all Conference attendees, and provide the maximum number of renewal training credit hours for those who need them.



Distribution System winner Joseph Peykowski of Palatine (left) presented award from IOWSOA President Bob Frank..

The first day of the Conference included a morning early bird session geared toward engineering and technical operations. IEPA Division of Public Water Supplies Permit Section engineers Jerry Kuhn and Liam McDonnell reviewed the changes and new material required for both operators and engineers to complete the permit process. Upcoming changes to reviews as a result of new and revised federal regulations, such as Long Term Enhanced Surface Water Treatment 2 and Disinfection/Disinfection By-Products Stage 2, were also discussed. Revised requirements for groundwater supplies included input from Bill Buscher of the IEPA Groundwater Section. Mike Bowers of the IEPA Infrastructure Financing Assistance Section and Andy Kieser, Sodemann and Associations, walked participants through the State Revolving Loan

paperwork process to demonstrate that once initial paperwork is done, the effort can be significantly streamlined for subsequent loan requests. The final morning speaker was Doug Gamble, the Americans with Disabilities Act Specialist from the Department of Commerce and Economic Opportunity, who explained the requirements that must be met to meet the Illinois Accessibility Code when water treatment facilities are constructed or renovated.

The program continued with a discussion of boil orders and public notice by Brett Hanson, IEPA Rockford Regional Manager, Division of Public Water Supplies, and Gary Blumenstock, Illinois Rural Water Association. Mike Schock, USEPA Cincinnati Research Center, gave a presentation on chloramines, lead and copper and responsible treatment decisions. The Illinois Department of Transportation provided an update on new requirements and restrictions, and described how IDOT issues permits using the accommodation policy. The final talk was given by Paul Brotcke of Brotcke Well and Pump and covered pump efficiency for optimal operation.

The second day of the Conference included both the main Technical Session and the ever-popular Products and Services Session. The session topics for this day are planned so that operators from all three types of supplies will have an opportunity to participate in a session of



Groundwater winner John McBride of Bement (left).



David Wheeler (right) accepts Special Award for his father, Richard Wheeler.

interest to their plant throughout the day, without losing renewal credit time. Technical Session topics on Thursday included an update by Bob Gonzenbach, Illinois Department of Labor, on trenching, shoring, confined spaces, and new and revised OSHA requirements. Lynn Dunaway, IEPA Groundwater Section, described the Illinois Groundwater Quality Regulations, and explained how these rules should be taken into account in all phases of routine operation. Clyde Zelch, TOMCAT, provided a colorful view of tank maintenance, complete with case histories. A panel that featured Jim Hopkins, Ressler and Associates, Ray Weller of Litchfield, and Gerry Huelskamp of Breese discussed the benefits and challenges of membrane filtration. Illinois EPA enforcement management procedures were described by Jim Day, IEPA Legal Services Section.

Procedures for pump maintenance were outlined by Mickey Bernard, HydroKinetics Corporation. Don Buerk, Kewanee, described the challenges and successes that Kewanee has enjoyed with the new reverse osmosis plant installed to remove radium contaminants. The final Technical Session presentation of the day was provided by John VanArsdale, of M. E. Simpson, who described the need for directional flushing to maintain and improve water quality within the distribution system.

Thursday's Products and Services Session included a wide variety of topics. Steve McDowell, Hach Company, discussed the care and feeding of turbidimeters to ensure accurate and consistent readings. Don Anderson provided a membrane basics presentation for those novices in the uses of membrane filtration. Duane Massie, USDA Rural Development, described the services of his agency to public water supplies, with a focus upon funding opportunities and requirements. Use of cellular technology

for process control was presented by Thomas Ward, followed by advances in radio frequency and meter reading, by Chuck Tindall of Badger Meter. Automatic hydrant flushing was presented as an alternative to conventional flushing, by Davis Wolf of Hydro-Guard. Jeff Fischer of Fischer, Harris & Associates, described various design, application and products material for a variety of pipe joint restraint components. Lori Stenzel, PDC Laboratories, demonstrated proper sampling techniques for compliance, and walked attendees through the process that each sample undergoes as it moves through the analysis process. Dr. Eli Port, Radiation Safety Services, offered guidance on issues regarding backwash waste, sludge and other by-product streams created by the removal of radionuclides, from a health physics point of view. Tom Rodebaugh, American Flow Control, offered operational assistance for valve and hydrant maintenance programs, followed by Steve Dunlap, Radio Detection, who offered tips to improve the operator's ability to locate all water lines regardless of pipe type throughout the distribution system. The final talk of the day was presented by Chris Wolverton of the Farnsworth Group, who discussed the best practices for securing SCADA systems, managing equipment failures and maintaining operations, despite terrorist or vandal interruption.

The Operator of the Year Celebration was moved into the hotel ballroom due to rain and very cool temperatures. One of the focal points of the Conference is the outdoor Celebration, complete with picnic ribs and "fixins", and dancing under the stars.. A festive air was maintained, however, as the Operators of the Year for 2005 were revealed.

Operator candidates for this award are nominated by peers, water supply officials, and industry associates. A



Surface Water winner Ray Ames of Wilmette (left).

pre-selection committee sends questionnaires to nominees, and examines completed materials and requested records obtained from each nominee. Three finalists are selected in each category. A Fly-Around Committee comprised of three past Operator of the Year winners plus a chairman, travels to each nominee's public water supply to conduct an on-site interview and make the final selection.

Joseph Petykowski, Village Of Palatine, was named Distribution System Operator of the Year. Jeff Clark, Glenview Water Department, Village Of Glenview, was selected as first runner-up.

John McBride, Village Of Bement, was named Groundwater Operator of the Year. Operators named as runners up were Tim Kite, Long Creek Township Water Department, Decatur, and David Schonauer, Illinois – American Water Company, Lincoln Division.

Ray S. Ames, Village of Wilmette, was named Surface Water Operator of the Year. Runners up in the Surface Water Category were Brett J. Sheen, Central Lake County Joint Action Water Agency, Lake Bluff; and Steve Shoultz, Rend Lake Intercity Water District, Ina.

A very special award was also presented this year. This award recognizes extraordinary and consistent service to the water industry, and is presented only when the Association officers receive a nomination and supporting documentation for a worthy individual. The IPWSOA Award Of Excellence was presented to David Wheeler, to recognize his father, who passed away last year. The Award recognizes the contribution of Richard F. Wheeler

for his dedication to building bridges of understanding across the water supply industry, through his many years of work with local water operator associations, the American Water Works Association, regulatory agencies, and IPWSOA. Rich was a very special operator who practiced daily the professionalism, dedication and service that has set the water supply industry above other careers for many years. He is greatly missed by all, for his many contributions and his positive personality.



The final program began with the Association breakfast, and moved directly into a presentation by Ulrich Chemical on chemical safety. A security-focused view of water quality testing for incident response was presented by Dave Deardorff, Strategic Diagnostics. Gary Forsee, IEPA Water Quality Unit, Bureau of Water, presented the basics and compliance updates of lead and

copper requirements. Mike Stoddard, GIC, and Todd Kerry, Meadow Equipment, described the airbursting process as a tool for well restoration and maintenance. The final presentation was given by Wayne Nelson, Illinois Rural Water Association, and focused on emergency management, complete with case histories of those who failed to have a plan or allowed their plan to become outdated.

Dates for the 75th Annual Fall Conference are September 20 – 22, 2006. The ever-popular annual Golf Outing will be held on Tuesday, September 19, 2006. This will be a special year, so please mark your calendar so that you can attend.

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Published by the Bureau of Water, Division of Public Water Supplies and Division of Water Pollution Control.

Editor Dennis McMurray
 Layout & Design Rusty I. Downs
 Contributors LuAllyn Byus, Annie Thompson,
 Bob Wiatrolik, Nina Dugger, Bob Voss, Jewel Brant

ERTC Programs and Upcoming Schedule

The Environmental Resources Training Center (ERTC) at Southern Illinois University Edwardsville (SIUE), in Edwardsville, Illinois, works closely with the Illinois Environmental Protection Agency in offering continuing education for water supply and wastewater treatment operators. The facilities on the SIUE campus include a fully functional 30,000 gal/day water and wastewater treatment facility which is used for training. The ERTC instructors are all experienced, certified water and/or wastewater operators, as well as being experienced in the classroom. Both in-service and pre-service training are available at the ERTC as described briefly below.

Pre-service training for entry level operators has been available since 1981, through a 12 month, full-time program which leads to a Certificate of Completion in Water Quality Control Operations. This program includes two semesters of classroom and hands-on learning at the ERTC and a 10 week internship at water supply and/or wastewater treatment plants. Graduates of this program are eligible to take the exams for entry level water supply and wastewater operator certification in Illinois and Missouri. While the majority of this program's graduates are now working in Illinois or Missouri, graduates are working in at least 15 other states. The pre-service program begins in late August each year at the same time that Fall Semester classes begin at SIUE. Financial aid and scholarships are available for study in the pre-service program.

In-service training for operators has been available through the ERTC since 1978. The in-service courses, workshops and seminars are taught at various locations throughout Illinois, and in varied formats, to make it as convenient as possible for operators to attend training programs. Some courses are taught in the evening; some are one, two, or three day workshops and some are five day "short schools". Most of the workshops are taught at off-campus sites. The in-service course schedule for the first half of 2005 follows.

EVENING COURSES

CLASS B & A WATER SUPPLY

Location: Aurora (Water Plant)

Dates: 1/11 – 4/19/06 (Wednesdays 15 weeks)

Time: 6:00 – 9:00 p.m.

Fee: \$450 **Instructor:** Jerry Adrian

BASIC WATER SUPPLY

Location: ERTC (SIUE campus)

Dates: 1/10 – 4/25/06 (Tuesdays 15 weeks)

Time: 6:00 – 9:00 p.m.

Fee: \$450 **Instructor:** ERTC Staff

DAYTIME WORKSHOPS

ERTC Winter, 2006 Schedule

(Daytime)

1/17-20	Cross Connection Control	ERTC	\$495
1/26	Calculating CT Values	Mt. Vernon	\$65
1/30	Class D Water Operations 1	Aurora	\$125
1/31	Class D Water Operations 2	Aurora	\$125
1/31-2/3	Cross Connection Control	Joliet	\$495
2/14	Class C Water Operations 1	ERTC	\$125
2/15	Class C Water Operations 2	ERTC	\$125
2/27	Class C Water Operations 1	Aurora	\$125
2/28	Class C Water Operations 2	Aurora	\$125
2/28	Backflow Prevention Testing Update	ERTC	\$125
3/7-9	Electrical Maintenance	Peoria	\$400
3/21-24	Cross Connection Control	Moline	\$495
3/27	Class B Water Operations 1	Aurora	\$125
3/28	Class B Water Operations 2	Aurora	\$125
3/29-31	Class B & A Water Short Course	ERTC	\$375
4/10-11	Basic Wastewater Treatment	Quincy	\$250
4/18-21	Cross Connection Control	Lake Bluff	\$495
4/24	Class A Water Operations 1	Aurora	\$125
4/25	Class A Water Operations 2	Aurora	\$125

ERTC course information is also now available on the web at <http://www.siue.edu/ERTC/>. Course descriptions and registration forms are available from that site. Also, for information about in-service courses or the pre-service program you may call 618-650-2030.

Operator News

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May 1, 2005 through July 31, 2005 Passing Operators for Wastewater Operator Certification

Collection System

Elsberry, Michael T. – Marion
Engle, Barry E. – Hinsdale
Hartigan, Michael – Hinsdale
Larmon, Tracy P. – Hinsdale
Plunkett, Oliver – Hinsdale
Snell, Kelsey R. – Crystal Lake

Class 1

Cerny, Robert M. – Caseyville
Gornick, David A. – Joliet
Hall, Elbert E. – Paris
Johnson, William T. – Downers Grove
Lahndorff, Greg – Metropolis
Lanning, Adam L. – Bloomington Normal
Lowe, Timothy F. – Godfrey
Martin, Duane M. – Godfrey
Reffett, George – Danville
Rice, Bryan L. – Galesburg

Class 2

Clark, Bradley J. – Otter Creek Lake
Colclasure, Jonathan R. – Fairfield
Hansell, Susan K. – Woodstock
Lathrop, Jeffrey S. – Olney
Peradotto, David F. – Pinckneyville
Stone, Thomas F. – Danville
Walker, Jonathan A. – Collinsville

Class 3

Alexander, David – Hinsdale
Cummings, Michael L. – Caseyville

Fehr III, Benjamin J. – Roanoke
Fitzpatrick, Dennis R. – Marion
Gerdes, Greg J. – Barrington
Hartigan, Michael T. – Hinsdale
Landshof, David H. – LCDPW
McKinstry, Randy – Pinckneyville
Newbury, Randall L. – Sesser
Norment, Monty A. – Herrin
Perreault, Todd M. – Scott AFB

Class 4

Anderson, James E. – Joliet
Biggins, Timothy V. – St. Jacob
Cordova, Jeffrey W. – Mokena
Edgington, Corey D. – Lake of Egypt
Ford, Scott D. – Stronghurst
Hickey Jr., William T. – Lockport
Marks, Todd D. – Marion
Miller, Gary D. – Oaklane Acres
Rein, Joseph P. – Glenbard
Renzen, Jack A. – Manteno
Strebel, Raymond C. – Kankakee
Traylor, Craig E. – Nokomis
Wasson, Jeff J. – Somonauk
Wesselmann, John D. – Pierron

Class K

Anderson, Ronald H. – ATA Finishing Corp.
Bailey, Steve G. – Monsanto Agronomy
Buais, Jason L. – Curtis Metal Finishing
Bushaw, Timothy T. – Cargill, Inc.
Button, James R. – Irwin Telescopic Seating
Campos, Marco A. – Power Packaging, Inc.

Chasteen, Frank D. – Driv – Lok
Chronik, Michael N. – Power Packaging, Inc.
Citro, Samuel T. – Power Packaging, Inc.
Felton, James J. – North American Elec.
Fuller, Michael G. – Berner Cheese Corp.
Giblin, Mark – Chicago Heights Steel
Goldsmith, Lawrence D. – Caterpillar, Inc.
Gregory, Ricky G. – Eaton Electrical Corp.
Hartung, Anthony J. – AFD Industries
Hohe, Stephen M. – Power Packaging, Inc.
Hovis, Timothy D. – Precision Extrusions
Isaacs, Donald A. – Ameren Energy
Kane, Ray R. – Power Packaging, Inc.
Kavanaugh, Kevin L. – Stone Container Corp.
Klemenswicz, Gregory J. – Tru-Tone Finishing
Knipper, Anita – John Deere & Company
Kohlert, Chris C. – Power Packaging, Inc.
Lutz, Raymond A. – Metokote
Machnik, Marcin D. – Rexam Beverage Can

Martin, Gary A. – Orval Kent Food Co.
McDaniel, Steve J. – Angelica Textile Serv.
Mills Jr., Thomas K. – North American Elec.
Murphy, Tod A. – Metokote Corp.
Nielsen, Barry C. – Greif
Rauner, David W. – Philip Services Allwaste
Romang, John C. – Ameren Energy
Shirley, Cynthia K. – Solvay Fluorides
Simpson, Angela V. – Power Packaging, Inc.
Snow, Jason T. – Basler Electric Co.
Spezzia, Juan – Bio Star Films
Steinke, Rick A. – Power Packaging, Inc.
Stern, Paul J. – Kappa Products Corp.
Swanson, John P. – IEPA – Steagall Landfill
Wanatowicz, Lee C – Greif

Class K-WR

Stern, Don R. – Inactive

Pathogens and the Plant Operator

As wastewater operators, it is the very nature of your job that you are exposed to contaminated water every working day. As the job becomes routine the operators have a tendency to become complacent about protecting against exposure to pathogens. Pathogens are the technical name for what is commonly referred to as “germs”, and defined as any micro-organism or virus that can cause disease.

Common pathogens include bacteria, fungi, and viruses. The main source for these pathogens is the human and animal waste that enters the wastewater stream. Once in the plant, they have a potential to contaminate any object they contact. To avoid the pathogens, the operator must consider all of the wastewater, foam, aerosol, sludge, handrails, walkways, tools, hose, and sampling equipment as contaminated with the pathogens.

Methods of Exposure

Methods of exposure to pathogens are:

1. Oral –Pathogens can enter the digestive system through the mouth. This can occur by eating or drinking something that has come in contact with the contamination,

or by direct contact with the contaminated water through splashing or inhaling the aerosol.

- 2. Inhalation** –Pathogens can be inhaled through your mouth or nose. The inhalation of the aerosol above an aeration tank could bring contaminants into your mouth, nose, and lungs.
- 3. Skin Contact** – Pathogens can be absorbed through the skin or enter through a cut in the skin. Skin contact with any liquid, solid, or sludge can lead to infection.
- 4. Eyes** – Pathogens can enter the body by contacting the eyes. The pathogen can infect the eye or it may travel through the bloodstream to other parts of the body.

Methods of Prevention and Protection

Keep food and drink in non-contaminated area, such as the office. Do not bring food or drink into the plant or laboratory. Do not store food and drink in the laboratory refrigerator.

Wear rubber gloves or disposable latex-type gloves while working in the plant.

Wear rubber over-boots to protect your leather boots from becoming contaminated.

Wear a disposable dust-mask when working around aerosols to minimize the exposure from inhalation.

Wear a work uniform while at the plant, shower and change into street clothes before leaving the plant (if possible). The uniforms should stay at the plant to prevent the operators from taking the contamination home.

Wear safety glasses, goggles, or face shields to prevent splashing into the eyes and onto the face.

Clean the work areas such as laboratory bench tops and workbenches with soap and disinfectants like chlorine.

Contact your doctor about immunization for diseases such as hepatitis A and B, tetanus, diphtheria and others.

And above all, **Wash your hands!** It is common for most people to touch their eyes, nose and mouth many times during the day. By washing your hands several times a day, especially before eating, drinking, and using tobacco, you will reduce the potential for exposure to a pathogen.

Plant operators are at risk every day from pathogens in the wastewater. Taking the precautions listed above can greatly reduce the operators' chance of coming into contact with pathogens in the wastewater.

Operator's Quiz

- Aeration of ground water will
 - remove undesirable gases
 - oxidize iron
 - raise pH
 - all of the above
- If it takes 0.64 mg/L chlorine to oxidize 1.0 mg/L of iron, 10 mg/L of chlorine will reduce the amount of iron in a water by:
 - 6.4 mg/L
 - 10.0 mg/L
 - 15.6 mg/L
 - 16.4 mg/L
- Water hardness is primarily caused by which two ions?
 - Fe and Mn
 - Ca and Mg
 - Zn and Hg
 - Au and Ag
- Filtration rate is commonly expressed in units of
 - million gallons per day (MGD)
 - gpm/sqft of filter surface area
 - gpm/cuft of filter surface area
 - gallons per day (gpd)
- If 135 pounds of chlorine are used to treat 2,500,000 gallons of water, what is the chlorine dosage in mg/L?
 - 6.5
 - 10
 - 40
 - 54
- Dissolved oxygen levels in stabilization ponds can be increased by:
 - sludge gases from bottom deposits dissolving into the water
 - bacteria growth
 - wind action pushing on the surface of the pond
 - bacteria liberating oxygen from waste loads (food)
- The pounds of BOD and COD applied to a stabilization pond is called:
 - hydraulic loading
 - oxygen uptake rate
 - respiration rate
 - organic loading
- What is the population equivalent of a stabilization pond treating 2,220 pounds of BOD per day?
 - 22
 - 13,000
 - 130,000
 - 220,000
- At least 8 aliquots of 100 ml taken at periodic intervals best describes: (NPDES Permit)
 - a flow proportional sample
 - a 24 – hour composite sample
 - an 8 – hour composite sample
 - a multiple grab sample
- A stabilization pond that is 15 – 20 feet deep and has a thick surface scum layer describes a:
 - facultative pond
 - tertiary pond
 - anaerobic pond
 - high rate aerobic pond

Candidates Successfully Pass Potable Water Operator Exams

The following candidates successfully passed the examination for certified water treatment operators in exams given on May 19, June 6, July 11, August 1, August 25, September 12, and October 3.

Class A

Wooten, Phillip	Northwest Suburban Municipal JAWA
Tryban, Daniel	Village of Alsip
Chlebek, Matthew	Village of Palos Park
Sorensen, Brian	Yorkville
Patrick, Sr., John A.	Northwest Water Commission
Childress, James A.	Geneva
Perra, Christopher	TEST, Inc.
Wibben, Michael L.	Illinois-American – Alton
Congoran, Matthew P.	Village of Romeoville
Whitmer, Todd D.	Aurora
Groth, Carl F.	Village of Romeoville
Farrell, Kevin J.	EMC
Fry, Eugene B.	East Moline
McGeehon, Robert A.	East Moline
Milroy, Robert S.	Toulon
Thompson, Eric S.	Princeton
Smyser, James A.	Neoga
Ladzinski, Edward J.	Illinois-American
Gage, John W.	Riverside
Cicci, Paul C.	Northwest Suburban Municipal JAWA
Helm, Robert D.	Water Solutions Unlimited
Sisk, Troy D.	Rantoul
Christensen, Carl C.	Naperville

Class B

Goll, Jason	Village of Lake in the Hills
Young, Brock	Illinois-American – Lincoln
Talkington, Richard N.	Elwood
Brewer, Clinton C.	Beardstown
Inski, Chad J.	Village of Stillman Valley

Class C

Rosenwinkel, Daniel	Village of Bensenville
Motiejunas, John	DuPage Water Commission
Hoppenstedt, Todd	Wheaton
Derengowski, Ronald	Village of Lake Zurich
Brannecki, Patrick	DuPage County Public Works
Lehman, David	Kaskaskia Water District
White, Mark	Village of LaGrange Park
Brahcer, Tonya	Village of Lake in the Hills
Kerr, Charles	IDNR
Greybill, Thomas G.	Village of Posen
Gulley, Herman L.	Village of Winnetka
Park, Sean J.	Village of Cary
Utech, Terry L.	Crystal Lake

Sisk, Troy D.	Village of Rantoul
Winkler, Travis S.	Aqua-Illinois Danville
Osburn, William Z.	
Justice, Richard D.	
Hodge, Russell E.	
Held, Daniel L.	
Rix, Ryan W.	Marion
Owen, Ronald W.	
Hughes, William F.	Village of Forest View
Sengpiel, Darrin L.	Village of Secor
Insko, Dean L.	Village of Stillman Valley
Hensley, Robert W.	Galesburg
Milcke-Nickens, Antje	Joe Donovan Water Treatment Plant
Wilson, Sean P.	Lake County Public Water District
Grivetti, Jr., Robert J.	Braidwood
Benedix, III, Walter J.	Village of Hanover Park
Wiltermoor, Joseph F.	Neoga
Calhoun, Ken B.	Rantoul
Eller, Reynold (Reggie)	Ramsey
Sebek, Jeffrey N.	Chicago Dept. of Water Management
Chisamore, Thomas A.	Marengo

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Hoffmann, Matthew	Village of Maryville
Nelson, Daniel G.	West Chicago
McElhinney, Christopher	Village of Poplar Grove
Calhoun, Ken B.	Rantoul
Stoddard, Richard C.	Crystal Lake
Victorine, Matthew J.	Crystal Lake
Harrison, Anthony R.	Lakeside Water District
Jones, Christopher W.	Anna
Cannon, Bryan D.	South Jacksonville
McFarland, Heather L.	Mattoon
Steinke, Dave A.	Kenilworth
Moehring, Dale	Illinois-American Pekin
Giachino, Jerry D.	Aqua-America
Suydam, Curt V.	Lebanon
Dowd, Paul J.	Village of Mount Prospect
Imig, Timothy W.	LeRoy
Hadders, Luke E.	Aqua-Illinois Kankakee
Seymore, Dan	Crystal Lake
Behrens, Timothy R.	Crystal Lake
Gall, Richard	Manhard Consulting, Ltd.
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Published by the State of Illinois
Environmental Protection Agency
Box 19276
Springfield, Ill. 62794-9276

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