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The objectives of this Conference shall be: the advancement of the knowledge of design, construction, operation and management of water and wastewater systems; the promotion and encouragement, through annual meetings or otherwise, of an exchange of information and experience among its membership; the promotion and encouragement of the protection of public health and improved environment through the construction and efficient operation of water supply and wastewater treatment facilities; and the promotion of water and wastewater system operator education and certification programs.

Article II of the Constitution of the
North Dakota Water and Pollution Control Conference

Cross Connections

by Glen Lueck, Technical Assistance Provider, Midwest Assistance Program

What is a cross connection? When or where can it happen? What happens if one occurs? Are there ways to prevent a cross connection? These are some topics this article will attempt to answer. This article is not intended to cover all aspects of cross connections.

What is a cross connection? The definition according to Ask.com is: Any physical connection or arrangement of piping or fixtures which may allow non-potable water or industrial fluids or other material of questionable quality to come in contact with potable water inside a distribution system. This includes any temporary connections such as: swing connections, removable sections, four-way plugs, valves, spools, dummy sections of pipe, swivel or change-over devices, or sliding multiport tubes or other plumbing arrangements. While this is a very broad definition, a cross connection is anything non-potable coming into contact with a potable water system.

What is backflow? Backflow is defined as the unwanted flow of a non-potable water or substance into a potable water supply through a reversal of the normal flow of potable water. There are two main types of backflow that can occur in a potable water system. The first is **backsiphonage** which is a negative pressure in the system which causes a vacuum or siphon-like area which pulls water in the reverse direction of normal flow. For example, backsiphonage would occur if one end of a garden hose is left in a pail containing a liquid and the other end is connected to an outside hydrant with no protection device. When the water supply pressure to the hose drops, the liquid in the pail can be sucked back into the distribution system through the hose. The second type of backflow is **backpressure** which is elevated pressure above the supply pressure, which causes a reversal of the normal flow of water. An example of this is a hot water heating system connected to the potable water supply to keep the system full. If the mechanical device installed to prevent a backflow of liquid from the water heating system fails, the hot liquid in the heating system could create pressure greater than the supply pressure and force non-potable liquids into the potable water system, thereby contaminating the potable water system.

A cross connection can occur any time something is connected to a potable water supply. Cross connections are caused either by a direct or an indirect connection. A direct cross connection is when backsiphonage *and* backpressure can occur. An indirect cross connection is when *only* backsiphonage can occur.

When a cross connection occurs, there are four different classifications of hazards or degrees of hazards, depending on the severity of the incident.

- The first is a **no hazard** classification. This means that something contaminated the potable water system, but there is no negative effect nor will consumers notice it.
- The second classification is a **non-health hazard**. This type of hazard has no health effect, but it impacts the color, smell or taste of the potable water.
- The third type of classification is a **health hazard**. This type of contamination will affect people and/or animals. They will get sick from the water, and in some cases, death could occur.
- The fourth classification of hazards is a **lethal hazard**. This is reserved for raw sewage or radioactive materials. This type of contamination will cause severe illness and/or death in both humans and animals.

There are four different methods to protect potable water:

- The first method is **isolation**. This method finds and prevents each contamination threat from entering the water system at the source of the contaminant.
- The second method of prevention is **containment**. This means that any threat to the water system is contained within the given facility.
- The third type of prevention is by **physical methods**; there are two physical methods.
  - The best method is the **air gap**. This means an actual distance of air between the pipe or hose delivering the potable water to the entrance point where the potable water is being delivered (e.g., the distance from the top of a sink to the bottom of a faucet). The distance should be no less than 1 inch or twice the diameter of the pipe delivering the water, whichever is greater.
  - The second physical method is the **barometric loop**. This is a pipe run a minimum 34 feet vertically and back down to the discharge. This method is not practical in North Dakota due to extreme temperature variations, and does not protect the water system from backpressure, only backsiphonage.
- The fourth method of prevention is the use of a **mechanical device**. Mechanical devices include:
  - A **reduced pressure zone backflow preventing device** (also known as RPZ or RPBP) is a device that has two spring check valves with a pressure relief valve between them which is vented to the atmosphere. This device operates on a difference of water pressure between the three chambers of the device. The highest pressure is the line pressure entering the device. Each of the three chambers lowers the pressure slightly with the pressure drop of one pound per square inch (psi)

between the center and the third chamber. If the pressure changes either upstream or downstream, the check valves will close and prevent backsiphonage or backpressure from occurring. When both check valves are closed, a third valve opens and the water in the lines is dumped to the outside. This device should be used at all high hazard locations.

- The **double check valve** has two single check valves within the same body. The check valves are spring loaded and require 1 psi to open. This device should be used in areas of low hazards.
- The **vacuum breaker** protects against backsiphonage but does not protect against backpressure. This device is a check valve on a shaft that seals the atmospheric air from the water pressure in a pipe. When the flow of water is stopped, the check valve drops and allows air into the system to prevent backsiphonage.

The best way to prevent a cross connection is to implement a Cross Connection Control Program (CCCP) within a public water system. State and federal law have limited impact on a control program; therefore, it is basically up to the system to implement a cross connection control program. The Safe Drinking Water Act mandates that the water suppliers are responsible for ensuring that the water they supply meets all state and federal regulations and is delivered without compromise to its customers. A CCCP consists of five key parts: (1) local ordinance, (2) education, (3) survey and inspections, (4) required installation and (5) testing and record keeping.

Cross Connection: Any physical connection or arrangement of piping or fixtures which may allow non-potable water or industrial fluids or other material of questionable quality to come in contact with potable water inside a distribution system. (Ask.com)

The local ordinance should include enforcement procedures, penalty clauses for failure to comply, and manufacturing specifications of the devices. It should list the type of devices required for each classification or degree of hazard. The ordinance should define who is responsible for inspection, testing and installation of the devices, and how often the devices will be tested.

The education portion of the program includes, but is not limited to, explaining to both utility officials and the public why the program is necessary, why the installation of the devices is necessary, what could happen to the water system without the program, what types of hazards can contaminate the water system and the different types of devices needed for each type of hazard.

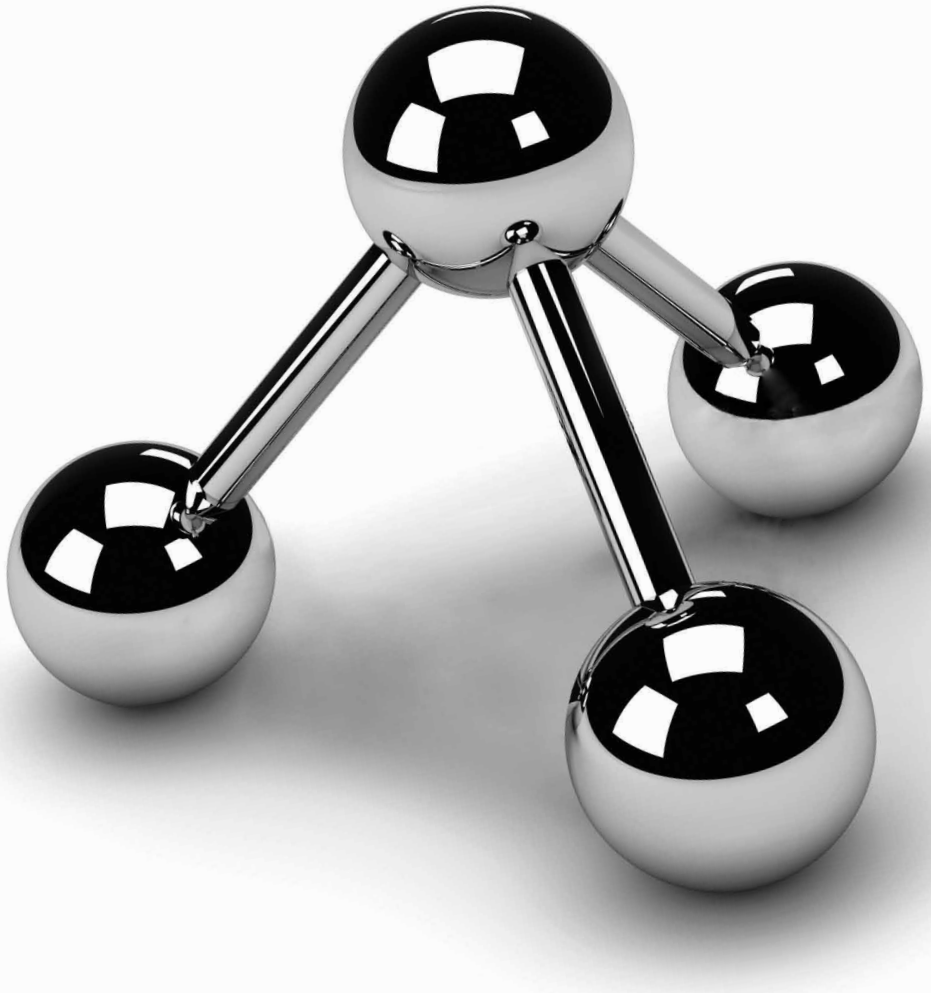
The surveying and inspection portion of the program should include entering each building in the system that has a water hook-up. During the survey, explore what is in the building that could contaminate the water system, where the different points of use of the water system within the building are located and what is being stored in the building. The results of the survey should be used to determine the type of devices necessary to protect the water system.

A very important part of the CCCP is the required device installation. This must be in the ordinance with a penalty clause included for non-compliance of the ordinance. As part of the required installation, it should list what type of device is required for each degree of hazard, the manufacturers of approved devices, the requirement to use only licensed plumbers to install/replace the devices, how often each type of device will need to be inspected and tested, and who will inspect these devices.

The last part of the CCCP should include testing and record keeping of the devices. This mandates when each device is tested, who did the testing, when the inspection took place and who did the inspection. This information should be tracked on paper or by computer (including a back-up file). The records should include the physical address of each building with a device, the location of the device within the building, the type of device installed, who installed the device and when, and how often the device should be inspected or tested.

While this is only a brief overview of cross connections, each city or public water system should research the information pertaining to its own situation. There is no "one-size-fits-all" when it comes to cross connections. Each situation will dictate what is needed and what needs to be changed. Keep the program flexible for different situations.

The sources for this article include items published by the National Environmental Services Center called *Tech Brief*, dated Winter 2004, Vol. 3, Issue 4 and Fall 2007, Vol. 7, Issue 3. Other sources were the American Backflow Prevention Association (ABPA), the University of Southern California (USC) and the American Water Works Association (AWWA).



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Transition from Stage 1 to Stage 2

Disinfection Byproducts Rule Monitoring

The Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR), published in January 2006, establishes new monitoring requirements for total trihalomethanes (TTHM) and haloacetic acids (HAA5). It applies to community and non-transient non-community water systems that use chlorine, chloramines, chlorine dioxide or ozone in their treatment process.
System size determines when systems must meet Stage 2 DBPR monitoring requirements. Until 2014, some systems must meet Stage 1 and Stage 2 DBPR monitoring requirements. After 2014, all systems must meet Stage 2 DBPR monitoring requirements for TTHM and HAA5.

Stage 2 DBPR Implementation Timeframe	
Public Water System Population	**Begin Stage 2 Routine Monitoring**
>100,000	**April 1, 2012**
50,000 – 99,999	October 1, 2012
10,000 – 49,999	October 1, 2013
<10,000	October 1, 2013

This is the first in a series of articles that summarizes key components of the Stage 2 Disinfectants and Disinfection Byproduct Rule. For additional information on the DBPRs, visit the EPA web site at http://www.epa.gov/safewater/disinfection/stage2/compliance.html, or contact Lydia Fewless, Stage 2 DBPR Manager, North Dakota Department of Health, Division of Municipal Facilities 701-328-5221.

Mapping Ground Water Rule Requirements

Compliance Monitoring and Assessment Source Water Monitoring

This is the third in a series of five articles developed by the U.S. Environmental Protection Agency (EPA), Office of Ground Water and Drinking Water (OGWDW), that summarize key components of the Ground Water Rule (GWR). As with all drinking water rules, please check with the North Dakota Department of Health for specific, state-related requirements.

As stated in the first article, the GWR has four basic requirements: (1) Triggered and Additional Source Water Monitoring, (2) ***Compliance and Assessment Source Water Monitoring***, (3) Sanitary Surveys and (4) Corrective Action. This article discusses in further detail the *compliance monitoring* and *assessment source water monitoring* components. As seen in Figure 1 below, *compliance monitoring* is required for those ground water systems (GWSs) that have notified the state that they reliably provide 4-log treatment of viruses. *Compliance monitoring* is required as a form of corrective action or in lieu of triggered source water monitoring. *Assessment source water monitoring* is a tool available to the states that suspect that a system's ground water source might be vulnerable to fecal contamination.

Compliance Monitoring

GWSs that provide at least 4-log treatment of viruses were required to provide written notification to the state and begin compliance monitoring by December 1, 2009, to avoid triggered source water monitoring (see Article 2). The purpose of compliance monitoring is to ensure that systems are reliably and consistently achieving 4-log treatment (i.e., inactivation, removal, or a state-approved combination of removal and inactivation) before or at the first customer. GWSs providing 4-log treatment as a corrective action must also conduct compliance monitoring. Figure 1 provides a graphic presentation of these requirements.

GWSs using chemical disinfection that will be conducting compliance monitoring and serving more than 3,300 people must monitor the residual disinfectant concentration continuously before the first customer or at a location approved by the state. The system must maintain a state-determined minimum disinfectant residual and record the lowest daily value. The rule allows for the system to collect grab samples every four hours if the continuous monitoring equipment fails; however, the system has 14 days to repair the equipment and bring it back online.

GWSs using chemical disinfection and conducting compliance monitoring and serving 3,300 people or less can either monitor continuously to meet the requirements described in the previous paragraph or take daily grab samples during the peak hourly flow at a location approved by the state. The system must maintain a state-determined minimum disinfectant residual and record the lowest daily value. If the residual falls below the established minimum concentration, then the system must take samples every four hours until the residual meets the required level. Systems that use membrane filtration or alternative treatment technologies, alone or in combination, to reliably provide 4-log treatment of viruses must operate and monitor according to the state-specified requirements. Table 1 below provides a summary of compliance monitoring requirements.

Table 1: Summary of Compliance Monitoring Requirements

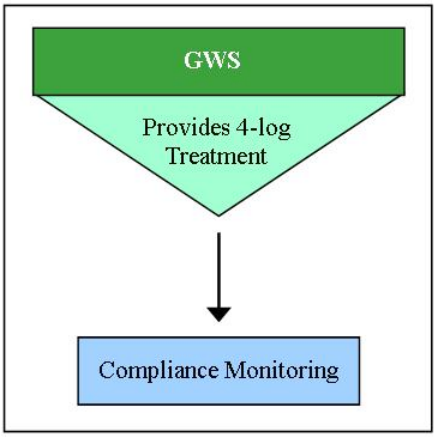
System Type	Monitor For	Frequency	Sample Location
GWS > 3,300 using disinfection	Residual disinfectant concentration *(must meet state minimum)*	Continuous only [2,3]	state-approved location
GWS ≤ 3,300 using disinfection	Residual disinfectant concentration *(must meet state minimum)*	Daily[1,2] or continuous [2,3]	
GWS using membrane filtration	Membrane filtration process performance	Consult state for specific information.	
GWS using state-approved alternative treatment	Alternative treatment performance		

[1] *If any daily grab sample is less than the minimum disinfectant residual concentration, the system must take follow-up samples every four hours until residual meets or exceeds the minimum.*

[2] *Systems must record the lowest residual disinfectant concentration each day that water from the ground water source is served to the public.*

[3] *If the continuous monitoring equipment fails, the system must take grab samples every four hours; it has 14 days to repair the equipment and bring it back online.*

A GWS may discontinue providing 4-log treatment and compliance monitoring if the state makes the determination that the system has met the state's criteria for discontinuing treatment. If the system discontinues 4-log treatment and compliance monitoring, then the system is subject to triggered source water monitoring.



Assessment Source Water Monitoring

The GWR provides the states with the authority to direct GWSs that may be vulnerable to fecal contamination to conduct assessment source water monitoring. States may require assessment source water monitoring at any time and on a case-by-case basis. It is up to the state to determine the frequency and duration of monitoring, as well as the fecal indicator to be monitored**.** Due to the monitoring costs and possible seasonal variations in the source water, EPA recommends that states consider requiring collection of a minimum of one sample per month for 12 months. Assessment source water monitoring might also be used by the state before a new ground water source comes online and provides water to the public.

Assessment source water monitoring samples may not be used to satisfy Total Coliform Rule (TCR) routine or repeat samples. However, a triggered source water monitoring sample may be used to meet the assessment source water monitoring requirement if approved by the state and analyzed for *E.coli* using an EPA-approved method. The same public notification requirements that apply to a fecal indicator-positive (FI+) triggered source water monitoring sample will apply to any FI+ sample collected during the assessment source water monitoring. This means that for any FI+ source water sample collected under assessment source water monitoring, the GWS is required to provide Tier 1 Public Notification (PN). PN and the Consumer Confidence Report requirements for the GWR and how they apply to community and non-community water systems will be discussed in further detail in the fifth article entitled "Mapping Ground Water Rule Requirements: Consumer Confidence Report, Public Notification and Special Notice."

Frequently Asked Questions regarding Compliance Monitoring and Assessment Monitoring

Question 1: What must a consecutive system do if it learns of a total coliform-positive (TC+) sample in its distribution system for which the wholesaler does not provide 4-log treatment?

Answer 1: Within 24 hours of being notified of the TC+ sample result, the consecutive system must notify the wholesaler of the TC+ sample result. If the consecutive system has its own groundwater source, does not provide 4-log treatment and purchases water from the wholesaler, it must begin triggered source water monitoring.

Question 2: If a wholesaler not providing 4-log treatment is notified of a TC+ result from a consecutive system, what does the wholesaler have to do?

Answer 2: The wholesaler would have to begin conducting triggered source water monitoring. The wholesaler would also have to notify all other consecutive systems that receive water from the source if the triggered source water monitoring reveals a FI+ source water sample result. However, if the wholesaler has been approved by the state to provide 4-log treatment and is conducting compliance monitoring, it would not have to comply with the triggered source water monitoring requirements.

Question 3: If a system takes corrective action at the direction of the state to install 4-log treatment, does that system have to conduct compliance monitoring?

Answer 3: Yes. If the 4-log treatment of viruses is installed as part of a corrective action, the system must conduct compliance monitoring.

Training Opportunities

EPA Headquarters has concluded conducting its workshops and webcast trainings on the GWR at this time; however, there still may be trainings sponsored by your state, EPA Region, or technical assistance providers. Contact your EPA Region or state for more information on workshops or trainings that might be conducted near you. For more information on the GWR, please visit the GWR homepage at: www.epa.gov/safewater/disinfection/gwr. The next article will cover the GWR requirements for sanitary surveys and corrective actions.

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Impact of the Iron Content of Fe-GAC on Arsenic Breakthrough for Groundwater Remediation

Qigang Chang and Wei Lin, Department of Civil Engineering, North Dakota State University

Introduction

Arsenic can cause bladder, lung, skin, kidney, liver, and prostate cancers. [1, 2] Since 2006, the U.S. Environmental Protection Agency has enforced a new arsenic standard for drinking water of 10 µg/L (micrograms per liter) to protect people from the effects of long-term chronic exposure.[3] Many studies have reported that iron-impregnated, granular-activated carbon (Fe-GAC) can remove arsenic from contaminated water.[4-9] Chang and Lin[10] developed a multi-step method that can prepare Fe-GAC with high amounts of iron that are evenly and stably distributed inside GAC for arsenic removal. Results of arsenic adsorption isotherm tests (using synthetic, arsenic-contaminated water) showed that Fe-GACs synthesized by this new method can remove arsenic effectively. This research will further investigate the potential implementations of Fe-GACs to remove arsenic using groundwater taken from the former Arsenic Trioxide Superfund Site in North Dakota by conducting both adsorption isotherm tests and column tests. Fe-GACs with different iron contents will be used in experiments to evaluate the impact of the iron content of Fe-GAC on arsenic breakthrough profiles.

Materials and Methods

Preparation of Fe-GACs: The multi-step iron impregnation method described in the reference[10] was used to prepare Fe-GACs with different iron contents using GAC Darco 20×50.

Groundwater sampling: A groundwater sample was taken from a well in the city of Wyndmere, N.D., according to the sampling procedure described by the USEPA.[11] The groundwater sample was stored at 4°C before use. The average arsenic concentration in groundwater was 205 µg/L.

Adsorption isotherm tests: Groundwater was spiked with arsenate for isotherm tests to determine arsenic adsorption capacity of Fe-GACs. An adsorption time of five days was employed to ensure equilibrium in isotherm tests. Graphite furnace atomic absorption spectroscopy (GFAAS) was used to analyze arsenic in accordance with USEPA method 200.9 Rev.3.0,[12] and the detection limit was 1 µg/L.

Column tests: Fe-GACs with iron content ranging from 4.56 percent to 28.90 percent were used in column tests, and all tubes/fittings were Tygon or HDPE/PVC to minimize arsenic adsorption. Groundwater was continuously fed into columns using Cole-Parmer Master peristaltic pumps in an up-flow pattern. Empty bed contact times (EBCT) of 5, 10, and 20 minutes were evaluated.

Results and Discussion

Groundwater adsorption isotherms: As shown in Figure 1, arsenic adsorption capacity of Fe-GACs increased with more impregnated iron, and the Langmuir model can well fit arsenic adsorption on Fe-GACs (lines in Figure 1). The maximum arsenic adsorption capacity (q_m) increased significantly to 1883 µg/g as iron content increased to 13.59 percent, and then peaked at 2008 µg/g at iron content of 24.73 percent. Since the increase of q_m became much less after iron content of 13.59 percent, the optimal iron content for Fe-GAC is 13 to15 percent.

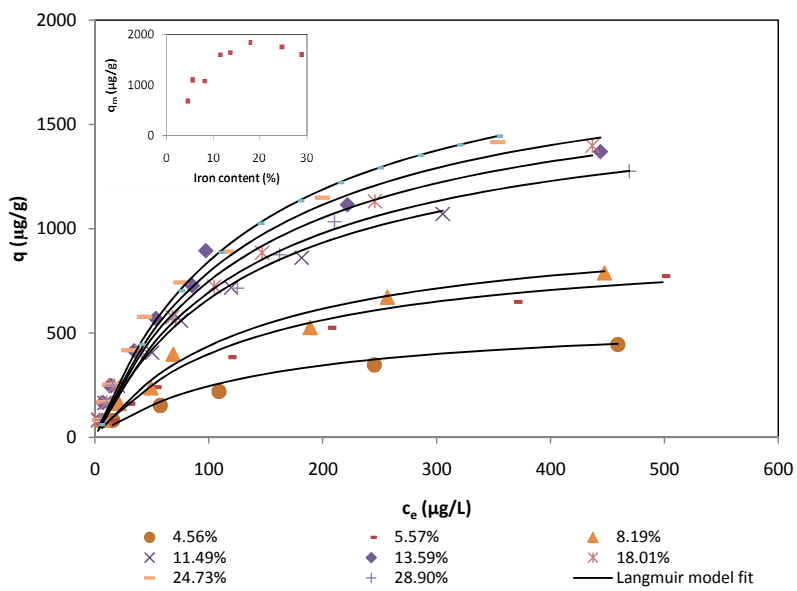

Figure 1. *Arsenate-spiked groundwater adsorption isotherm curves for Fe-GACs with iron content of 4.56-28.90 percent (Inset shows the relationship between* q_m *and iron content of Fe-GACs)*

Effect of iron content on arsenic breakthrough curves: Column tests were conducted using Fe-GACs with different iron contents at the same EBCT (10 minutes) and arsenic breakthrough concentrations of 10 µg/L. The impact of the iron content of Fe-GAC on arsenic breakthrough was evaluated through three indicators: bed volume (BV) number treated at breakthrough; Fe-GAC utilization rate at breakthrough (Equation 1); and arsenic intraparticle diffusion rate.

$$\text{Fe-GAC utilization rate} = \frac{\text{BV treated at breakthrough}}{\text{Possible BV treated at breakthrough that is calculated based on isotherm adsorption}} \times 100\% \quad (1)$$

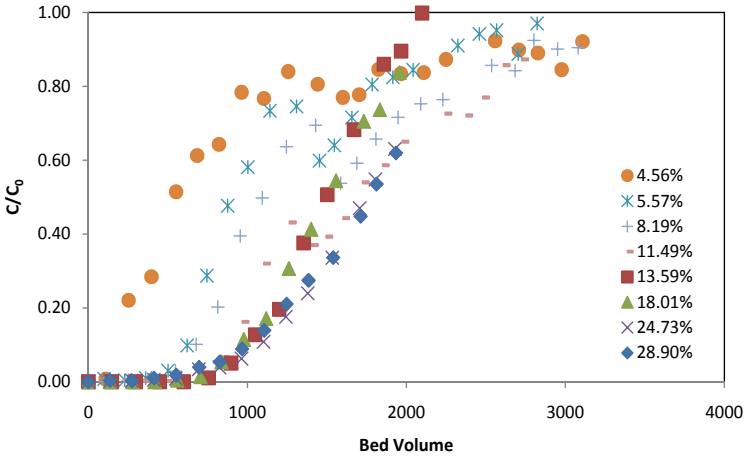

***Figure 2**. Arsenic breakthrough curves for Fe-GACs (EBCT = 10 min)*

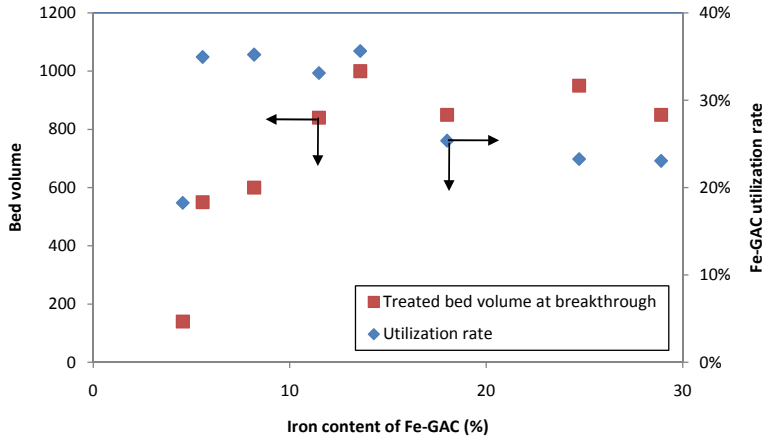

***Figure 3**. Iron content of Fe-GACs vs. BV treated/utilization rate at breakthrough (the relatively low utilization rate (20-40%) was caused by short columns used in this study).*

As shown in Figure 2, performances of Fe-GAC improved considerably with more impregnated iron, and Fe-GAC can remove arsenic below the EPA regulation of 10 µg/L. BV treated at breakthrough increased from 140 to 1000 as the iron content of Fe-GAC increased from 4.56 percent to 13.59 percent (Figure 3). However, BV treated at breakthrough slightly decreased from 1000 to 850 when iron content increased from 13.59 percent to 28.90 percent. For the Fe-GAC utilization rate, it reduced from 35 percent to 23 percent as iron content increased from 5.57 percent to 28.90 percent (Figure 3), which implies that the EBCT of 10 minutes was not long enough for Fe-GACs with high iron content probably due to decreased arsenic intraparticle diffusion rate. The observation in Figure 2, decreased slope of breakthrough curves, also indicates that the arsenic intraparticle diffusion rate became slower with iron content. Further modeling will be conducted to quantitatively determine the arsenic intraparticle diffusion rate in Fe-GACs.

Effect of EBCT on arsenic breakthrough: Decreased arsenic intraparticle diffusion rate may require long EBCT to demonstrate the true arsenic adsorption capacity of Fe-GACs with high iron content in column tests. As shown in Table 1 and Figure 4 (see page 10), when EBCT increased from 5 minutes to 10 minutes, the performance of Fe-GACs with low and medium iron contents (4.56 to 11.49 percent) was improved noticeably. However, further increased EBCT from 10 minutes to 20 minutes did enhance the performance. While, for Fe-GAC with high iron content (28.90 percent), its performance was improved significantly when EBCT increased from 10 minutes to 20 minutes. Results of column tests showed that EBCT affects the performance of Fe-GACs considerably, and an appropriate EBCT is essential for Fe-GAC-packed columns. Fe-GACs with high iron content require relatively longer EBCT compared with Fe-GACs with low iron content.

Table 1. Performance of Fe-GACs at different EBCTs

Iron Cont. (%)	EBCT = 5 min		EBCT = 10 min		EBCT = 20 min	
	Bed volume treated	Fe-GAC utilization rate (%)	Bed volume treated	Fe-GAC utilization rate (%)	Bed volume treated	Fe-GAC utilization rate (%)
4.56	100	12.7	140	18.2	**	**
5.57	150	9.8	550	35.0	460	29.6
8.19	170	10.1	600	35.2	650	37.8
11.49	250	10.2	840	33.1	**	**
13.59	*	*	1000	35.6	**	**
18.01	*	*	850	25.4	900	24.9
24.73	*	*	950	23.3	**	**
28.90	*	*	850	23.1	1500	37.6

** Fe-GACs with iron content above 11.49 percent were not tested at EBCT 5 minutes.*
*** The experiments are ongoing.*

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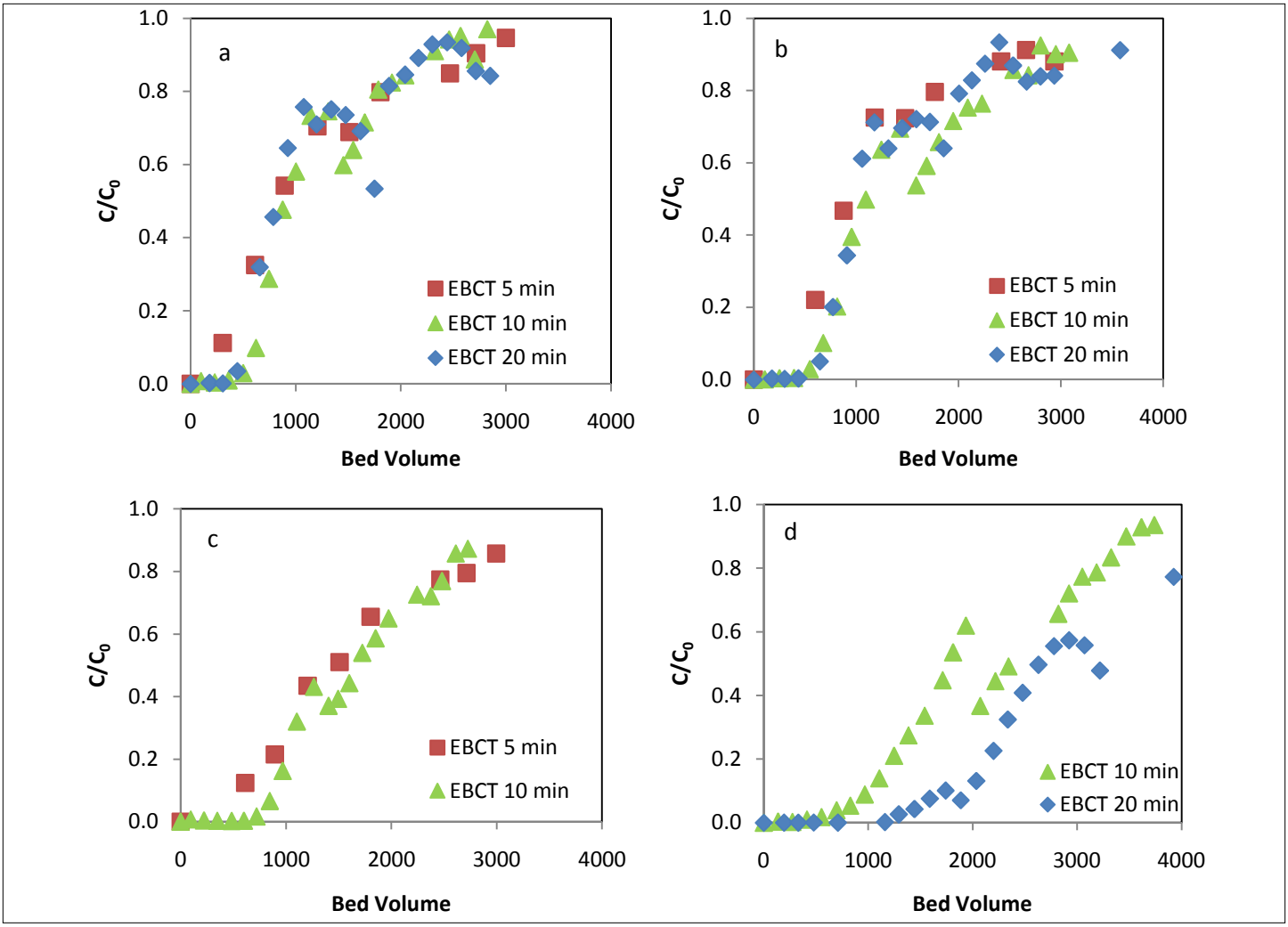

***Figure 4**. Arsenic breakthrough curves for Fe-GACs with different iron contents, (a) 5.57 percent, (b) 8.19 percent, (c) 11.49 percent, and (d) 28.90 percent (fluctuations in breakthrough curves were likely caused by a switch of feed groundwater).*

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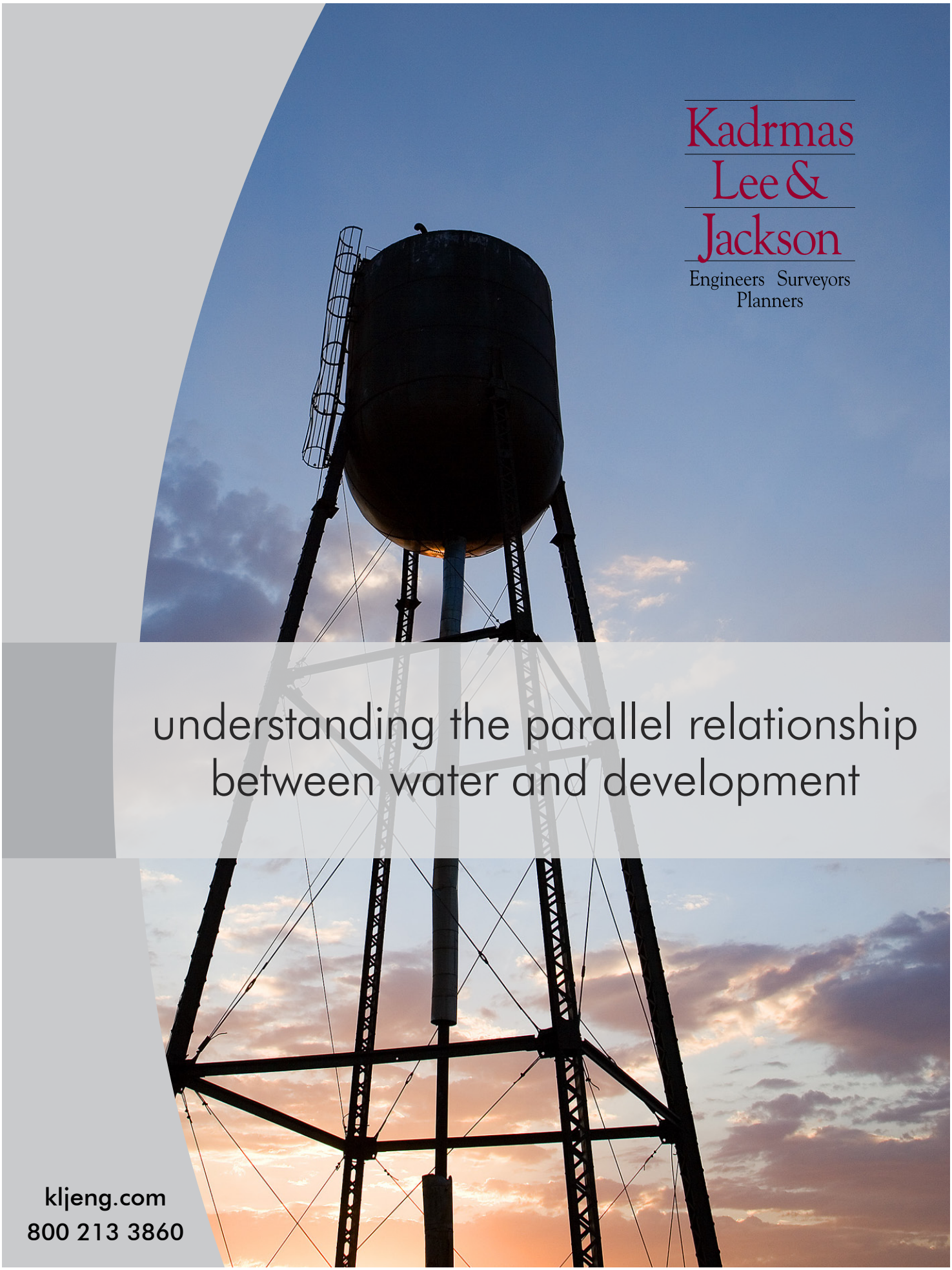
Editor's note: Qigang Chang participated in the American Water Works Association's Fresh Ideas poster competition at the North Dakota Water and Pollution Control Conference, October 2010. Chang's poster won second place. This article is a summary of the information presented on his poster.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Minutes of the Board of Trustees Meeting North Dakota Section of AWWA

January 25, 2011

The winter meeting of the North Dakota Section of the American Water Works Association (AWWA) was held at the Seven Seas Inn and Conference Center of Mandan, North Dakota on January 25, 2011. Present at the meeting were: Chair Dean Sletten; Chair-elect Tim Paustian; Past-chair Duane Friesz; Trustees Nancy Huether and Eric Volk; Secretary/Treasurer David Bruschwein; and Assistant Secretary Treasurers Larry Thelen, and Greg Wavra. Others attending the meeting were Hazel Sletten, Sarah Volk and Meredith Quinn.

The meeting was called to order by Mr. Sletten at 8:00 a.m.

The Secretary's Report was presented by Mr. Bruschwein. Mr. Volk moved to approve the minutes of the October 12, 2010 Board Meeting as corrected. Mr. Friesz seconded, and the motion passed.

Mr. Wavra presented the Treasurer's Report. As of December 31, 2010, the section had income of $29,221.67 and expenses of $33,838.14. The section has $22,925.51 in check and money market accounts. The section also has $83,215.78 in scholarship endowments and a reserve account. According to Mr. Wavra, the loss for 2010 is not as large as it appears; the profit from the 2010 NDWPCC has not yet been distributed. Mr. Volk moved to accept the Treasurer's Report. Ms. Huether seconded, and the motion carried.

Committee Reports

Education and Research Committee

Ms. Quinn stated that the Student Chapter would provide judges for the State Science Fair in Grand Forks this year. Certificates will be provided for the regional competition, along with water bottles for top drinking water entries. There will not be any plaques awarded this year; instead, the cash prize will be increased.

The Surface Water Workshop will be April 24-26, 2012 at the Moorehead Marriott. At this time, Ms. Quinn is working on the contract with the motel.

The top posters from the North Dakota Water and Pollution Control Conference (NDWPCC) will be a published in the *Official Bulletin*.

Mr. Wavra proposed that a University Scholarship no longer be given. Instead he recommended that $1,000 be dedicated to each university and $500 be earmarked for the statewide field trip. This would leave the dollar amount dedicated to the student chapter at the current level of $2,500 while allowing distribution of equal amounts to each university. Mr. Volk so moved and was seconded by Ms. Huether. The motion carried.

Publicity

Ms. Sletten talked about the drinking water training manual. The approach proposed is to consolidate study materials. Currently, they are considering how to proceed. Ms. Volk discussed the calendar. Other topics covered include putting up a poster at the State Fair booth and having an article in the *Official Bulletin* on retiring operators.

Water for People (WFP)

Ms. Sletten noted the committee had a great year. For next year the committee is trying to come up with something different and is open for suggestions.

Membership

Mr. Sletten stated the most recent membership total is 274. This includes 11 late memberships and 34 student memberships (which constitute most of the late memberships). As ways to encourage membership, he proposed a tutoring session and social at operator training. Ms. Sletten was willing to provide an operator for a tutoring session the night before the test at the first session. Ms. Huether moved to spend up to $250 to hold the social and tutoring session. Mr. Paustian amended the motion to only cover the food, pop and water for the social. Mr. Volk seconded the motion. The motion passed.

Director's Report

There was no report as Ms. Ansley was at the winter Board of Director's Meeting.

As set out in the budget, this year's donations are $1,000 to WFP, $250 to AWWA Research Foundation, $1,000 to Gateway to Science Center and $750 to the Dakota Science Center.

Mr. Wavra presented the board with the proposed 2011 budget. There is a concern about the timeliness of expense reimbursements being submitted. The board consensus was to have a 30-day submission time line as a general guide. In addition, with no Fuller Award recipient traveling to the ACE this year, those funds will be used to cover expenses for the poster winner to travel to the annual conference and exposition (ACE). Mr. Paustian moved to approve the budget; Ms. Huether seconded. The motion passed.

Mr. Sletten appointed Mr. Volk (chair), Ms. Sletten and Mr. Friesz to the Trustee Nomination Committee. Mr. Sletten (chair), Mr. Friesz and Mr. Volk were appointed to the Operator Meritorious Nomination Committee. Also, Ms. Ansley will chair the Director Award Nomination Committee and Mr. Bruschwein will chair the Fuller Award Committee.

There was discussion about the Regional Meeting of Section Officers. The meeting will be held in South Dakota. Mr. Sletten, Ms. Volk, Mr. Paustian and Ms. Huether plan to attend.

The consensus of the board is to award the Utility Management Scholarship to Mark Peterson of Fargo. The only other applicant was Nancy Huether, and she withdrew her application at the last minute.

Brett Jochim and Duane Friesz will attend the AWWA Fly-In representing the North Dakota Section.

There was discussion about the 2011 ACE held in Washington, D.C. Chair-elect Paustian and Director Lisa Ansley will attend. The section will cover up to $1,500 in travel expenses for the poster session winner (in-lieu of the Fuller Award Winner).

Mr. Thelen talked about Water Utility Council/Water and Wastewater Agency Response Network (WUC/WARN) issues as they relate to the state legislature currently in session. There are concerns with indemnification laws as written and the possibility of changing them (HB1408).

Mr. Volk motioned to adjourn and was seconded by Ms. Huether. The meeting adjourned at 10:05 a.m.

Respectfully submitted,

David Bruschwein
Secretary-Treasurer

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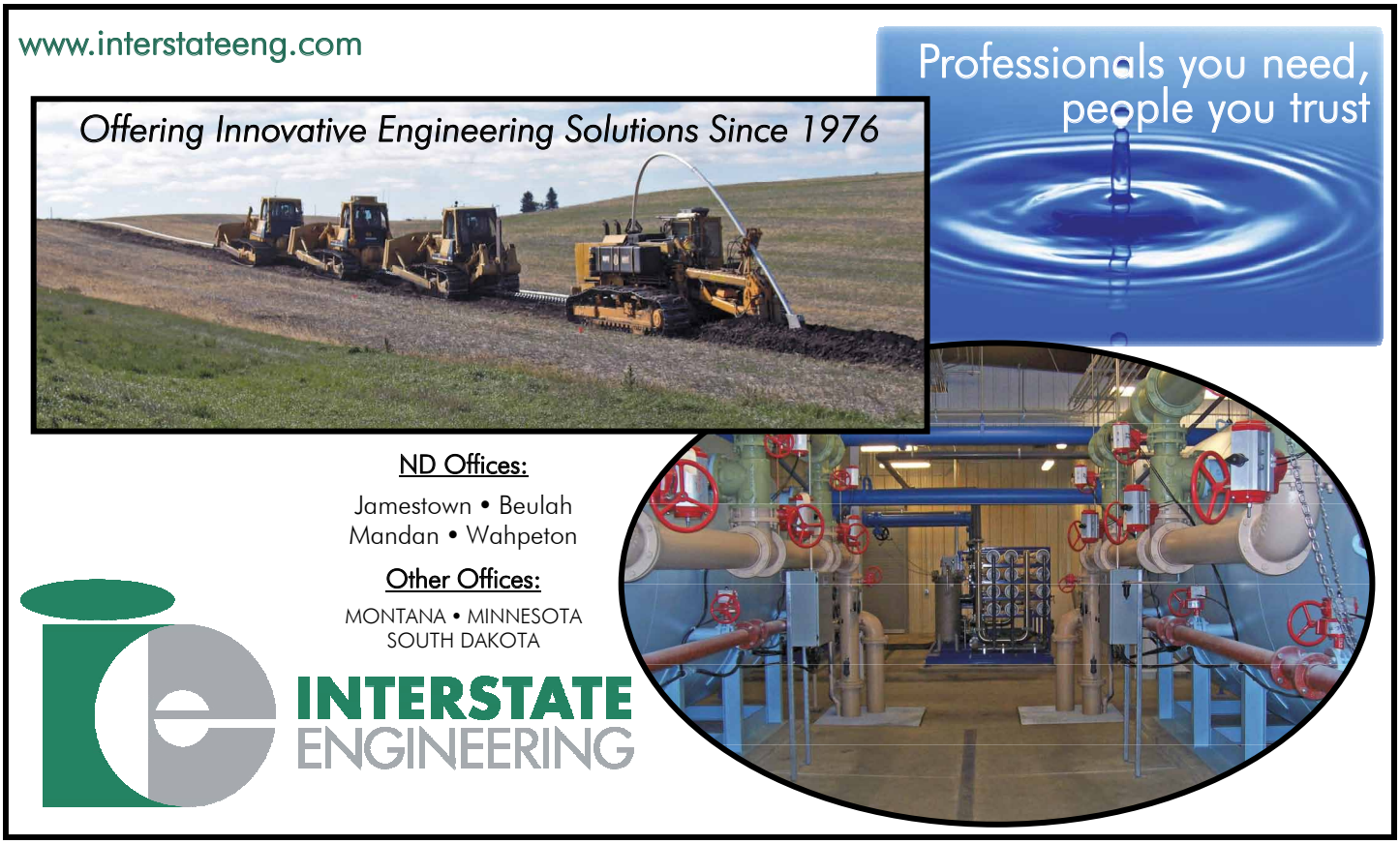

Governor Dalrymple Proclaims Drinking Water Week

North Dakotans Encouraged to Protect and Conserve the State's Waters

Governor Jack Dalrymple has declared May 1 through 7, 2011, as Drinking Water Week in North Dakota.

This annual event is dedicated to the belief that North Dakotans should have a safe and dependable supply of water, both now and in the future. Citizens are called upon to help protect the state's source waters from pollution.

Drinking Water Week recognizes the importance of water source protection and conservation, as well as the value, importance and fragility of the state's water resources.

Organizations involved in the promotion of Drinking Water Week include the North Dakota Department of Health, the North Dakota Section of the American Water Works Association, the North Dakota Water and Pollution Control Conference, the North Dakota Chapter of the American Public Works Association, the North Dakota Water Environment Association and the North Dakota Rural Water Systems Association.

Proclamation
Drinking Water Week
May 1-7, 2011

WHEREAS, the citizens of North Dakota recognize that our health, comfort and standards of living depend on an ample supply of safe, high-quality drinking water; and

WHEREAS, water greatly influences our everyday lives through its uses in public health, economic development, power production, agriculture, recreation, and businesses and industries; and

WHEREAS, many dedicated men and women have made significant contributions in developing, operating and maintaining our public water systems; and

WHEREAS, what we do today to protect our drinking water will affect the prosperity and well-being of future generations; and

WHEREAS, North Dakotans are encouraged to recognize this precious resource and to help protect our source waters from pollution, to practice water conservation, to become involved in local water issues and to plan for its efficient use.

NOW, THEREFORE, as Governor of the State of North Dakota, I do hereby proclaim May 1-7, 2011, Drinking Water Week in the state of North Dakota.

Jack Dalrymple
Governor

Representatives at the signing of the Governor's Proclamation of Drinking Water Week were: Front row (l to r): Larry Thelen, Division of Municipal Facilities, North Dakota Department of Health; Governor Jack Dalrymple; Chuck Abel, North Dakota Water and Pollution Control Conference; back row (l to r): Gordon Blixt, North Dakota Rural Water Systems Association; Shawn Soehren, North Dakota Chapter American Public Works Association; Lisa Ansley, North Dakota Section of American Water Works Association; Bill Gefroh, North Dakota Water Environment Association.

Governor Proclaims Public Works Week in North Dakota

Governor Jack Dalrymple has proclaimed May 15 through 21, 2011, as Public Works Week in North Dakota.

Public Works Week is observed annually to celebrate the contributions of public works professionals, including those who manage community water, sewer, public transportation and refuse-removal systems, as well as those who are responsible for maintaining public buildings and grounds.

"We value our communities and the role public works professionals play in keeping them safe and functioning smoothly," said State Health Officer Terry Dwelle, M.D. "Public works professionals maintain and improve the systems and services vital to a community's health, safety and comfort."

For more information about Public Works Week, contact Chuck Abel, executive secretary of the North Dakota Chapter of the American Public Works Association, at 701-328-5207.

Proclamation
Public Works Week
May 15-21, 2011

WHEREAS, public works infrastructure, facilities and services are of vital importance to the health, safety and well-being of the people of North Dakota; and

WHEREAS, it is important for the citizens and civic leaders of this state to gain knowledge of and to maintain a progressive interest in the public works needs and programs of their respective communities; and

WHEREAS, public works professionals, engineers and administrators are responsible for and must design, build, operate and maintain the transportation, water supply, sewage and refuse disposal systems, public buildings, and other structures and facilities essential to serving our citizens; and

WHEREAS, North Dakota's public works professionals, engineers and administrators should be recognized for their dedication and contributions to the growth, development and stability of our state.

NOW, THEREFORE, as Governor of the State of North Dakota, I do hereby proclaim May 15-21, 2011, Public Works Week in the state of North Dakota.

Jack Dalrymple
Governor

Shawn Soehren, President, North Dakota Chapter of the American Public Works Association; Governor Jack Dalrymple; Chuck Abel, Executive Secretary, North Dakota Chapter of the American Public Works Association

Minutes of the North Dakota Water Environment Association

Executive Committee Meeting, January 25, 2011

The Executive Committee for the North Dakota Water Environment Association (NDWEA) met at the Seven Seas in Mandan on January 25, 2011. Present were: President Karla Olson, Vice President Wei Lin, Past Presidents Eric Dodds and Seth Lynne, Professional Wastewater Operations Representative Wayne Offerdahl and Secretary/Treasurer and Delegate Bill Gefroh. Also attending were NDWEA Operations and Safety Committee member Terry Rust, NDWEA member Tim Paustian and student member Jacob Strombeck.

President Olson called the meeting to order at 11:00 a.m. President Olson entertained a motion to dispense with the reading of the minutes from the May 26, 2010 meeting, and approve them as distributed to the Executive Committee members by email. Terry Rust so moved. Wayne Offerdahl seconded the motion and the motion carried.

Bill Gefroh presented the Treasurer's Report, which reviewed in detail the receipts and expenses from January through December 2010. The NDWEA net worth, recorded in the report was $5,986.67, as compared to $7,073.08 last year at this time. President Olson requested a motion to approve the report as presented. Eric Dodds so moved. Terry Rust seconded the motion, and the motion carried. Bill Gefroh reported that the current NDWEA membership is at 143, compared to 153 this time last year.

New Business:

Potential topics and speakers were discussed for the 2011 North Dakota Water and Pollution Control Conference (NDWPCC). Topics suggested were:

1. University of North Dakota (UND) student group - classic wastewater topic as will be presented at the Water Environment Federation Technical Exposition Conference (WEFTEC)
2. North Dakota State University student group - environmental topics, as will be presented at WEFTEC
3. Wastewater panel discussion - general wastewater, lagoons, fats, oil and grease
4. Sample handling and preservation
5. Lab data interpretation
6. Industrial pretreatment
7. Man camps Part 2
8. The North Dakota Science Fair Stockholm Junior Water Prize (SJWP) award winner, as will be presented at the SJWP competition in 2011.

Committee members will further investigate these presentation topics, presenters and other topics, and they will bring their findings to the next NDWEA meeting in May 2011.

The NDWEA will continue its support for the North Dakota Science Fair (NDSF) by providing awards and judges. The NDSF will be in Grand Forks April 7-8, 2011. A plaque and a $75 cash prize will be presented to the best water quality project for both the junior and senior divisions. NDWEA may also provide travel expenses (up to $1,000 for a worthy project) for one student and his or her teacher to compete nationally at the SJWP competition to be held in Chicago, Ill., June 23-25, 2011.

NDWEA Committee members discussed educational support for 2011. Eric Dodds made a motion that NDWEA provide:

- $500 to the Gateway to Science in Bismarck
- $500 to the River Keepers in Fargo
- $100 to the Water Environment Research Foundation
- ~$100 for science fair plaques and $150 for cash prizes
- Up to $1,000 for transportation for a science fair

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student and teacher to compete for the national SJWP, if the quality of the water environment-related project is deemed worthy of the award

- $500 to the NDSU Student Chapter activity fund for expenses to attend the 2011 WEFTEC in Los Angeles to participate in the student design competition
- $500 to the UND Student Chapter activity fund to be used for expenses to attend WEFTEC 2011 to participate in the student design competition and $750 reimbursement for finishing third place at WEFTEC in 2010

Seth Lynne seconded the motion, and the motion carried.

In 2011, the NDWEA would like to present the WEF Hatfield Award and the WEF Laboratory Analyst Excellence Award at the NDWPCC annual banquet to a NDWEA member. Mr. Gefroh will solicit applications from the NDWEA membership for the Laboratory Analyst Excellence Award, since this award requires an application to be submitted. The Awards Committee will review applications for the Laboratory Analyst Excellence Award and select the recipient for this award. An NDWEA wastewater operator member will be selected for the Hatfield Award by the Awards Committee.

NDSU student member Jacob Strombeck reported that NDSU will hold the fifth annual Prairie Conference in Fargo in conjunction with UND, South Dakota State University and Manitoba University on June 2-3, 2011.

With no further business, Seth Lynne made a motion to adjourn, Wei Lin seconded the motion, and the meeting adjourned at 12:15 p.m.

Respectfully submitted,
Bill Gefroh
NDWEA Secretary/Treasurer

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NDWPCC Joint Board Meeting Minutes

January 25,2011, Mandan, North Dakota

A meeting of the Joint Board of Directors of the North Dakota Water and Pollution Control Conference (NDWPCC); North Dakota Water Environment Association (NDWEA); North Dakota Chapter of the American Public Works Association (NDCAPWA); and North Dakota Section of the American Water Works Association (NDAWWA) was held on January 25, 2011, in the Cutty Sark Room of the Seven Seas Inn, Mandan, North Dakota. The meeting was called to order at 10:32 a.m. by NDWPCC President Chuck Abel. Copies of the meeting agenda and 2010 NDWPCC financial report were provided to all in attendance. The following board members and guests were present: Chuck Abel, Terry Boehm, Mike Brisben, David Bruschwein, Eric Dodds, Bill Gefroh, Dale Heglund, Jeff Heintz, Nancy Huether, Dan Jonasson, Wei Lin, Seth Lynne, Lance Meyer, Wayne Offerdahl, Karla Olson, Tim Paustian, Meredith Quinn, Tara Ritter, Rusten Roteliuk, Terry Rust, Dean Sletten, Hazel Sletten, Shawn Soehren, Jacob Strombeck, Larry Thelen, Greg Wavra, Rachel Wolff, and Chad Zander.

President Abel called for a motion to dispense with the reading of the minutes from the October 12, 2010 Joint Board Meeting and the October 14, 2010 NDWPCC Business Meeting in Fargo and approve the minutes published in the *Official Bulletin* or mailed to all board members. Eric Dodds so moved, Dean Sletten seconded, and the motion carried.

President Abel next called for the Treasurer's Report. Mike Brisben reported that the Conference had a net loss of $2,779.11 in fiscal year 2010 and total assets of $75,140.79. President Abel called for a motion to approve the Treasurer's Report. Rusten Roteliuk so moved and Dr. Wei Lin seconded. President Abel called for any discussion. Eric Dodds asked if the net loss was a concern. Mr. Brisben noted that a deposit of $16,180.00 had been made after January 1, 2011 and would be reflected in the next report. President Abel called for further discussion. Hearing none, President Abel called for a vote on the motion to approve, and the motion carried.

President Abel next called for the Auditing Committee Report. Bill Gefroh reported that an audit of the NDWPCC books had been completed, and finances were found to be in good order. President Abel thanked Mr. Brisben and Environmental Training Center staff for their excellent work.

President Abel called for any other old business. Hearing none, President Abel asked board members to provide Mr. Brisben with a list of topics and possible presenters by the May 17, 2011 board meeting. President Abel called for further discussion on proposed topics. Mr. Dodds noted that topics related to oil activity and its impact on water demands, population and wastewater needs would be of interest. Mr. Sletten recommended a presentation on Devils Lake flooding. Meredith Quinn noted that NDAWWA had discussed filter optimization, maintenance and management for membrane facilities. Rusten Roteliuk suggested an update on funding prospects for municipalities from the 2011 legislature. President Abel tabled further discussion until the May meeting.

Next, President Abel called on Mr. Brisben for a report on the 2011 Spring Water and Wastewater Training Program. Mr. Brisben listed the dates for this year's training and noted the registration form and announcement were published in the winter issue of the *Official Bulletin*. Mr. Brisben thanked Ferguson Waterworks, North Dakota Rural Water, Apex Engineering Group, Midwest Assistance and AE2S for agreeing to provide guest speakers and the divisions of Municipal Facilities and Water Quality for their continued support.

Mr. Brisben next reported on numbers for the 82nd Annual Conference in Fargo stating that 352 preregistered, and 390 people attended. Business meeting and luncheon attendance was 199 Tuesday, 242 Wednesday and 157 Thursday. The breakfast buffet served 344, 181 attended the Tuesday evening buffet and 265 attended the awards banquet. Mr. Brisben also noted that 64 vendors reserved 69 booths and 10 students participated in the student/ young professional (YP) poster competition.

Next, President Abel asked Tara Ritter to report on the Operator Expense Reimbursement Grant (OERG). Ms. Ritter explained the purpose of the grant and described who was eligible and what expenses were reimbursable. She also explained that the OERG was a one-time allocation that would be out of money sometime this summer. Ms. Ritter reminded those eligible that funds were dispersed on a first-come first-serve basis and that reimbursement requests for 2011 should be made in a timely manner.

President Abel called for a report on the YP Summit. Mr. Dodds indicated that this year's summit is April 14 in Louisville, KY and that a "Save the Date" ad could be found in the *Official Bulletin*. Mr. Dodds stated that the summit started as a WEF event approximately three or four years ago and has expanded to include young professionals from WEF/AWWA. This year's theme is communication and is aimed at helping with leadership.

Young professionals are encouraged to attend and become involved. Ms. Quinn is helping with registration and will represent NDAWWA at this year's summit. Contact Ms. Quinn or Mr. Dodds if there are any questions.

President Abel called for the next item of new business. Mr. Brisben reported that *Official Bulletin* expenses for 2010 were $12,467.32 and advertising revenue was $13,390.00 resulting in a net profit of $922.68. Mr. Brisben reviewed price quotes for publishing the *Official Bulletin* and announced that, because of the considerable savings and improved technology, a change in printers had been made. Mr. Gefroh asked what prompted the change. Mr. Brisben stated that he had been contacted by two different printers and that Katie Luther had contacted the previous printer for updated prices. It was agreed that the new printer chosen offered a full color document that was less restrictive for the Indesign Software for less money.

Terry Rust supported the change, thanking the *Official Bulletin* staff for an excellent job publishing a professional looking magazine. President Abel agreed and stated that the *Official Bulletin* would stand up against other professional publications.

President Abel called for any other new business. Mr. Brisben asked if a student/YP poster session and reception were being considered for the 2011 conference in Bismarck. Ms. Quinn stated that NDAWWA would be sponsoring the poster session. Mr. Dodds noted that generally the student/YP reception was held only in Fargo because of limited resources for the NDSU and UND students. Dr. Lin thought there may be some interest. President Abel tabled further discussion and asked that student/YP activities be included on the May 17, 2011 agenda.

President Abel called for a motion to close the meeting. Seth Lynne so moved, Dan Jonasson seconded, and the motion carried. The meeting adjourned at 10:55 a.m.

The NDWPCC can be thanked for the refreshments and the noon luncheon.

Respectfully submitted,
Mike Brisben
Secretary/Treasurer

Minutes of the APWA ND Chapter Executive Committee Meeting

May 17, 2011, Seven Seas, Mandan, North Dakota

Call to Order:
Meeting called to order by President Shawn Soehren.

Members Present:
Shawn Soehren, Dan Jonasson, Chuck Abel, Chad Zander, Terry Boehm, Rick Gillund, Jeff Heintz and Lance Meyer

Approval of Minutes:
Motion: Jeff Heintz; Second: Terry Boehm
Motion passed unanimously to approve previous minutes of the January 25, 2011 meeting.

Treasurer's Report:
Chad Zander gave a report on current finances.
Motion: Jeff Heintz; Second: Terry Boehm
Motion passed unanimously to approve treasurer's report as given.

Delegate Report:
Discussed filling the position. Lance Meyer volunteered to be delegate at next nominations. Also discussed appointing new delegate at nominations each year.

Committee Reports:
Diversity: Nothing at this time. Delegate to be included on the Diversity Committee.
Student Chapter: Chad Zander brought forward the request from the AWWA/WEF Student Chapter for sponsorship for the Student Prairie Conference on Environmental Issues. The board approved a $250 sponsorship for the event.

Old Business:
NDWPC Conference Sessions: Topics and speakers were discussed for upcoming conference. A list of all confirmed subjects should be submitted to Mike Brisben by the first week in June and a copy sent to Shawn Soehren.

Drinking Water Week May 1-7, 2011. Summary of this year's Drinking Water Week and published notice.

National Public Works Week – May 15-21, 2011. Summary of National Public Works Week and published notice.

New Business:
Project of the Year Awards - Voting was conducted for this year's "Project of the Year" awards.

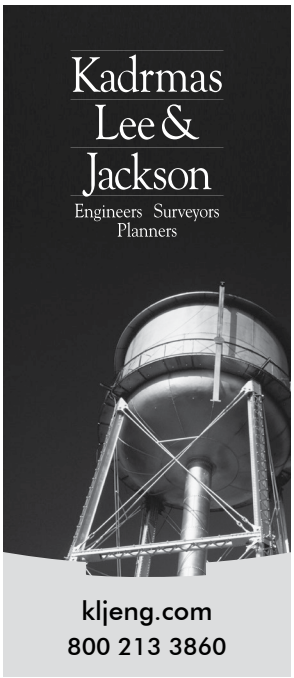
Nomination of 2012 Executive Committee by Past President for upcoming Fall meeting.

Quickbooks: Talked about purchasing a version to use for accounting.

Conference: Dan Jonasson suggested that we should support students attending the conference by paying for lunch and supper for APWA student members (on APWA-sponsored day). Support for "Project of the Year" winners to attend the banquet should also be provided.

Adjourn:
Motion: Rick Gillund; Second: Dan Jonasson

Submitted by,
Chad Zander
Secretary/Treasurer



2011 Project Safe Send

by Jessica Johnson, North Dakota Department of Agriculture

Farmers, ranchers, pesticide dealers and applicators, government agencies and homeowners with unusable pesticides can bring them to any of the Project Safe Send collections scheduled for July 2011. Dates and locations are as follows:

July 7 - Stanley
July 8 - Williston
July 11 - Dickinson
July 12 - Center
July 13 - Medina
July 14 - Fessenden
July 15 - Towner
July 18 - Devils Lake
July 19 - Cavalier
July 20 - Grand Forks
July 21 - Casselton
July 22 - Lidgerwood

For site addresses, go to http://www.agdepartment.com/Programs/Plant/PSSCollection.html. Sites are open from 9 a.m. to 3 p.m. local time.

"Project Safe Send is a safe, simple and non-regulatory program that helps people safely and legally get rid of unusable pesticides free of charge," said Agriculture Commissioner Doug Goehring. "Over the past 20 years, thousands of people have brought more than 2 million pounds of these chemicals to Project Safe Send."

The program accepts old, unusable or banned pesticides, including herbicides, insecticides, rodenticides and fungicides.

Classes of Pesticides registered in North Dakota and acceptable for Project Safe Send:

- Algaecide/Slimicide
- Disinfectant/Sanitizer
- Fumigant
- Fungicide
- Herbicide
- Insecticide/Miticide
- Nitrogen Stabilizer
- Parasiticide/Nematocide
- Plant Growth Regulator
- Preservative
- Repellent
- Slugicide/Molluscicide
- Sterilant
- Vertebrate Pesticide (mouse baits, prairie dog products, etc)
- Water Purifier Bacteriocide

Please DO NOT bring:

- Painting products (paints, varnishes, thinners, paint removers, etc.)
- Fuels (gas, diesel, etc.)
- Lubricants
- Antifreeze
- Fertilizers and soil conditioners

The collected pesticides are shipped out of state for incineration. Project Safe Send is funded through product registration fees paid by pesticide manufacturers.

"Please check your storage areas for any unusable pesticides and safely set them aside for Project Safe Send," Goehring said. "If the containers are deteriorating or leaking, pack them in larger containers with absorbent materials. Free heavy-duty plastic bags are available from the North Dakota Department of Agriculture." For more information on transporting your pesticides safely please go to http://www.agdepartment.com/Programs/Plant/PSSSafety.htm.

People with more than 1,000 pounds of pesticides should pre-register. No other pre-registration is required. A maximum of 20,000 pounds of pesticides per participant will be accepted. Pesticide rinse water also will be accepted. The first 100 pounds of rinse water will be taken free of charge; a fee will be applied for each additional pound.

To pre-register, obtain plastic bags or for more information, contact Jessica Johnson at the North Dakota Department of Agriculture at 701-328-2980 or (800) 242-7535 or jnjohnson@nd.gov.

Operator Expense Reimbursement Program to Continue

The North Dakota Legislature provided $180,000 to the North Dakota Department of Health to continue the Operator Expense Reimbursement Program (OERG) through June 30, 2013. The OERG was originally funded by a grant from the Environmental Protection Agency. The OERG provides funding for public water systems (excluding transient systems) serving less than 3,300 people to offset certification and training expenses. Expenses for wastewater operators are not eligible under the program. The department was unsuccessful in obtaining state funding to implement a similar program for wastewater operators.

The OERG will continue to be administered by the Municipal Facilities Division using the same criteria used in the past for expense reimbursement. The following expenses are eligible for reimbursement under the program: certification and renewal fees; operator training costs (registration fees, manuals, study guides, etc.); exam fees; vehicle mileage; lodging; and meals.

The division appreciates the support provided by systems and technical assistance organizations. Continuation of the program would not have occurred without such support.

If you have questions concerning the OERG, contact Tara Ritter of the Municipal Facilities Division at 701-328-5269 or tdritter@nd.gov.

Optimal Fluoride Addition Level Changes

In January 2011, the U.S. Department of Health and Human Services announced that the optimal level for fluoride addition will change from a range of 0.7 to 1.2 milligrams per liter (mg/L) to a single value of 0.7 mg/L for the entire nation. This change is proposed for a number of reasons. It has been determined that 0.7 mg/L is the lowest level that provides oral health benefits to the general population. The advent of climate control in homes and workplaces has made the consumption of water more uniform across the county. In addition, there are now many other sources of dietary fluoride that can contribute to oral health.

While the change is not yet official, the North Dakota Fluoride Addition Program has decided to allow public water systems to change to the new optimal level immediately if they wish.

The operational range is typically one-tenth of a mg/L below the optimal level to five-tenths above that level, so the new control range will be 0.6 mg/L to 1.2 mg/L. Until this change becomes official, the North Dakota Fluoride Addition Program is allowing systems to use either the old or the new levels. We anticipate final approval of the new level to occur sometime in the fall of 2011 and shifting all systems to the new level January 2012.

If you have any questions about the change or anything related to the fluoride addition program, please contact Katie Luther of the Municipal Facilites Division at 701-328-5258 or kcluther@nd.gov.

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51st Annual Water and Wastewater Operator Training Program

by Craig Bartholomay, North Dakota Department of Health, Municipal Facilities

This past March and April, the North Dakota Department of Health, the North Dakota Water and Pollution Control Conference, the North Dakota Section of the American Water Works Association, the North Dakota Chapter of the American Public Works Association, and the North Dakota Water Environment Association sponsored the 51st Annual Water and Wastewater Operator Training Program.

There were six sessions offered with a total of 327 attendants.* Water treatment and distribution classes were offered March 7-9, March 14-16, March 28-30, and April 4-6. Wastewater treatment and collection classes were offered April 18-20 and April 25-30.

TRAINING SESSIONS	NUMBER OF ATTENDANTS
Water Treatment and Distribution	
March 7, 8, 9	62
March 14, 15, 16	54
March 28, 29, 30	51
April 4, 5, 6	60
Wastewater Treatment and Collection	
April 18, 19, 20	57
April 25, 26, 27	43
Total number of attendants:	327
* Some operators attended more than one session	

The objectives for these classes are to fulfill the continuing education credit (CEC) requirement for certified operators, to hear presentations regarding regulations and how to avoid mistakes that can lead to noncompliance, to learn general operation and maintenance topics, and to give operators an opportunity to write a certification exam. The courses are not geared specifically to prepare operators for certification exams.

During the training classes, there were six operator examination sessions scheduled. These were reserved for the last day of each session. The department administered 216 examinations this year, with a passage rate of 71 percent.

EXAMINATION SESSION	NUMBER OF EXAMINATIONS WRITTEN
March 9	33
March 16	37
March 30	34
April 6	41
April 20	37
April 27	34
Total number of examinations written:	216

The following is a breakdown of the certification examinations that were written during the 2011 operator training sessions:

EXAMINATION CLASSIFICATION	IA	I	II	III	IV	Totals
Water Treatment	18	24	8	9	2	61
Water Distribution	26	41	12	3	2	84
Wastewater Treatment	5	14	5	3	2	29
Wastewater Collection	14	17	6	3	2	42
Totals	63	96	31	18	8	216

Attendance Roster: 51st Annual Water and Wastewater Operator Training Sessions

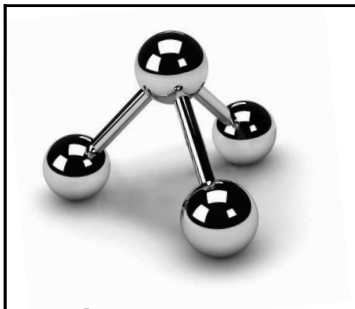
Environmental Training Center, Bismarck - Training Credits Issued

March 7-9, 2011

Bauer, Tim	Hazelton
Beyreis, Alan	Garrison
Blessum, Chad	Tri-County WD
Blessum, Mike	Tri-County WD
Bruce, Harold	Belcourt Public Utilities
Bruner, David	Antelope Valley Station
Burkland, Kim	Lakota
Cascaden, Taylor	Parshall
Chick, Ted	Antelope Valley Station
Demaray, Maynard	Fort Berthold RW
Dick, Roger	South West Authority
Dickelman, Ryan	Minot AFB
Drader, Karlain	Granville
Dybas, John	Alexander
Everson, Kelly	Valley City
Falcon, Lloyd	R&T Water System
Gruenberg, Larry	Great River Energy-Stanton
Halldorson, Brad	Devils Lake
Hammond, Roger	Devils Lake
Hatch, Justin	Stutsman Rural WD
Higdem, Sidney	Medina
Holan, Melissa	Zap
Johnson, Tammie	Max
Johnson, Tammie K	New Town
Keys, Sherry Renee	Valley City
Kilber, Kim	Leland Olds Station
Klindworth, Casey	Leland Olds Station
Kruger, Clay	Riverdale
Mathis , James	Minot
Mittleider, George	Carrington
Morel, Ryan	Mandan
Morey, Terry	Dickinson
Murphy, Tony	Belcourt Public Utilites
Myhro, Joel	Devils Lake
Newman, Jason	Valley City
Nowell, James	New Town
Olson, Lance	Mott
Porter, Justin	Minot Air Force Base
Ross, Matthew	Belfield
Samuels, Sunshine	Beulah
Sarbaum, Randy	Jamestown
Sather, David	Barnes RWD
Saxberg, Scott	Cooperstown
Schantz, Erick	Mandan
Schuler, Jeremy	Langdon RWD
Snyder, Gared	Minot AFB
See Walker, Raphael	MR&I Standing Rock
Sparrow, Lauren	Traill RWD
Standish, Roger Lee	Fort Berthold RW
Steffan, Kimberly	Ray
Stockert, Don	Steele
Stompro, Melissa	Watford City
Strobel, Marvin	Selfridge
Swalley, Keith	Standing Rock MR&I
Thomas, Adam	Washburn
Wangsness, Larry	Portal
Weishaar, Dustin	Minot AFB
Winson, Keith	Maddock
Wintermute, Darrell	All Seasons WD
Young, Donny	Scranton

March 14-16, 2011

Albrecht Jr., Kenneth	Mandan
Albrecht, James	Casselton
Anderson, Kristi	ADM Corn Processing
Arp, Lonnie	GFAFB
Bakke , Jason	Larimore
Barber, Dustin	Larimore
Berreth , Toby	Jamestown
Bousson, Gerald	Garrison
Brezden, Travis	Riverdale
Brinegar, Bryan	Langdon
Brinkman, Brent	Cass Rural WD Phase III
Buechler, Terry	Dickinson
Bullhead Sr., Darrell	Standing Rock Sioux Tribe
Busse, Jason	Langdon
Casey, Frank	Forbes
Davis, Jerry	Dakota Adventist Academy
Delisle, Ronald	Bismarck
DeRock Braine, Frank	Standing Rock MR&I
Dusek, Tom	Grafton
Edblad, Casey	Cando
Fuhrman, Glen	Enderlin
Gilbert, Paul	Southeast WUD (Central)
Gipp, Miles	Standing Rock Sioux Tribe
Hams, Jon	Hillsboro
Harr, Wade	US Army Corps of Engineers
Hecker, Allen	Southwest Water Authority
Hesch, Wade	Valley City
Holen, Pat	Leland Olds Station
Hultberg, Robin	Coal Creek Station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Johnson, Ryan	McVille
Krogstad, Mark	Rugby
Kuchar, Dale	Osnabrock
Liebersbach, Paul	Nekoma
Lovell, Bruce	Sanborn
Marier, Gary	Casselton
McGarry, Dennis	GFAFB
Mutzenberger, Myron	Great River Energy-Stanton
Nicholes, Brian	North Prairie RWU-System I
Norton, Ken	Coal Creek Station
Overby, Duwayne	Binford
Pederson, Jessey	Fargo
Pifer, Bill	Bismarck
Poland, Vickie	MAP
Price, Owen	Leland Olds Station
Rath, Jamie	Mandan
Reinhart, KJ	Barnes Rural Water Dist
Rix, Tanner	Cargill Sweeteners
Rowe, Paul	Coal Creek Station
Scheeler, Richard	Dickinson
Schon, Patricia	Nekoma
Schreiner, Gary	Bismarck
Scott, Clinton	Southwest Water Authority
Seibel, Todd	Antelope Valley Station
Sharbono, Wade	Devils Lake
Silvernail, John	Lisbon
Skiba, Bruce	Bismarck
Smith, David	New England
Solis, Bill	Fargo
Thompson, Michael	Kenmare
Volanti, Mike	Rolla
Vormestrand, Alan	Upham
Weinmann, Jamey	Harvey

March 28-30, 2011

Aaseth, Dewey	South Central RWD
Apa, Terry	Leland Olds Station
Berg, Shane	Minot AFB
Brecht , Patrick	Zap
Brown Otter, Brady	Inactive
Brown , Effie	Williston
Bullhead Jr., Darrell	Standing Rock Sioux Tribe
Carroll, Jim	Marmarth
Degenstein, Leon	Harvey
Doll, Anton (Tony)	Napoleon
Feakes, Dave	Central Plains Water District
Fischer, Rodney	Stanton
Frey, Curtis	Bismarck
Gardner, James	Towner
Gernand, Gerard	South Central RWD
Goddard, Jeff	Rhame
Griffith, Richard	Garrison
Grzadzieleski, Jason	Grand Forks
Hagen, Kyle	Bismarck
Harildstad, Jeffery	North Valley WD-System II-Akra
Haring, Kevin	Oakes
Helbling, Dale	South Central Regional WD
Hunt, Joseph	Jamestown
Irwin, Duwayne	Lidgerwood
Jacobs, Harley	Alexander
Kelly, Kevin	Minot
Kindsvogel, Bruce	Coal Creek Station
Kramer, Roger	Coal Creek Station
Magstadt, Gary	Steele
Markey, James	Casselton
Mattheis, Jim	Leland Olds Station
Moody, Robert	Antelope Valley Station
Moszer, Mark	Bismarck
Munyer, Troy	Rugby
Murphy, James	Southwest Water Authority
Norby, Kenneth	Pembina
Oian, Dave	Minot
Olson, Christopher	Casselton
Overmoe, Dan	Mayville
Reimche, Keith	Minot
Renke, Marcus	Barnes Rural Water District
Roeder, Steve	Fargo
Routledge, Matt	Bismarck
Sabin, Jeremy	Grand Forks
Schmidt, Gary	Mandan
Schnering, Don	Lehr
Snodgrass, James	Westhope
Thompson, Travis	Enderlin
Wallace, Braedon	Cargill Sweeteners
Weiand, Allan	Wahpeton
Weisbeck, Albert	Leland Olds Station
Wolf, Brandon	North Prairie RWU-System I
Wolf, Jordan	Carrington

April 4-6, 2011

Alkire, Curtis	Antelope Valley Station
Aman, Clark	South Central Regional WD
Anderson, Dean	Grand Forks
Anderson, Ken	Fort Union Trading Post NHS
Arntz, Barry	Grand Forks
Azure, Kenneth	Belcourt Rural Utilities
Bergstrom, Kenny	Williston
Blackcloud, Edward	Standing Rock
Brunsell, Francis	Leland Olds Station
Carter, Ross	Sherwood
Chase Jr., Lionel	Ft. Berthold Rural Water
Christensen, Shawn	South Central Regional WD
Clarys, Ben	Williams Rural Water District
Fulsebakke, John	Bottineau
Herman, Tom	Upper Souris WUA-System I
Hoffman, Howard	South Central Regional Water
Hottman, Dennis	Napoleon

Howard, Dana	MR& I Water Project
Johnson, Dennis	Tolna
Kary, Bruce	Dickinson Park District
Klingbeil, James	Bottineau
Larson, Blaine	Cooperstown
Larson, Delmae	New Town
MacBeth, Raymond	Columbus
Meidinger, Larry	Ashley
Merkel, Thomas	Dickinson
Miller, Kerry	Stanton
Montonye, Candy	McLean-Sheridan Rural Water
Morast, Dennis	Antelope Valley Station
Mosbrucker, Kerry	Mott
Murr, Leo	Wahpeton
Murray, Steven	McClusky
Nelson, Joel	Traill Rural Water District
Orth, Thomas	Forman
Pearson, Douglas	Minot AFB
Perkins, Bears Star	Fort Berthold Rural Water
Peterson, Matthew	Hankinson
Peterson, Steve	Surrey
Phelps, Rodney	St John
Rensland, Brandon	Minot
Ringdahl, Leonard	Brooktree Wells, Inc.
Ruppelius, Brad	Rolla
Saari, Doug	Mapleton
Scheidt, Wade	Pick City
Trana, Gary	Johnson Corners Christian Academy
Troska, Marc	All Seasons WUA-System I
Trostad, Jonathon	McVille
Unruh, Wynne	South Central RWD
Voltz, Kenneth	Galesburg
Williams, Jon	Leland Olds Station
Wilmer, Jeffrey	Park River

April 18-20, 2011

Albrecht, James	Casselton
Arp, Lonnie	GFAFB
Backowski, John	Cargill Sweeteners
Berg, Don	Rolette
Burns, Cory	Grafton
Carlson, Dale	Devils Lake
Delabarre, Curt	Glen Ullin
Drader, Karlain	Granville
Edblad, Casey	Cando
Enderud, Richard	Dickinson
Fiechtner, Keith	MPC-Milton R. Young
Frey, Curtis	Bismarck
Gardner, James	Towner
Grzadzieleski, Jason	Bismarck
Hagen, Kyle	Bismarck
Hayes, Roy	Hazen
Holan, Melissa	Zap
Irwin, Duwayne	Lidgerwood
Jacobs, Harley	Alexander
Johnson, Ryan	McVille
Keller, Larry L	Fessenden
Kraft, Nathan	Bureau of Reclamation
Kolb, Joel	GFAFB
Kuntz , Patrick	Halliday
Laducer, Kelly	Belcourt Public Utilities
Larson, Dean	Wilton
Lesmeister, Walter	New Rockford
Lueder, Michael	Mandan
Marier, Gary	Casselton
McGarry, Dennis	GFAFB
Melberg, Anthony	Williston
Metzen, Barry	JR Simplot
Mosser, Frank	Maddock
Moszer, Mark	Bismarck
Murray, Steven	McClusky
Nelson, Brandon	Beulah
Olson, Lance	Mott
Olson, Ronald	Jamestown
Overmoe, Dan	Mayville
Pearson, Douglas	Minot AFB
Pfaff, Darcy	Jamestown
Price, Kyle	Dickinson
Radomski, Brad	Rugby
Ripplinger, Gerald	Fargo (WWT)
Roller, Lee Roy	Belfield
Routledge, Matt	Bismarck
Rudnick, Kenneth	Jamestown
Scheidt, Wade	Pick City
Schweigert, David	Coteau Prop Co
Smith, David	New England
Solberg, Chad	ADM Corn Processing
Spotted Bull, Leon	Standing Rock Sioux Tribe
Thomas, Eric	Belcourt Public Utilities
Thompson, Michael	Kenmare
Volk, Daniel	Rugby
Walsh, Justin	GFAFB
Wisham, Walter	Bismarck

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April 25-27, 2011

Anderson, Brian Lee	Grand Forks AFB
Berg, Shane	Minot AFB
Boucher, Gregory	Rugby
Brezden, Jeffery	Dickinson
Buffington, Jim	Cargill Sweeteners
Chadwick, Larry	Prairie Learning Center
Contrevas, Fernando	Grand Forks
Deitz, Jeremy	Grand Forks
Dickelman, Ryan	Minot AFB
Dunn, Dennis	Grand Forks
Grant, Christopher	Grand Forks
Gunville, Shannon	Belcourt Public Utilities
Haaland, Amy	Cargill Sweeteners
Hall, Michael	Lake Metigoshe Rec Service
Hirchert, Bruce	New Rockford
Klatt Jr., Duane	Mapleton
Kimble, John	Minot AFB
Markey, James	Casselton
McPherson, Douglas	Minot AFB
Meidinger, Tim	Mandan
Messerly, Dick	Fort Stevenson State Park
Nielson, Marshall	Belcourt Public Utilities
Orth, Thomas	Forman
Richardson, Jeremy	Crown Butte Coop
Rodacker, Monte	Jamestown
Sloboden, Tim	Minot Wastewater Dept
Smith, Justin	Watford City
Snyder, Gared	Minot AFB
Sonsalla, Derrik	Parshall
Stern, Fred	Lakeshore Estates
Subart, Kraig	Dickinson Water Utilities
Thomas, Adam	Washburn
Thomas, James	Cando
Trostad, Jonathon	McVille
Trottier, Eric	Belcourt Public Utilities
Wald, Donald	Wahpeton
Walton, Barry	Cavalier
Wangsness, Larry	Portal
Warren, Brian	Minot
Weishaar, Dustin	Minot AFB
Willard, Steven	Standing Rock Sioux Tribe
Young, Donny	Scranton
Zaharia, Jacob	Cargill Sweeteners

Municipal Services

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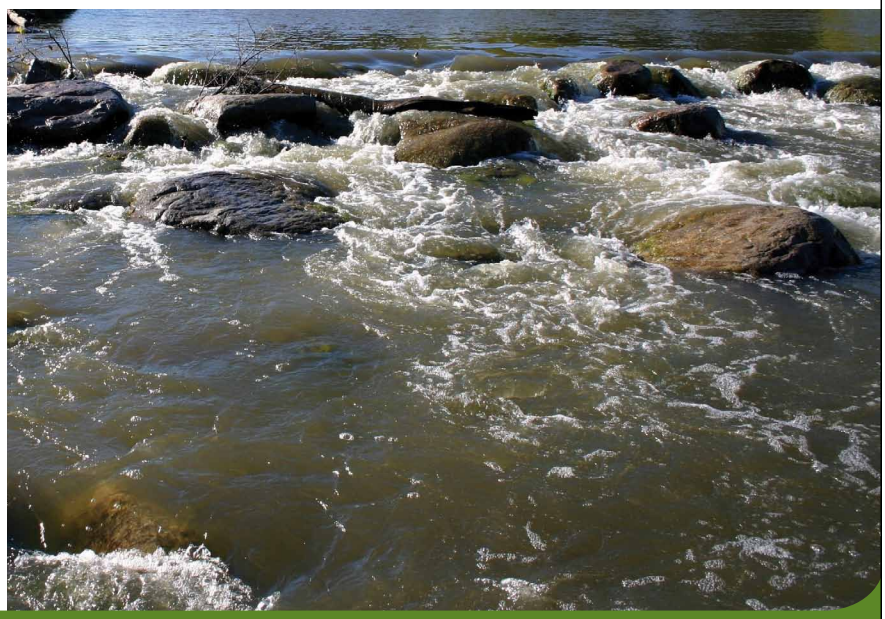
- Site Grading and Drainage Plans
- Flood Control
- Groundwater Studies
- Airport Improvements



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Operators Pass Cerification Examinations (March-April 2011)

Congratulations to these Operators!

Name	Employer	Type/Grade
Dewey Aaseth	South Central Regional Water District	Water Treatment 01
James Albrecht	Casselton	Wastewater Collection 01
Curtis Alkire	Antelope Valley Station	Water Treatment 1A
Clark Aman	South Central Regional Water District	Water Distribution 1A
Kristi Anderson	ADM Corn Processing	Water Distribution 1A
Terry Apa	Leland Olds Station	Water Distribution 1A
John Backowski	Cargill Sweeteners	Wastewater Treatment 02, Wastewater Collection 02
Jason Bakke	Larimore	Water Distribution 02
Dustin Barber	Larimore	Water Distribution 01, Water Treatment 1A
Don Berg	Rolette	Wastewater Treatment 01
Kenny Bergstrom	Williston	Water Distribution 03
Gregory Boucher	Rugby	Wastewater Treatment 01, Wastewater Collection 01
Bryan Brinegar	Langdon	Water Distribution 01, Wastewater Treatment 01
Effie Brown	Williston	Water Treatment 03
Jim Buffington	Cargill Sweeteners	Wastewater Treatment 04
Cory Burns	Grafton	Wastewater Collection 02
Jason Busse	Langdon	Water Treatment 03
Shawn Christensen	South Central Regional Water District	Water Treatment 1A
Ben Clarys	Williams Rural Water District	Water Distribution 01
Jeremy Deitz	Grand Forks	Wastewater Collection 03
Curt Delabarre	Glen Ullin	Wastewater Collection 01
Ryan Dickelman	Minot AFB	Wastewater Collection 01, Water Distribution 01
Karlain Drader	Granville	Water Distribution 1A, Wastewater Collection 1A, Wastewater Treatment 1A
Casey Edblad	Cando	Water Distribution 01, Wastewater Collection 01, Wastewater Treatment 01
David Feakes	Central Plains Water District	Water Distribution 01
Stacey Ferdon	Grand Forks	Wastewater Treatment 02
Curtis Frey	Bismarck	Water Distribution 01, Wastewater Collection 01
James Gardner	Towner	Water Distribution 1A, Water Treatment 1A, Wastewater Collection 1A
Paul Gilbert	Southeast WUD (East)	Water Treatment 03
Jeff Goddard	Rhame	Water Treatment 1A
Christopher Grant	Grand Forks	Wastewater Collection 03
Jason W. Grzadzieleski	Bismarck	Water Distribution 01, Wastewater Collection 04
Amy Haaland	Cargill Sweeteners	Water Distribution 01, Wastewater Treatment 02
Kyle Hagen	Bismarck	Water Distribution 01, Wastewater Collection 01
Michael Hall	Lake Metigoshe Recreation	Wastewater Collection 01
Roger Hammond	Devils Lake	Water Treatment 02
Daniel Hanson	Grand Forks	Water Distribution 03
Jeffery L. Harildstad	North Valley WD-Sys. II (Akra)	Water Distribution 1A, Water Treatment 1A
Wade Harr	Downstream Campground	Water Distribution 1A
Sidney Higdem	Medina	Water Distribution 1A, Wastewater Collection 1A
Pat Holen	Leland Olds Station	Water Distribution 1A
DuWayne Irwin	Lidgerwood	Water Distribution 1A, Wastewater Collection 1A
Harley Jacobs	Alexander	Water Distribution 1A, Water Treatment 1A, Wastewater Treatment 1A, Wastewater Collection 1A

Ryan Johnson	McVille	Water Distribution 02, Wastewater Collection 1A, Wastewater Treatment 1A
Tammie Johnson	Max	Water Distribution 1A
Bruce Kary	Dickinson	Water Distribution 02
Kim C. Kilber	Leland Olds Station	Water Distribution 1A
Casey Klindworth	Leland Olds Station	Water Distribution 1A
Clay Kruger	Riverdale	Water Treatment 02
Blaine Larson	Cooperstown	Water Distribution 01
Raymond MacBeth	Columbus	Water Distribution 1A
Gary Marier	Casselton	Water Distribution 02, Wastewater Collection 02
James A. Markey	Casselton	Wastewater Treatment 01
James W Mathis	Minot	Water Treatment 02
Dennis Morast	Antelope Valley Station	Water Treatment 1A
Ryan Morel	Mandan	Water Treatment 01
Terry Morey	Dickinson	Water Distribution 02
Mark Moszer	Bismarck	Water Distribution 01, Wastewater Collection 01
James Murphy	Southwest Water Authority	Water Distribution 03
Brandon Nelson	Beulah	Wastewater Treatment 01, Wastewater Collection 01
Joel Nelson	Traill Rural Water District	Water Distribution 01
Brian Nicholes	North Prairie RWU-System III	Water Treatment 1A, Water Distribution 1A
Dave Oian	Minot	Water Distribution 01
Thomas P. Orth	Forman	Wastewater Collection 1A
Jessey R. Pederson	Fargo	Water Treatment 02
Bears Star Perkins	Fort Berthold Rural Water	Water Treatment 1A
Matthew Peterson	Hankinson	Water Distribution 01
Steven R. Peterson	Surrey	Water Distribution 01
Darcy Pfaff	Jamestown	Wastewater Collection 01
Brad Radomski	Rugby	Wastewater Treatment 1A, Wastewater Collection 1A
Keith Reimche	Minot	Water Treatment 03
Brandon Rensland	Minot	Water Treatment 01
Jeremy Richardson	Crown Butte Coop	Water Distribution 1A, Wastewater Collection 1A
Tanner Rix	Cargill Sweeteners	Water Distribution 01, Wastewater Treatment 01
Monte Rodacker	Jamestown	Wastewater Collection 02
Matt Routledge	Bismarck	Water Distribution 04, Wastewater Collection 04
Brad Ruppelius	Rolla	Water Distribution 01
Jeremy Sabin	Grand Forks	Water Distribution 01
Sunshine Samuels	Beulah	Water Distribution 1A, Water Treatment 1A
Randy Sarbaum	Jamestown	Water Distribution 01
David A. Sather	Barnes Rural Water District	Water Treatment 01, Water Distribution 01
Wade Scheidt	Pick City	Water Distribution 1A
Donavon Schnabel	Dakota Gasification Co	Water Treatment 02, Water Distribution 01
Donald C. Schnering	Lehr	Water Treatment 1A, Water Distribution 1A
Jeremy Schuler	Langdon Rural Water District	Water Distribution 02
Todd Seibel	Antelope Valley Station	Water Treatment 1A
Wade Sharbono	Devils Lake	Water Treatment 03
Tim Sloboden	Minot	Wastewater Treatment 01
Ryan Smith	Milnor	Wastewater Treatment 01
James Snodgrass	Westhope	Water Treatment 1A
Gared Snyder	Minot AFB	Wastewater Collection 01, Water Distribution 01
Kimberly J. Steffan	Ray	Water Distribution 01
Don Stockert	Steele	Water Treatment 01
Marvin Strobel	Selfridge	Water Treatment 1A, Wastewater Collection 1A
Adam Thomas	Washburn	Water Distribution 01, Water Treatment 01, Wastewater Collection 01, Wastewater Treatment 01

Michael D. Thompson	Kenmare	Wastewater Collection 01, Wastewater Treatment 01
Jonathon Trostad	McVille	Wastewater Treatment 1A
Wynne Unruh	South Central Regional Water District	Water Distribution 01
Kenneth D. Voltz	Galesburg	Water Distribution 1A
Braedon W. Wallace	Cargill Sweeteners	Water Distribution 1A, Wastewater Collection 1A
Brian Warren	Minot	Wastewater Collection 02
Dustin Weishaar	Minot AFB	Water Distribution 1A, Wastewater Collection 1A
Jonathan M. Williams	Leland Olds Station	Water Distribution 1A
David Willson	Grand Forks	Water Treatment 04
Jeffrey Wilmer	Park River	Water Distribution 01
Brandon Wolf	North Prairie RWU-System III	Water Distribution 1A, Water Treatment 1A
Jacob Zaharia	Cargill Sweeteners	Wastewater Collection 01, Wastewater Treatment 01

Operator Cerification Exams Scheduled

The summer operator certification exam session will be held on Wednesday, July 27, 2011, at the Environmental Training Center located at 2639 East Main Avenue in Bismarck. Examination times will be from 8:00 a.m. to 4:00 p.m. **To ensure adequate time for exams, testing must begin by 11:00 a.m.** Please indicate time of arrival on exam application form. If you don't have a copy of the application, you can print one by visiting: http://www.ndhealth.gov/mf/forms/Operator_Certification_Application.pdf. Renewal and exam fees must be paid prior to testing.

Please contact Craig Bartholomay, North Dakota Department of Health, at 701-328-6626 with any questions regarding operator certification and/or exams.

Need (nēd) *noun*
1. a situation in which something is required

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AWWA Management Institute Scheduled for September 2011
Advanced Management Institute Planned for October 2011

The five-day Basic American Water Works Association (AWWA) Water Utility Management Institute will be presented in Salt Lake City, Utah, September 19-23, 2011. All sessions are held at the Comfort Suites Hotel (three miles from the airport and downtown Salt Lake City) for AWWA members and water department personnel nationwide. This class brings together water company personnel from every region of the country and Canada in an atmosphere of learning and sharing important leadership principles. This affordable, top-notch training teaches practical, "real world" supervisory and management skills needed to be effective in today's workplace. The schedule is as follows:

Day 1 - Foundations of Leadership
Day 2 - The Leader's Role in Performance Management
Day 3 – Managing Conflict
Day 4 – Employee Selection
Day 5 – The Leadership of Change

The Institute registration fee is $499.00.

An Advanced AWWA Water Utility Management Institute is scheduled at the same location the week of October 17-21, 2011. That schedule is as follows:
Day 1 – Assessment of Leadership Vision, Values and Strategy
Day 2 – Teambuilding
Day 3 – Decision Making
Day 4 – Transformational Leadership and Vision Alignment
Day 5 – Critical Thinking Skills For Problem Resolution and Innovation

The Advanced Institute registration fee is $499.00.

Optional certification from Utah State University will be available for $50.00 extra to members needing to meet training requirements for professional affiliations. To obtain the Basic Institute and/or Advanced Institute schedule and registration information, call Chuck Christensen at (801) 281-0107, or email him at chuckets@gmail.com.

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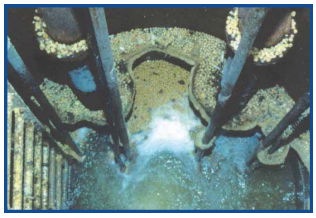

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Arsenic Rule	Katie Luther	701-328-5258
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Disinfectant/Disinfection Byproducts Rule (TTHM, HAA5) Stage 1 and Stage 2 Rule	Lydia Fewless	701-328-5221
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Total Coliform Rule	Jeni Walsh	701-328-5231
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Volatile Organic Chemicals (VOCs)	Lydia Fewless	701-328-5221
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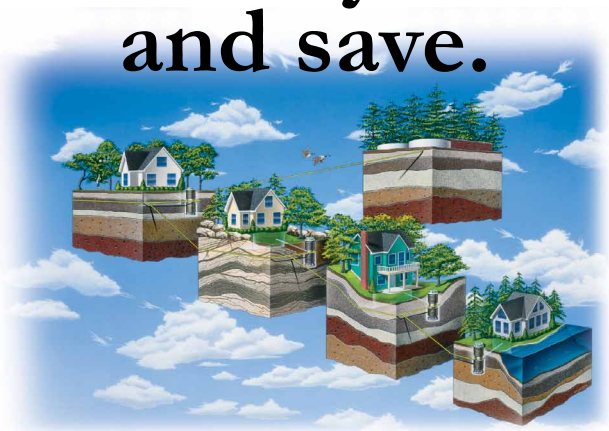

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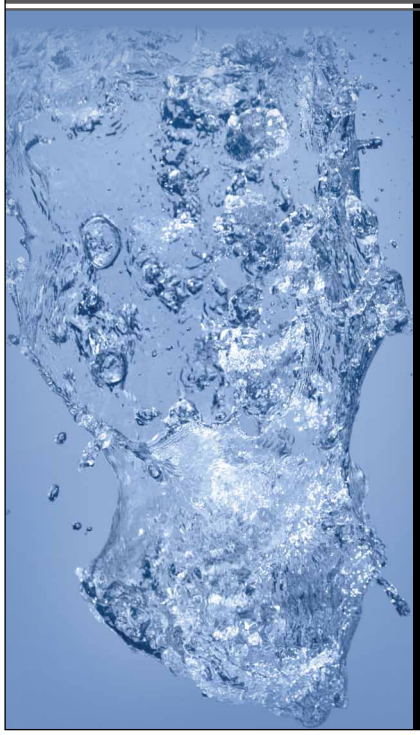

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